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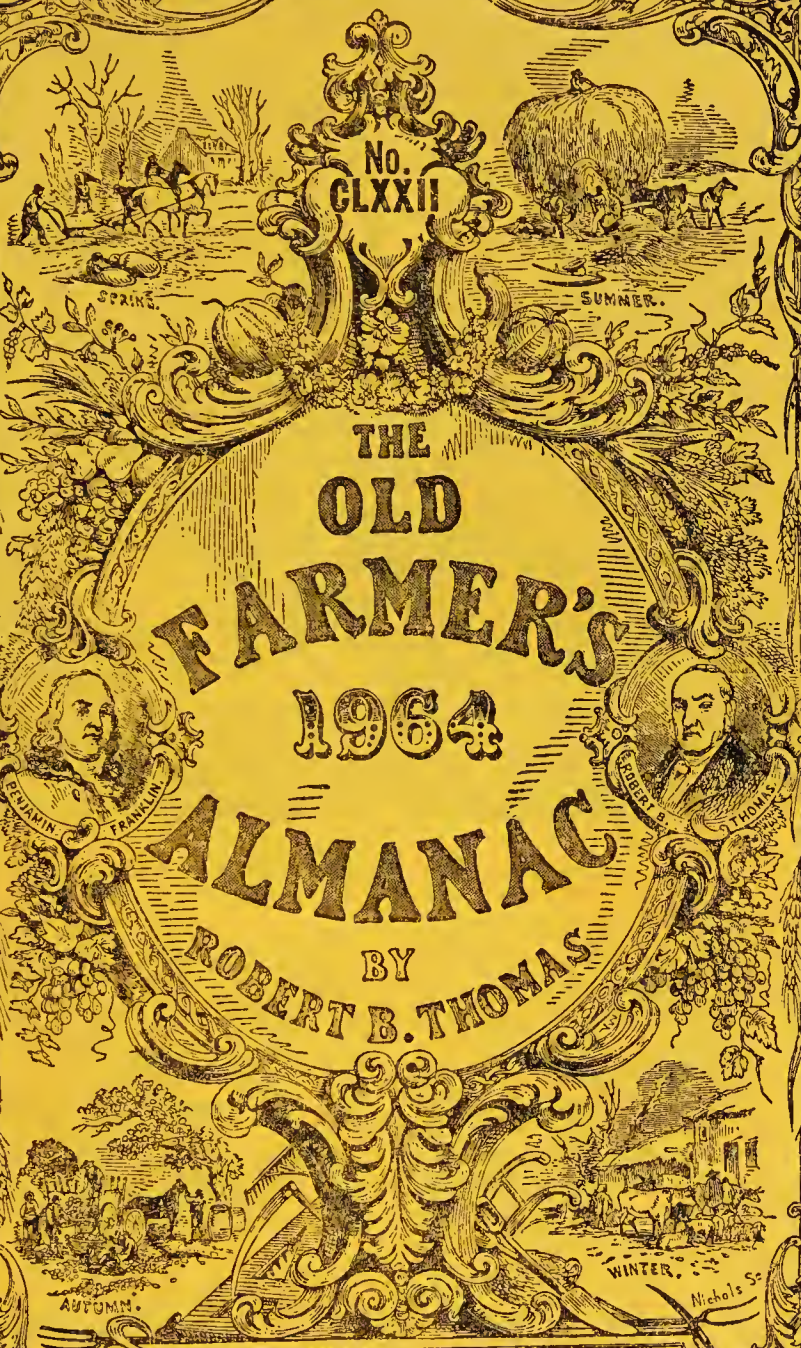

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These are predictions affecting your money! In 1961, Miss Carter wrote: ". . . . silver will be of great and growing interest and in demand!" *One year later silver prices soared to a 43-year record, just as predicted!* Also in 1961, Miss Carter said: " . . . CHANGES IN THE MONETARY SYSTEM, predicted several years ago, appear to be very imminently in the making." *In March of 1963, the government began legislation to change the $1 bill from a silver certificate. Another startling verification of her predictions!*

Now she says: "Tremendous opportunities are ahead, although our path will be marked with uncertainty, frustrations and the pressures and challenges of our modern-day life!" Says Marguerite Carter. . . . "For those with the urge to *direct* their steps to satisfying fulfillment, opportunity will knock!"

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Number One Hundred and Seventy-two

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FOR THE YEAR OF OUR LORD

1964

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Sun-shine and Rain to bless the fruitful Year,
On different Nations, all of different Faiths:
And (tho' by several Names and Titles worshiped)
Heaven takes the various Tribute of their Praise,
Since all agree to own, at least to mean,
One best, one greatest, only Lord of all.

N. Ames, 1744

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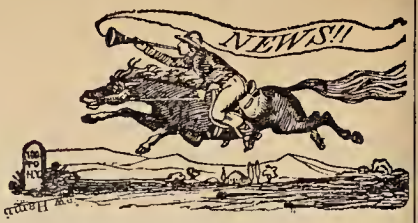


GLOSSARY OF ASTRONOMICAL TERMS, ETC.

Aph. — Aphelion . . . Planet revolving about Sun reaches point in its orbit farthest away from the Sun.

Apo. — Apogee . . . Moon reaches point in its orbit farthest from Earth.

Conj. — conjunction . . . moment of closest approach to each other of any two heavenly bodies.

Declination (see top left hand calendar pages) . . . measure of angular distance any celestial object lies perpendicularly north or south of celestial equator. Exactly analogous to terrestrial latitude. OFA gives declination at time each day the Sun is due South.

El. — elongation . . . apparent angular distance of a member of the solar system from the Sun as seen from the Earth.

Inf. — Inferior . . . Inferior conjunction is when the Planet is between the Sun and the Earth.

Moon Runs High or Low . . . day of month Moon Souths highest or lowest above the horizon.

Opposition . . . time when Sun, and Moon or Planet appear on opposite sides of the sky (elongation 180 degrees).

Peri. — Perigee . . . Moon reaches point in its orbit closest to Earth.

Peri. — Perihelion . . . Planet revolving about the Sun reaches point in its orbit closest to Sun.

R.A. — Right Ascension . . . the measure Eastward along the celestial equator of any celestial body from the vernal equinox to the point where the circle which passes through the object perpendicular to the celestial equator intersects the latter.

Stat. — stationary . . . when the apparent movement of a Planet against the background of Stars stops — just before same comes to opposition.

Sunrise and Sunset . . . visible rising and setting of Sun's upper limb across the unobstructed horizon of an observer whose eyes are 15 feet above ground level.

Sun Fast . . . the times given in this column must be subtracted from your Sun Dial to arrive at the correct time.

Sup. — Superior . . . Superior Conjunction is when the Sun is between the Planet and the Earth.

Twilight . . . begins or ends when stars of the sixth magnitude disappear or appear at the Zenith — or the Sun is appr. 18 degrees below the horizon.

Underground Moon . . . one which changes its phases between 12 M. and 1 A.M.

To Patrons


United States Department of the Interior
NATIONAL PARK SERVICE

Your valued gift
of
a bound volume containing the original issues of the Old Farmer's Almanac published in Boston during these years for the White House
has been received and is gratefully acknowledged

November 2 1962
Respectfully yours
Director

For Mr. Robert Legendre

This is the 172nd consecutive annual edition of THE OLD FARMER'S ALMANAC(K) . . . the oldest continuously published, in the same name and format, periodical in America. This edition is for the year 1964 or Atomic Year 20.

The little cut (top right) is a reproduction of a plaque received this past year from the National Park Service, United States Department of the Interior, in appreciation of a gift made by us, aud accepted by Mrs. Jacqueline Kennedy, of this Almanack's issues from 1793 through 1808 for the White House library. As the first issue of the Almanack was published in 1792 for the year 1793, and the White House was built in 1792, the two may be said to be of exact age.

In reviewing your Editor's continuing file of notes kept under this "To Patrons" heading, we note that in the Spring of 1831 he completed the following unpublished comment:

> *"Time — which brings all things to a conclusion, has nearly terminated my labors. — I am however still permitted to present . . . the* **Farmers Almanac** *for 1832, being the fortieth number.*
> *"My aim, in the conduct of this work, has been to improve the understanding, to excite to industry, to strengthen virtue, and afford amusement. If I am any judge of success by the patronage afforded, I have every reason to exult and every cause to be grateful."*

This issue, being "his" one hundred and seventy-second number, reminds us of the importance of our great institutions wherein the transient efforts and thoughts of individuals are pooled and held in reservoirs for future generations. To have become an institution "as American as the flag itself" (as one reader recently stated) is a responsibility which prompts the redoubling of our present and future efforts as faithful to this course.

Loring P. Andrews has, as usual, prepared the astronomical tables, Benjamin Rice the Farm Calendars, aud Abe Weatherwise, the weather forecasts. Other contributions are by-lined wherever credits may seem called for. We trust that Puzzle No. 1 this year will be more easily solved than was our Ladder Puzzle of last year. The Almanac Museum is growing as a valuable depositary for items of interest to almanac history. Visitors are always welcome there as they are to the restaurant and the food store (uatural and organic foods) which adjoin.

In regarding the print order of this edition, some one million and six hundred thousand copies, and comparing it with the some 90,000 copies in the year 1939, we are unable to find words or ways to express fully the gratitude this **Almanac** owes to the many without whose aid and interest it could not exist. We trust our own efforts in its behalf may continue to warrant your approbation. Man, however, in these things can only propose. God is the true disposer. In this then it is by our works and not our words we would be judged. These we hope will sustain us in the humble, though proud, station we have so long held, in the name of

Your ob'd servant,

June 7, 1963

Robt. B. Thomas.

Last Winter's Weather

In many areas of this country (and the world), last Winter's weather will be remembered as the "worst in a century." In others, such as Southern New England, where it hardly snowed at all, this would not be so. Statistically, the figures do not show too much variation from normal. The Massachusetts Turnpike reported more frequent "chemical" storms than last year · i.e., those of rain and sleet which required liberal quantities of sodium or calcium-chloride.

The experts point to a cold January, joined (as it rarely is) to a cold February; to relatively few thaws; to a more easterly entrance than usual of the Arctic blasts; and a shifting jet stream direction, as explanations for wherever unusual severity made its appearance. Abe Weatherwise, the OFA's forecaster, adds to these explanations a seemingly wide variation between what the instruments reported — and what people could see with their own eyes, and feel. For instance, how come that between January 19 and 21, Blue Hill instruments reported "no snow"—whereas measurements on the Massachusetts Turnpike reveal "one to three inches"?

In any event, a year ago (see page 5, 1963 OFA) Abe predicted the winter would average 32.06° (1.39° colder than average). Blue Hill averaged out at 33.9° (.45° above average). Abe's snowfall prediction was for 72.7″ of snow. Blue Hill got 38.8″ (Mass. Tpk. received between 48″ and 104″). Abe also expected 22.46″ precipitation. Blue Hill had 21.14″. On the whole, therefore, even at 171 years of age, it will be seen that Old Abe is still the master of his trade.

In his six monthly summaries, Abe's predictions were 73.1% correct, with only one month (April) falling below 50%. Of his some forty-three individual predictions for periods of from one to seven days, some twenty-six were better than 50% correct. On all forty-three, his average was 53.6%. If one omits, however, his poor showing on a comparatively unevil November (26%) and instrumental troubled January (37%), it will be seen that the other four months give him close to 65% — which is as good as or better than most of the day-ahead forecasters were able to do.

Highlights of the Winter months in various parts of the country follow:

November 1962

7th, only 100% sunshine day of the month at Blue Hill; 15th, windiest (30.7 mph) at Blue Hill; 18th, 2.5″ snow at Blue Hill.

December 1962

Washington, D.C. had record-breaking snows (14.5″) this month. 3–4, bad smog N.Y.C. and London; 6–7, heavy rain, Maine and N.Y.—22° Florida—blizzards N.E., Ohio, Maine, and N.Y. State —St. Lawrence Seaway closed; 10–14, 32.9″ snow Watertown, N.Y.—cold in Midwest, N.Y. and N.E.—Florida freeze; 16–23, 4.8″ snow Blue Hill, heavy ice Maine lakes; 29–31, Boston "storm of the century" (9° below Blue Hill, 80 mph gusts)—49″ snow Caribou, Maine—Bangor paralyzed.

January 1963

1st, 5° above Blue Hill; 11–12, blizzard Midwest—50° below Montana—26.7″ snow Watertown, N.Y.; 24th, 3° below in Georgia —Great Lakes blizzard—30.4″ snow Watertown, N.Y.; 27th, 5.2″ snow Blue Hill.

February 1963

Cold all over Northeast and Ohio Valley, coldest in Maine since 1934. 1st, 83 mph gale Montana—76° Idaho; 8th, 3° below Blue Hill with 33 mph wind; 9th, 16th, 17th, 26th—100% sunshine at Blue Hill; 19th, 3.2″ snow, Blue Hill; 21–25, Great Lakes ice worst ever.

March 1963

Bad spring floods, tornadoes in ten Midwestern states and the South. 1st, geese flew north three weeks early over Missouri—7.5″ snow, Blue Hill; 11th, tornado season began, Gulf states; 15th, 100% sunshine, Blue Hill; 20–21, 8.3″ snow, Blue Hill.

April 1963

14th, 100% sunshine, Blue Hill —nothing else too significant.

On October 12, 1962, the state of Oregon experienced the most destructive rain and wind in its history. This big blow was correctly predicted by Abe Weatherwise. Last year, Abe agreed to make special

Continued on page 71

Weather Forecast 1963-4

(Applies only to Blue Hill summit, near Boston, but will work for other places by subtracting one day for each Time Zone west, by reading five degrees lower temperature for every 100 miles north of 42 Lat. N. or five degrees higher for every 100 miles South of 42 Lat. N. and by considering every 1000 feet of altitude is 3.3 degrees cooler.)

Herewith, as of May 15, 1963, are the forecasts by Abe Weatherwise for the fourteen months beginning with November, 1963. There are two summations—that for the Winter of November 1963 through April 1964; and that for the Year (Jan.-Dec.) 1964. There are also fourteen monthly summaries, as well as individual summaries within each month. (For versification of these summaries, see italics pages 11–33.)

THE YEAR

(January 1–December 31, 1964)

The year will average 50.1° temperature. This is 1.4° above normal, and 2.9° above average. There will be 40.5″ precipitation, which is 7″ below normal and 1.7″ below average. This will mean a serious drouth, come Fall.

THE WINTER

(Nov., Dec. 1963, Jan., Feb., Mar., Apr., 1964)

This winter will average 37° for the six Winter months, which is 2.5° above the seventy-year average and 1.6° above the twenty-year normal. This is considerably warmer (3°) than last year and should mean, if fuel prices are the same, a ten per cent saving in your fuel bill. Precipitation will be 24″—4.31″ lower than average, 1.02″ lower than normal, and .53″ lower than last year. There will be 57″ of snow, 1.66″ above average, and 27.2″ more than last year.

THE FOURTEEN MONTHS

Nov. (1963): 43.5°—1.5° above normal, 3° above ave., 4° above '62. Prec. 5.5″—1.2″ above normal, 2.11″ above ave., .85″ above '62. Snow 1″—1.76″ below ave., 2.4″ below '62.
1–6, cold storm (1″ prec.); 7–8, colder; 11–14, clears warmer (in 50's at least once); 15–17, warm storm (1″ prec.); 18–19, colder; 20–25, big northeast storm (2″ prec.); 26–28, unsettled; 29–30, snows 1″.

Dec. (1963): 33°—3° above normal and ave., 3° above '62. Prec. 4″—.04″ above normal, .54″ above ave., 1.3″ below last year. Snow 6″—3.38″ below ave., .7″ above last year.
1–3, fair colder; 4–6, rains (1″); 7–9, much colder; 10–13, big storm (1.5″ rain, 1″ snow); 14, fine; 15–18, possibly stormy (.5″ rain, 1″ snow); 19–26, colder and clear; 27–31, storm of (1″) rain and (4″) snow.

Jan. (1964): 30°—3° below normal, 4° below ave., 3.9° above last year. Prec. 3″—1.49″ below normal, .61″ below ave., .55″ below 1963. Snow 20″—4.9″ above ave., 12″ above '63.
1–5, snowstorm (6″, 1″ prec.); 6–10, snow showers (4″ snow, .5″ prec.); 11–12, windy, cold; 13–15, snows 2″ (.25″ prec.); 16–17, seasonable; 18–20, snowstorm (6″, .75″ prec.); 21–25, thaw; 26–27, cold, windy; 28–31, snow (2″, .50″ prec.) with sleet.

Feb. (1964): 32°—4.6° above normal, 6.5° above ave., 6.1° above last year. Prec. 3.5″—.23″ below normal, .24″ below ave., .9″ above last year. Snows 22″—6.5″ above ave., 16.4″ above '63.
1–6, possibly blizzard (8″ snow, 1″ prec.); 7–10, snow squalls but 2 clear days (2″ snow, .25″ prec.); 11–14 (same as 7-10); 15–20, snowstorm of 6″ (1″ prec.); 21–25, unsettled; 26–29, mild storm, 4″ snow (1″ prec.).

Mar. (1964): 38°—3.2° above normal, 4° above ave., 2° above '63. Prec. 4″—.54″ below normal, .43″ above ave., .43″ below '63. Snows 6″—5.3″ below ave., 11.5″ below '63.
1–3, fair, cold; 4–6, rain (1″) and snow (2″); 7–9, unsettled; 10–13, rain (1″); 14–16, unsettled; 17–20, big storm, rain (1″), snow (4″); 21–24, fair, cool; 25–28, storm of rain (1″); 29–31, warm and fine.

Continued on page 71

ECLIPSES FOR THE YEAR 1964

There will be six eclipses, four of the Sun and two of the Moon, during 1964. Of these only the Total Eclipses of the Moon on June 24th and December 18th will be of general interest to observers in the United States.

I. **A Partial Eclipse of the Sun, January 14, 1964.** This eclipse, for all practical purposes, will be visible solely from Antarctica and the stretches of ocean that lie between Australia and South America respectively and the Antarctic Continent. The greatest extent of eclipse visible to an observer will find the Sun's diameter a little more than half obscured. This observer would be located on the shore of Antarctica due south of Arabia and the Middle East.

II. **A Partial Eclipse of the Sun, June 9, 1964.** This eclipse, like that of January 14th, is visible from southern latitudes. An observer on the shore of Antarctica due south of Australia will see this eclipse at its greatest when three-fourths of the Sun's diameter will be obscured by the Moon. The eclipse will be visible from all of Australia except for certain stretches of its most northerly coastline. The extent of obscuration of the Sun will be the greater the farther south the observer is from Australia's northern shoreline.

III. **A Total Eclipse of the Moon, June 24, 1964.** The umbral phase of this eclipse begins at 6.09 P.M., E.S.T. and the total phase at 7.16 P.M., E.S.T. Since moonrise at Boston on this date is at 7.19 P.M., E.S.T., the eclipse will be well under way before moonrise occurs along the eastern coastline of the United States. Middle of the eclipse is at 8.06 P.M., E.S.T. and the total phase ends at 8.57 P.M., E.S.T. So the possibility of an observer in the United States seeing any part of the total phase of this eclipse rests on the Moon's rising in the observer's locality before 8.57 P.M., E.S.T. This restricts this view of the eclipse generally to observers in the eastern two-thirds of the United States. But, since the Moon does not leave the earth's penumbral shadow until 11.15 P.M., E.S.T., the penumbral phase that follows the total will be visible to observers throughout the United States excluding Alaska and Hawaii. The beginning of this eclipse will be visible in Europe, Africa, southwest Asia, the Indian Ocean, most of South America, the Atlantic Ocean and Antarctica. The end of the eclipse will be visible from southwest Europe, Africa except its northeastern part, the Atlantic Ocean, North America except its northwestern part, South America, the southeastern part of the Pacific Ocean and Antarctica.

IV. **A Partial Eclipse of the Sun, July 9, 1964.** This eclipse during which, at maximum, about a third of the Sun's diameter will be obscured, is to be seen from the north polar regions. To see this eclipse at this maximum the observer will have to be in the vicinity of the Bering Strait. It can be favorably seen, but with less obscuration of the Sun, the lesser the nearer the observer is to the North Pole, by observers in far northern latitudes, generally those no less than that of the Bering Strait.

V. **A Partial Eclipse of the Sun, December 3, 1964.** Like the eclipse of July 9th, this eclipse can be seen in greatest phase, three-fourths of the Sun's diameter covered, by observers in the vicinity of the Bering Strait. With less obscuration of the Sun the eclipse will be visible from the southwestern tip of the Alaskan Peninsula including the Aleutians and from the Hawaiian Islands, which lie just inside the southern limit of the eclipse's visibility, as do, also, Japan and the mainland of Asia to its west and northwest. In these parts of the Orient the eclipse will be a sunrise phenomenon.

VI. **A Total Eclipse of the Moon, December 18, 1964.** The total phase of this eclipse begins at 9.07 P.M., E.S.T. and the middle of the eclipse occurs at 9.37 P.M., E.S.T., both long after the Moon has risen for observers throughout the United States and Alaska, but an hour before the Moon will rise in Honolulu. Since the total phase ends at 10.07 P.M., E.S.T., only the penumbral phases of the eclipse will be seen from the Hawaiian Islands, but observers elsewhere in the United States will be able to view the entire eclipse. The beginning of the eclipse will be visible in the north polar regions, Europe, Africa, western Asia, the western part of the Indian Ocean, the Atlantic Ocean, North America, South America and the southeastern part of the Pacific Ocean. The end of the eclipse will be visible from the north polar regions, Europe, Africa except the southeastern part, the Atlantic Ocean, North America, South America, and the eastern part of the Pacific Ocean.

EARTH IN PERIHELION AND APHELION, 1964

The Earth will be in Perihelion on January 2nd, distant from the Sun 91,648,000 miles. The Earth will be in Aphelion on July 5th, distant from the Sun 94,446,000 miles.

FULL MOON DAYS

	1964	*1965*	*1966*	*1967*	*1968*		*1964*	*1965*	*1966*	*1967*	*1968*
Jan.	28	17	7	26	15	July	24	13	2	21	9
Feb.	27	15	5	24	14	Aug.	23	12	1–30	19	8
Mar.	27	17	6	25	14	Sept.	21	10	29	18	6
Apr.	26	15	5	24	12	Oct.	20	10	29	18	6
May	26	15	4	23	12	Nov.	19	8	27	16	5
June	24	13	3	22	10	Dec.	18	8	27	16	4

1964 Holidays WEATHER

† Are recommended as "with pay" holidays — regardless of regular periods — for all commercial employees. (*) Quite generally observed. (**) State holidays only (***) Observed some places though probably not holidays.

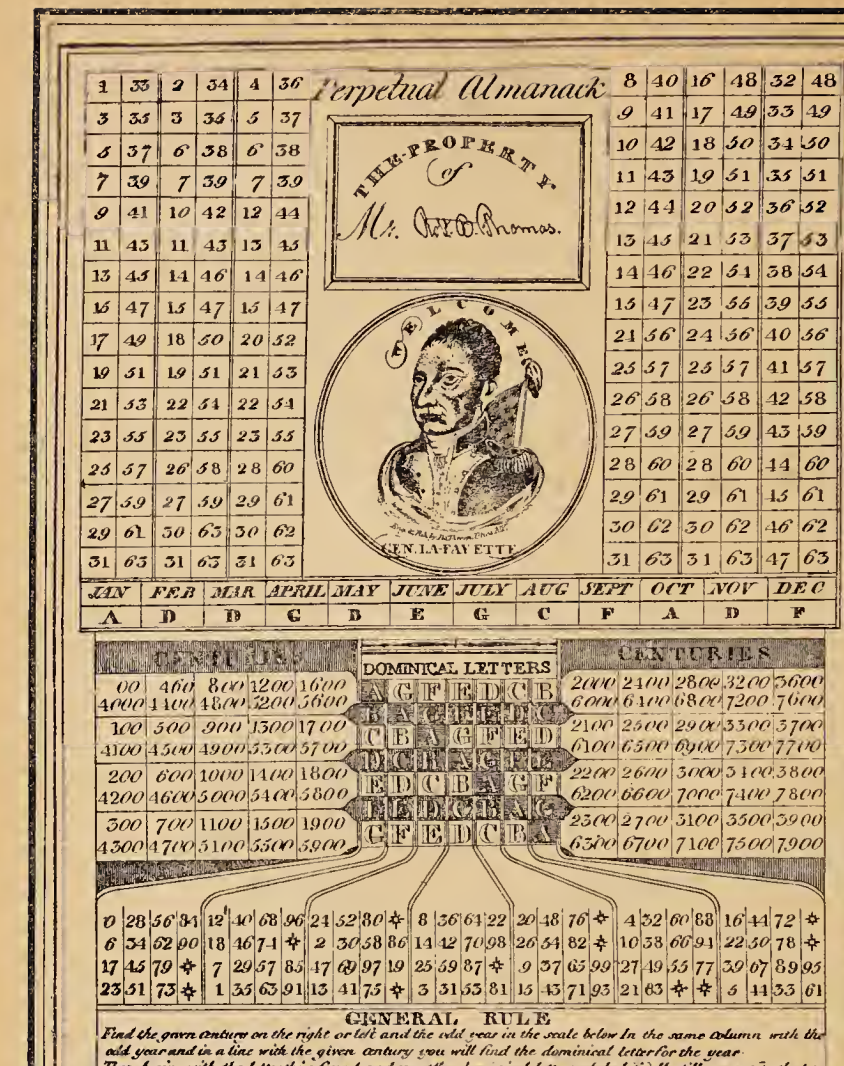
All dates are also included in abbreviated form on the Calendar Pages (11-33).

Jan. 1 (*†) New Year's, Wed., **Cold and Snow.**
Jan. 8 (**) Battle of New Orleans
Jan. 17 (**) Arbor Day (Fla.)
Jan. 19 (**) Robert E. Lee's Birthday (South)
Jan. 26 (**) MacArthur (Ark.)
Jan. 30 (**) F.D.R.'s Day (Ky.)
Feb. 11 (**) Mardi Gras (Ala., Fla., La.)
Feb. 12 (*) Lincoln's Birthday (13 States) Wed., **Stormy**
Feb. 14 (**) Admission Day (Ariz).
Feb. 14 (***) Valentine's Day
Feb. 15 (***) Susan B. Anthony
Feb. 22 (*†) George Washington's Birthday, Sat., **Unsettled.**
Mar. 1 (**) State Day (Nebr.)
Mar. 2 (**) Texas Ind. Day
Mar. 7 (**) Burbank Day (Cal.)
Mar. 15 (**) Jackson Day (Tenn.)
Mar. 17 (**) St. Patrick's or Evacuation Day (Boston)
Mar. 25 (**) Maryland Day
Mar. 26 (**) Kuhio Day (Haw.)
Mar. 27 (**) Good Friday (Ark., Cal., Conn., Del., Fla., Ill., Ind., La., Md., Minn., N. J., N. D., Penn. & Tenn.) **Rain or Snow**
Mar. 30 (**) Easter Mon. (N. C.)
Mar. 30 (**) Seward's Day (Alas.)
Apr. 2 (**) Arbor Day (Ariz.)
Apr. 12 (**) Halifax Day (N. C.)
Apr. 13 (**) Jefferson Day (Ala., Mo., Nebr.. Okla., Va.)
Apr. 19 (**) Patriot's Day (Me., Mass.) Sun., **Rain**
Apr. 21 (**) San Jacinto (Tex.)
Apr. 22 (**) Okla. Day. Arbor Day (Nebr.)
Apr. 24 (**) Arbor Day (Utah)
Apr. 26 (**) Memorial Day (Ala., Fla., Ga., Miss.)
Apr. 27 (**) Fast Day (N. H.), Mon., **Cool, perhaps Storm.**
May 4 (**) R. I. Indep. Day
May 10 (**) Mem. Day (N. & S. C.)
May 10 (***) Mother's Day
May 16 (**) Armed Forces Day
May 20 (**) Mecklenburg (N. C.)
May 30 (*†) Decoration or Memorial Day, Sat., **Cool Winds**
June 3 (**) Jefferson Davis Day (Ala., Fla., Ga., Ky., La., Miss., S. C., Tenn., Tex.)
June 11 (**) Kamehameha (Haw.)
June 14 (**) Flag Day (Pa.)
June 15 (**) Pioneer Day (Idaho)
June 17 (**) Bunker Hill (Suffolk Co., Mass.), Wed., **Cool, Shower**
June 20 (**) West Virginia Day
June 21 (***) Father's Day
July 4 (*†) Independence, Sat., **Cool**
July 13 (**) Forrest's Day (Tenn.)
July 17 (**) Rivera's Day (P. R.)
July 24 (**) Pioneer Day (Utah)
Aug. 1 (**) Colorado Day
Aug. 14 (**) Victory (Ark., R. I.)
Aug. 16 (**) Bennington, Vt. Bat.
Aug. 30 (**) Huey Long (La.)
Sept. 7 (*†) Labor Day, Mon., **Dull**
Sept. 9 (**) Admission Day (Cal.)
Sept. 12 (**) Defender's (Md.)
Sept. 16 (**) Cherokee (Okla.)
Sept. 17 (***) Citizenship Day
Sept. 27 (***) Am. Indian Day
Oct. 1 (**) Missouri Day
Oct. 10 (**) Okla. Hist. Day
Oct. 11 (**) Pulaski Day (Nebr.)
Oct. 12 (*†) Columbus (All States exc. 10). Mon., **Rain, Wind**
Oct. 18 (**) Alaska Day
Oct. 24 (***) United Nations Day
Oct. 31 (**) Nevada Day
Nov. 1 (**) All Saints' Day (La.)
Nov. 4 (**) Will Rogers (Okla.)
Nov. 11 (*†) Veterans' (All States exc. 4) Wed., **Cold Storm**
Nov. 14 (***) Sadie Hawkins Day
Nov. 23 (**) Repudiation (Md.)
Nov. 26 (*†) Thanksgiving Day, Thurs., **Sleet**
Dec. 1 (**) Arbor Day, Ark.
Dec. 10 (**) Wyoming Day
Dec. 15 (***) Bill of Rights Day
Dec. 21 (***) Forefathers' Day
Dec. 25 (*†) Christmas Day, Fri., **Mild**

LONG HOLIDAY WEEKENDS

New Year's and Lincoln's fall on Wednesdays; Washington's on a Saturday. For those who get Good Friday, that comes March 27. New Hampshirites only will get the Fast Day weekend from Friday evening, April 24, until Tuesday morning, April 28. Memorial and Independence Days come on Saturdays. Labor Day — always faithful — affords a Friday evening (Sept. 4) through Tuesday morning (Sept. 8). Veterans' Day is a Wednesday again.

Thanksgiving (Thursday, Nov. 26) offers a Wednesday evening to Monday morning for the lucky. Christmas, falling on Friday, means from Thursday (24) to Monday morning (28).



1	33	2	34	4	36
3	35	3	35	5	37
5	37	6	38	6	38
7	39	7	39	7	39
9	41	10	42	12	44
11	43	11	43	13	45
13	45	14	46	14	46
15	47	15	47	15	47
17	49	18	50	20	52
19	51	19	51	21	53
21	53	22	54	22	54
23	55	23	55	23	55
25	57	26	58	28	60
27	59	27	59	29	61
29	61	30	63	30	62
31	63	31	63	31	63

8	40	16	48	32	48
9	41	17	49	33	49
10	42	18	50	34	50
11	43	19	51	35	51
12	44	20	52	36	52
13	45	21	53	37	53
14	46	22	54	38	54
15	47	23	55	39	55
21	56	24	56	40	56
25	57	25	57	41	57
26	58	26	58	42	58
27	59	27	59	43	59
28	60	28	60	44	60
29	61	29	61	45	61
30	62	30	62	46	62
31	63	31	63	47	63

JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
A	D	D	G	B	E	G	C	F	A	D	F

CENTURIES				
00	400	800	1200	1600
4000	4400	4800	5200	5600
100	500	900	1300	1700
4100	4500	4900	5300	5700
200	600	1000	1400	1800
4200	4600	5000	5400	5800
300	700	1100	1500	1900
4300	4700	5100	5500	5900

DOMINICAL LETTERS						
A	G	F	E	D	C	B
B	A	G	F	E	D	C
C	B	A	G	F	E	D
D	C	B	A	G	F	E
E	D	C	B	A	G	F
F	E	D	C	B	A	G
G	F	E	D	C	B	A

CENTURIES				
2000	2400	2800	3200	3600
6000	6400	6800	7200	7600
2100	2500	2900	3300	3700
6100	6500	6900	7300	7700
2200	2600	3000	3400	3800
6200	6600	7000	7400	7800
2300	2700	3100	3500	3900
6300	6700	7100	7500	7900

0	28	56	84	12	40	68	96	24	52	80	✠	8	36	64	92	20	48	76	✠
6	34	62	90	18	46	74	✠	2	30	58	86	14	42	70	98	26	54	82	✠
17	45	79	✠	7	29	57	85	17	40	97	19	25	59	87	✠	9	37	65	99
23	51	73	✠	1	35	63	91	13	41	75	✠	3	31	55	81	15	43	71	93

4	32	60	88	16	44	72	✠	10	38	66	94	22	50	78	✠	27	49	55	77
10	38	66	94	22	50	78	✠	27	49	55	77	39	67	89	95	21	63	✠	✠
27	49	55	77	39	67	89	95	21	63	✠	✠	5	44	33	61				

GENERAL RULE

Find the given century on the right or left and the odd year in the scale below In the same column with the odd year and in a line with the given century you will find the dominical letter for the year.
Then begin with the letter this found and count the dominical letters alphabetically till you get to the letter which represents the month that will be the day of the week required

Published *by* Very Goldthwait 1824. D.S.Thresp. & Press NY

PRIZE OFFER

The above PERPETUAL ALMANAC hung, as a large plaque, on the library wall of Robert B. Thomas (1766-1846), founder of this Almanac, from 1824 until 1846. It was undoubtedly made in honor of General Lafayette's visit to West Boylston, Massachusetts, in 1824 — the town in which Mr. Thomas made his home.

In presenting such an historical plaque to you we would caution you that the OFA astronomer, Loring Andrews, tells us the General Rule is useful only for finding the day of the week on which the first day of any month falls. He also tells us that, to him, the "jumble of figures" surrounding General Lafayette is meaningless.

We would doubt that Mr. Thomas would have kept — or Mr. Goldthwait have published — a useless calendar of this kind. So — to the first who will draw up a correct set of instructions for using the above (don't forget that provision is apparently not made here for the calendar changes of 1582, or for the omission of century leap years) — which will fit this space — we will send a check for fifty dollars.

Introduction

STANDARD TIME IS USED THROUGHOUT THIS ALMANAC

Add 1 hr April 26, (deduct it Oct. 25) for Daylight Saving Time
For States which retain September D.S.T. Closing Date, Deduct it Sept. 27.

Chronological Cycles for 1964.

Golden Number . .	8	Solar Cycle	13	Roman Indiction . .	2
Epact	16	Dominical Letter*	E, D	Year of Julian Period	6677

**The Dominical Letter is used instead of the usual "S" for "Sunday" by almanac makers for determining at a glance (a) the year of the almanac, (b) on what day of the week any day of the month will fall.*

Movable Feasts and Fasts for 1964.

SeptuagesimaSun.	Jan. 26	Good Friday	Mar. 27	Whitsunday	May 17
Shrove Sunday	Feb. 9	Easter Sunday	Mar. 29	Trinity Sunday	May 24
Ash Wednesday	Feb. 12	Low Sunday	Apr. 5	Corpus Christi	May 28
1st Sun. in Lent	Feb. 16	Rogation Sun.	May 3	1st Sunday in Advent	Nov. 29
Palm Sunday	Mar. 22	Ascension Day	May 7		

THE SEASONS OF 1964

Winter (1963)	December 22	9.02 A.M. (Sun enters Capricornus)
Spring (1964)	March 20	9.10 A.M. (Sun enters Aries)
Summer	June 21	3.57 A.M. (Sun enters Cancer)
Fall	September 22	7.17 P.M. (Sun enters Libra)
Winter	December 21	2.50 P.M. (Sun enters Capricornus)

Names and Characters of the Principal Planets.

☉ ☿ ♀ ♁ ♂ The Sun.	♀ Venus.	♃ Jupiter.	♆ Neptune.
☾ ☽ ○ ☾ The Moon.	⊕ The Earth.	♄ Saturn.	♇ Pluto.
☿ Mercury.	♂ Mars.	♅ or ♅ Uranus.	

Names and Characters of the Aspects.

☌ Conjunction, or in the same degree.	☊ Dragon's Head, or Ascending Node.
□ Quadrature, 90 degrees.	☋ Dragon's Tail, or Descending Node.
☍ Opposition, or 180 degrees.	

Calendar Page Explanations and Signs

On the right hand pages you will find every now and again the symbols given above conjoined in groups of three to give you what is happening in the heavens. See Glossary, Page 2. Example: ☌☽☾ on page 13 opposite Feb. 15 means Saturn and the Moon are on that day in conjunction, or nearest to each other. See also pages 81–85 which explain how you may correct pages 10–33 for use anywhere in the U.S.A, inc. Alaska and Hawaii.

THE MOON, THE ZODIAC, THE WEATHER

This ALMANAC is not easily produced. There are some 400,000 calculations which must be made, and verified. Before use, therefore, a thorough study of the explanations and cross references is recommended. Queries must be accompanied by stamped addressed reply envelope.

The LONG RANGE FORECASTS about the weather appear in prose on page 5 and in verse, *in italics*, on pages 11 through 33. Opposite January 11 to 15, on page 11, you will note: *Windy gusts make woolies musts.* This means the Almanac expects cold weather some time during this period . . . in the Boston area. For adjustments to other localities see pages 5 and 80.

For those interested in the INFLUENCE OF THE MOON, ZODIAC, etc. fishermen will appreciate page 42 where the best Moon Dates for fishing are given; also when the Moon is in CNC, SCO, or PSC (pages 10–32) is most favorable. The columns (pages 10–22) on Moon Rise and Set should be especially valuable. To calculate when the Moon "Souths" (useful to fishermen) take roughly halfway between Moon Rise and Set — Pages 10–32. This is information carried *only* by this Almanac. Planters should consult Page 36, and the signs CNC, LIB, and SCO; brush cutters the full and last quarters of the Moon; post setters and women wanting permanent waves, TAU, LEO, and AQR. For tooth extraction, G'M, VIR, SGR, CAP, and PSC seem best. Such superstitions of course have no sensible value, but these are all here for those who believe they have. See especially Page 37, new this year.

A full coverage of zodiacal and daily signs is given in Part II, beginning on Page 38.

1964] JANUARY, FIRST MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	23s.03	7	22 26	13	21 33	19	20 26	25	19 05		
	2	22 58	8	22 18	14	21 23	20	20 13	26	18 50		
	3	22 52	9	22 10	15	21 13	21	20 00	27	18 35		
	4	22 46	10	22 02	16	21 02	22	19 47	28	18 19		
	5	22 40	11	21 53	17	20 50	23	19 33	29	18 03		
	6	22 33	12	21 43	18	20 38	24	19 19	30	17 47		

☾ Last Quarter, 6th day, 10 h. 58 m., morning, W.
● New Moon, 14th day, 3 h. 44 m., evening, W.
☽ First Quarter, 22nd day, 12 h. 29 m., morning, W.
○ Full Moon, 28th day, 6 h. 23 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
1	1	W.	7 13	O	4 22	C	9 09	12	0¼	0½	7$^{P}_{M}$00	D	9$^{A}_{M}$10	N	LEO	16
2	2	Th.	7 13	O	4 23	C	9 10	12	1	1¼	8 10	E	9 50	M	LEO	17
3	3	Fr.	7 13	O	4 24	C	9 11	11	2	2	9 17	G	10 24	L	VIR	18
4	4	Sa.	7 13	O	4 25	C	9 12	11	2¾	3	10 22	H	10 53	K	VIR	19
5	5	E	7 13	O	4 26	C	9 13	11	3¾	4	11$^{P}_{M}$24	I	11 19	J	VIR	20
6	6	M.	7 13	N	4 27	D	9 14	10	4½	4¾	—	—	11$^{A}_{M}$44	I	LIB	21
7	7	Tu.	7 13	N	4 28	D	9 15	10	5½	5¾	12$^{A}_{M}$25	J	12$^{P}_{M}$08	H	LIB	22
8	8	W.	7 13	N	4 29	D	9 16	9	6¼	6¾	1 24	K	12 33	G	SCO	23
9	9	Th.	7 13	N	4 30	D	9 17	9	7¼	7¾	2 24	L	1 00	F	SCO	24
10	10	Fr.	7 12	N	4 31	D	9 19	8	8	8½	3 24	M	1 30	E	SGR	25
11	11	Sa.	7 12	N	4 32	D	9 20	8	8¾	9¼	4 23	N	2 04	D	SGR	27
12	12	E	7 12	N	4 33	D	9 21	8	9½	10	5 21	N	2 45	D	SGR	28
13	13	M.	7 12	N	4 34	D	9 23	7	10¼	10¾	6 16	O	3 33	C	CAP	29
14	14	Tu.	7 11	N	4 35	D	9 24	7	10¾	11¼	7 07	O	4 27	D	CAP	30
15	15	W.	7 11	N	4 37	D	9 26	7	11½	—	7 52	N	5 26	D	AQR	1
16	16	Th.	7 10	N	4 38	D	9 27	6	0	0	8 32	N	6 29	E	AQR	2
17	17	Fr.	7 10	N	4 39	D	9 29	6	0¾	0¾	9 08	M	7 35	F	PSC	3
18	18	Sa.	7 09	N	4 40	D	9 31	5	1¼	1½	9 39	L	8 43	G	PSC	4
19	19	E	7 09	N	4 41	D	9 33	5	2	2¼	10 08	K	9 51	H	PSC	5
20	20	M.	7 08	N	4 43	D	9 34	5	2¾	3¼	10 36	J	11$^{P}_{M}$00	I	ARI	6
21	21	Tu.	7 08	N	4 44	D	9 36	5	3¾	4	11 03	H	—	—	ARI	7
22	22	W.	7 07	N	4 45	D	9 38	4	4½	5	11$^{A}_{M}$33	G	12$^{A}_{M}$10	K	TAU	8
23	23	Th.	7 06	N	4 46	D	9 40	4	5½	6	12$^{P}_{M}$06	F	1 23	L	TAU	9
24	24	Fr.	7 05	N	4 48	D	9 42	4	6½	7¼	12 45	E	2 36	M	G'M	10
25	25	Sa.	7 05	N	4 49	D	9 44	4	7½	8¼	1 30	D	3 48	N	G'M	11
26	26	E	7 04	M	4 50	E	9 46	3	8½	9¼	2 24	C	4 58	O	CNC	12
27	27	M.	7 03	M	4 51	E	9 48	3	9½	10¼	3 27	C	6 01	O	CNC	13
28	28	Tu.	7 02	M	4 53	E	9 51	3	10½	11	4 35	D	6 57	N	—	—
29	29	W.	7 01	M	4 54	E	9 53	3	11¼	—	5 46	E	7 42	M	LEO	14
30	30	Th.	7 00	M	4 55	E	9 55	3	0	0	6 56	F	8 20	L	LEO	15
31	31	Fr.	6 59	M	4 57	E	9 57	2	0¾	1	8$^{P}_{M}$03	G	8$^{A}_{M}$52	K	VIR	16

JANUARY hath 31 days. [1964

The wintry west extends his blast,
And hail and rain does blaw:
Or the stormy north sends driving forth
The blinding sleet and snaw.

Burns

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	W.	Circumcision. Companius 1st U.S. weather rec. 1644 *In*	All of us now and then look back over the years and weigh the rightness, the wrongness, the usefulness and importance to others of what we have done. This is judgment — if belated — and puts us on record with ourselves. There are many judges of all of us and all things, but a man's judgment of himself is his conscience. Unfortunately, it is the evidence forced upon him by time — too-late time — that is the prick to a man's conscience; and then conscience becomes chiefly regret or reconsideration, the desire to remake moments that never can be remade — and, of course, the determinations that spring from the heart, which, if we can make them stick, are the real truth of conscience.
2	Th.	Bad winter storm Florida, 1911 {9.9 11.1 *this moon*	
3	Fr.	Shortest twilights now–April 11 ☌☉☾ {9.6 10.5 *phase*	
4	Sa.	Eat to live, not live to eat ☿ Inf. Conj. {9.4 9.8 *comes*	
5	E	2nd a. Ch. Twelfth Night Ford doubled wages, 1914	
6	M.	Epiphany. Twelfth Day ☾ on Eq. *snow*	
7	Tu.	1st vessel thru Panama Canal, 1914 Tides {8.8 8.2 *and*	
8	W.	(9th–Ladies once in bed this day should stay there) Hol. La. *an*	
9	Th.	☌♆☾ ☌♄ ☾ in Apo. {8.9 7.8 *hard*	
10	Fr.	Col. (apple) Baldwin b. 1744 Tides {9.0 7.9 *ice*	
11	Sa.	Gail (cond. milk) Borden d. 1874 Tides {9.2 8.0 *glaze.*	
12	E	1st S. a. Ep. Hudson River frozen 1795, 1804 {9.4 8.1	
13	M.	Plough Mon. ☌☿☾ ☾ rides low *Windy*	
14	Tu.	St. Hil. Coldest in the year ☉ Partial eclipse *gusts*	
15	W.	☿ Stat. in R.A. Snowed England today–Mar. 12, 1814 *make*	
16	Th.	☌♄☾ Famous 1816 winter began *woolies musts.*	
17	Fr.	☌♀☾ Gray whales migrating Tides {8.9 10.2 *Clear*	
18	Sa.	Some men like some melons are hard to know *& fair*	
19	E	2nd a. Ep. Lee's B'day Hol. So. *means*	
20	M.	☌♅☾ ☾ on Eq. 69.7° below Montana, 1954 *travelers*	
21	Tu.	De-tar all wood fire chimneys Tides {9.6 9.5 *beware.*	
22	W.	Piccard descends 37,800 ocean feet, 1959 {9.8 9.2 *Cold*	
23	Th.	Pirates seized Santa Maria, 1961 {10.0 9.1 *and raw,*	
24	Fr.	(K. James Vers. Bible auth., 1604–25th) Tides {10.2 9.0 *this*	
25	Sa.	Conv. of St. Paul If clear, happy year ☾ in Peri	
26	E	Septuag. ☿ Gr El. W ☾ runs high Hol. Ark.	
27	M.	So. Afr. diamond mines disc., 1905 *January thaw.*	
28	Tu.	The full Wolf Moon (above horizon 14 h. 22 min.) *Alas, no*	
29	W.	As the days lengthen the cold strengthens *luck, another*	
30	Th.	☌☉☾ F. D. R.'s Day Hol. Ky. {— 11.2 *storm*	
31	Fr.	First territory taken from Japs., 1944 {9.9 10.8 *to buck.*	

All of us now and then look back over the years and weigh the rightness, the wrongness, the usefulness and importance to others of what we have done. This is judgment — if belated — and puts us on record with ourselves. There are many judges of all of us and all things, but a man's judgment of himself is his conscience. Unfortunately, it is the evidence forced upon him by time — too-late time — that is the prick to a man's conscience; and then conscience becomes chiefly regret or reconsideration, the desire to remake moments that never can be remade — and, of course, the determinations that spring from the heart, which, if we can make them stick, are the real truth of conscience.

Many things that are not done today in this harried world should be done quickly, should be done very quickly, and from the heart. For it is the heart that speaks. The genuine service that is being offered mostly by our quite young people to peoples everywhere is exactly what I mean. And these good things create their own wonderful chain of reactions.

But when I think of what I am doing and thinking and feeling, I must conclude that I am probably more concerned with dolphins, monkeys, the New York Yankees, and Orphan Annie than I am with my fellow men.

Ask your conscience, too.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	17s. 14	7	15 27	13	13 31	19	11 27	25	9 16
	2	16 57	8	15 08	14	13 11	20	11 05	26	8 54
	3	16 39	9	14 49	15	12 50	21	10 44	27	8 31
	4	16 22	10	14 30	16	12 30	22	10 22	28	8 09
	5	16 04	11	14 11	17	12 09	23	10 00	29	7 46
	6	15 46	12	13 51	18	11 48	24	9 38		

☾ Last Quarter, 5th day, 7 h. 43 m., morning, W.
● New Moon, 13th day, 8 h. 02 m., morning, E.
☽ First Quarter, 20th day, 8 h. 25 m., morning, E.
○ Full Moon, 27th day, 7 h. 40 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
32	1	Sa.	6 58	M	4 58	E	10 00	2	1½	1¾	9 P M 09	H	9 A M 19	J	VIR	17
33	2	E	6 57	M	4 59	E	10 02	2	2¼	2½	10 11	I	9 44	I	LIB	18
34	3	M.	6 56	M	5 00	E	10 04	2	3	3¼	11 P M 12	K	10 09	H	LIB	19
35	4	Tu.	6 55	M	5 02	E	10 07	2	3¾	4¼	—	—	10 34	G	SCO	21
36	5	W.	6 54	M	5 03	E	10 09	2	4¾	5	12 A M 12	L	11 00	F	SCO	22
37	6	Th.	6 53	M	5 04	E	10 11	2	5½	6	1 13	M	11 A M 29	E	SCO	23
38	7	Fr.	6 52	M	5 06	E	10 14	2	6½	7	2 12	M	12 P M 02	D	SGR	24
39	8	Sa.	6 51	M	5 07	E	10 16	2	7¼	8	3 10	N	12 40	D	SGR	25
40	9	E	6 49	L	5 08	F	10 19	2	8¼	8¾	4 07	O	1 24	C	CAP	26
41	10	M.	6 48	L	5 10	F	10 21	1	9	9½	4 59	O	2 16	C	CAP	27
42	11	Tu.	6 47	L	5 11	F	10 24	1	9¾	10¼	5 47	N	3 13	D	CAP	28
43	12	W.	6 46	L	5 12	F	10 27	1	10¼	11	6 30	N	4 16	D	AQR	29
44	13	Th.	6 44	L	5 13	F	10 29	1	11	11½	7 07	M	5 23	E	AQR	0
45	14	Fr.	6 43	L	5 15	F	10 32	1	11¾	—	7 40	L	6 32	G	PSC	1
46	15	Sa.	6 42	L	5 16	F	10 35	2	0¼	0½	8 11	K	7 41	H	PSC	2
47	16	E	6 40	L	5 17	F	10 37	2	1	1¼	8 39	J	8 51	I	ARI	3
48	17	M.	6 39	L	5 19	F	10 40	2	1½	2	9 07	H	10 01	J	ARI	4
49	18	Tu.	6 37	L	5 20	F	10 43	2	2½	2¾	9 36	G	11 P M 13	K	TAU	5
50	19	W.	6 36	L	5 21	F	10 45	2	3¼	3¾	10 07	F	—	—	TAU	6
51	20	Th.	6 34	L	5 22	F	10 48	2	4¼	4¾	10 43	E	12 A M 26	M	G'M	7
52	21	Fr.	6 33	K	5 24	G	10 51	2	5¼	5¾	11 A M 26	D	1 38	N	G'M	8
53	22	Sa.	6 31	K	5 25	G	10 54	2	6¼	7	12 P M 15	C	2 47	N	CNC	9
54	23	E	6 30	K	5 26	G	10 56	2	7¼	8	1 14	C	3 51	O	CNC	11
55	24	M.	6 28	K	5 27	G	10 59	2	8¼	9	2 18	D	4 47	O	LEO	12
56	25	Tu.	6 27	K	5 29	G	11 02	3	9¼	10	3 26	D	5 35	N	LEO	13
57	26	W.	6 25	K	5 30	G	11 05	3	10¼	10¾	4 36	F	6 15	M	VIR	14
58	27	Th.	6 24	K	5 31	G	11 07	3	11	11½	5 44	G	6 49	L	—	—
59	28	Fr.	6 22	K	5 32	G	11 10	3	11¾	—	6 51	H	7 18	K	VIR	15
60	29	Sa.	6 21	K	5 34	G	11 13	3	0¼	0½	7 P M 55	I	7 A M 44	J	LIB	16

FEBRUARY hath 29 days. [1964

February, a form
Pale-vestured, wildly fair,
One of the North Wind's daughters,
With icicles in her hair.
Edgar Fawcett

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Sa.	St. Bridget Snowed Calif., 1959 {9.8 10.3 *Helter-*	My uncle didn't break his neck. Not quite. And he learned to laugh about the occasion when he almost did.
2	E	Pur. of M. Candlemas D. ☾ on Eq. *skelter,*	
3	M.	Sex. S. Four Chaplains {9.4 9.1 *three*	It was winter time and all of us girls and boys together had a toboggan slide. What it lacked in length it made up in speed and abruptness. The toboggan and its five occupants was given a good flying push-off by all hands available, and it soared over a cliff for fifteen or twenty yards and came haphazardly down in a stand of oak trees.
4	Tu.	Eb. Adams saw 3 angels Medford, Mass., 1761 Tides {9.1 8.5 *big*	
5	W.	☌♆☾ Better slip with foot than tongue {8.9 8.0 *storms*	
6	Th.	Unlucky days (6-8) ☾ in Apo. Tides {8.7 7.7 *almost*	
7	Fr.	Year's lowest P.M. high tide (also Mar. 7-8) {8.7 7.5 *together.*	
8	Sa.	1st sundial Rome, 293 B.C. Tides {8.7 7.6 *In*	
9	E	Shrove S. 18 below Boston, 1934 *between,*	My Uncle Fred, who was a jolly man, watched our fun one Sunday afternoon, then said he'd like to take a try at it. So we gave him the honorable and perilous seat in the front. Laura and Betty and Mike and I sat behind.
10	M.	☾ rides low Sun and sundials about agree 10–14 {9.2 8.1 *a real*	
11	Tu.	Mardi Gras Lent (12th) ☌☿☾ Hol. Ala. Fla., La. *cold*	
12	W.	Ash W. Lincoln's Birthday Hol. 13 states *spell.*	
13	Th.	Crows around Hauptman guilty, 1935 Tides {10.1 9.1 *Fuel*	It was probably the swiftest ride and roughest landing we ever had. Uncle Fred didn't go through the oak tree . . . but it was a close thing. He bounced off it. We picked him up, shook him to make sure he didn't rattle anywhere, pinched his cheeks, and walked him around the tree just to make sure he could walk. He could, so we staggered him back to his house. And then, forgive us, dear uncle, we laughed. I am now older than you were when you bounced off the oak, and I am glad you didn't kill yourself. We were fond of you . . . and besides, it would have spoiled all the fun.
14	Fr.	St. Val. Honey is sweet and so are you Hol. Ariz. *bills*	
15	Sa.	☌♄☉ Bad fires tomorrow Tides {9.5 10.5 *swell.*	
16	E	Quad. S. ☾ on Eq. ☌♀☾ ☌♂☉	
17	M.	☌♃☾ 1st ship thru Suez, 1867 *You'll per-*	
18	Tu.	☿ Stat. in R.A. Eniwetok Atoll, 1944 {10.2 10.0 *spire only*	
19	W.	Charms are nonsense, Ember days. nonsense is charming 19, 21, 22 {10.2 9.5	
20	Th.	Ast. Glenn 1962 Auld deer worst in year {10.1 9.1 *by the*	
21	Fr.	☾ in Perl. World Prayer Tides {10.1 8.8 *fire.*	
22	Sa.	Wash. Bdy. Tides {10.1 8.7 *No cheer,*	
23	E	2nd S. L. ☾ runs high {10.2 8.8 *doesn't*	
24	M.	Pres. Johnson impeached 1868 Tides {10.4 9.1 *quite*	
25	Tu.	St. Matthias Colt pat. 6-shooter, 1836 *clear.*	
26	W.	[27th ☌♂☾ ☌☉☉ ☌☿♄] *Milder*	
27	Th.	Purim The full Snow Moon Don't travel or argue {10.9 10.0	
28	Fr.	☌♀♃ Plan important mtgs. for today {10.7 — *but even*	
29	Sa.	☾ on Eq. 1st Victory Ship, 1944 Tides {10.1 10.5 *wilder.*	

LEAP YEAR WITH ITS INTERCALARY DAY,
MARRIES SOLAR AND LUNAR TIME THEY SAY.

1964] MARCH, Third Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	7S. 23	7	5 05	13	2 43	19	0S.22	25	2 01
2	7 00	8	4 41	14	2 20	20	0N.03	26	2 24
3	6 37	9	4 18	15	1 56	21	0 26	27	2 48
4	6 14	10	3 54	16	1 32	22	0 50	28	3 11
5	5 51	11	3 31	17	1 09	23	1 14	29	3 35
6	5 28	12	3 07	18	0 45	24	1 37	30	3 58

☾ Last Quarter, 6th day, 5 h. 00 m., morning, E.

● New Moon, 13th day, 9 h. 14 m., evening, W.

☽ First Quarter, 20th day, 3 h. 40 m., evening, E.

○ Full Moon, 27th day, 9 h. 49 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85. FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
61	1	D	6 19	K	5 35	G	11 16	3	1	1¼	8P M57	J	8A M10	H	LIB	17
62	2	M.	6 17	K	5 36	G	11 19	4	1¾	2	9 59	K	8 34	G	LIB	18
63	3	Tu.	6 16	K	5 37	G	11 22	4	2¼	2¾	11P M00	L	9 00	F	SCO	19
64	4	W.	6 14	J	5 38	H	11 24	4	3	3½	—	—	9 27	E	SCO	20
65	5	Th.	6 12	J	5 40	H	11 27	4	4	4½	12A M01	M	9 59	E	SGR	21
66	6	Fr.	6 11	J	5 41	H	11 30	5	4¾	5¼	12 59	N	10 34	D	SGR	22
67	7	Sa.	6 09	J	5 42	H	11 33	5	5½	6¼	1 56	N	11A M16	C	SGR	23
68	8	D	6 07	J	5 43	H	11 36	5	6½	7¼	2 49	O	12P M04	C	CAP	24
69	9	M.	6 06	J	5 44	H	11 39	5	7½	8¼	3 39	O	12 59	D	CAP	25
70	10	Tu.	6 04	J	5 46	H	11 42	6	8¼	9	4 24	N	1 59	D	AQR	26
71	11	W.	6 02	J	5 47	H	11 44	6	9¼	9¾	5 03	M	3 05	E	AQR	27
72	12	Th.	6 01	J	5 48	H	11 47	6	10	10½	5 39	L	4 13	F	PSC	28
73	13	Fr.	5 59	J	5 49	H	11 50	6	10¾	11	6 10	K	5 23	G	PSC	29
74	14	Sa.	5 57	J	5 50	H	11 53	7	11¼	11¾	6 39	J	6 35	H	ARI	1
75	15	D	5 56	I	5 51	I	11 56	7	—	0	7 07	I	7 48	J	ARI	2
76	16	M.	5 54	I	5 53	I	11 59	7	0½	0¾	7 37	H	9 02	K	TAU	3
77	17	Tu.	5 52	I	5 54	I	12 02	7	1¼	1¾	8 08	F	10 16	L	TAU	4
78	18	W.	5 50	I	5 55	I	12 05	8	2	2½	8 43	E	11P M30	M	G'M	5
79	19	Th.	5 49	I	5 56	I	12 07	8	2¾	3½	9 23	D	—	—	G'M	6
80	20	Fr.	5 47	I	5 57	I	12 10	8	3¾	4½	10 11	C	12A M41	N	CNC	7
81	21	Sa.	5 45	I	5 58	I	12 13	9	4¾	5½	11A M06	C	1 46	O	CNC	8
82	22	D	5 43	I	5 59	I	12 16	9	6	6¾	12P M08	C	2 44	O	LEO	9
83	23	M.	5 42	I	6 01	I	12 19	9	7	7¾	1 14	D	3 34	N	LEO	10
84	24	Tu.	5 40	I	6 02	I	12 22	10	8	8¾	2 23	E	4 15	M	LEO	11
85	25	W.	5 38	I	6 03	I	12 25	10	9	9¾	3 30	F	4 49	L	VIR	12
86	26	Th.	5 36	I	6 04	J	12 28	10	10	10½	4 36	G	5 20	K	VIR	13
87	27	Fr.	5 35	H	6 05	J	12 30	10	10¾	11¼	5 42	H	5 46	J	—	—
88	28	Sa.	5 33	H	6 06	J	12 33	11	11½	11¾	6 44	J	6 11	I	LIB	14
89	29	D	5 31	H	6 07	J	12 36	11	—	0¼	7 46	K	6 36	H	LIB	15
90	30	M.	5 29	H	6 09	J	12 39	11	0½	0¾	8 48	L	7 00	G	SCO	16
91	31	Tu.	5 28	H	6 10	J	12 42	12	1	1½	9P M49	M	7A M27	F	SCO	17

MARCH hath 31 days. [1964

The willows quicken at the river's brim,
The eager alder breaks her tawny buds,
The upland hills are wrapt in bazes dim,
And sweet, impulsive life has stirred the woods.
Dora Read Goodale

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	D	☽ S. ☾. St. David {10.0 Hol. {10.1 Neb. *Sun-*	My friend and his wife had stopped for gas. It was in the Blue Ridge Mountains of Virginia. Well, they stopped, and longer than they had intended to for there was friendly good chat all around.
2	M.	Autos crossed (1918) Hol. Penobscot Bay, Maine Tex. {9.8 {8.5 *shine*	
3	Tu.	☽ ☌ ☉ ♂ ☍ ☾ {9.6 {9.0 *this time.*	
4	W.	12 Am. Rev. survivors rec. *Hail on*	
5	Th.	1st U.S. Vet. pensions, 1864 The Ides begin, ☾ in Apo. *the tail*	
6	Fr.	Beware of Old Colind. Tar fruit Unlucky trees days (6–8) Tides {8.7 {7.5 *of a*	His wife had developed a combination Yankee-Southern drawl and she wanted to make use of it. The gas attendant, his assistant, and their friends gathered around and it was like Old Home Week for about a half hour.
7	Sa.	Whatever is begun in anger ends in sbame {8.6 Hol. {7.5 Cal. *snowy*	
8	D	4th S. ☽. ☾ Rides low {8.6 {7.5 *gale.*	
9	M.	Maple sap run starts Dr. Sanders acq. mercy killing, 1950 *Rainy*	
10	Tu.	1944 claimed more author deaths than any year before or since {9.0 {8.2	
11	W.	Skunks are mating Romeo and Juliet married, 1302 *and*	
12	Th.	St. Greg. ♂ ♄ ☾ Avoid discord, esp. old pols. *wet,*	"Well," she said, "me-all — and he-all," jerking a thumb in my direction, "we-all are from a little town in New Hampshire." Then she added, "Do you-all come from here?" They allowed as how they-all did. She capped it politely, "You-all have a most favorable and salubrious location here." My friend was the only one who thought that a very funny remark. The rest just beamed.
13	Fr.	♂ ☿ ☉ Sup. Stay home {10.3 {9.8 *spring*	
14	Sa.	The Easter new moon is the only one to triumph over the full *is*	
15	D	Pas. S. ☾ on Eq. ♂ ☌ ☾ Hol. Tenn. *not*	
16	M	Snow fleas around Night about equals day {10.6 {10.6 *yet.*	
17	Tu.	St. Pat. ♂ ♀ ☾ ☾ in Peri Hol. Boston Suffolk Co. *Ill*	
18	W.	Cicero's interview with Cleopatra Tides {10.7 {10.0 *betides*	Eventually they got the gas. My friend handed over several bills.
19	Th.	St. Jos. Swallows return to Capistrano *any storm*	
20	Fr.	Spring Begins 9.10 A.M. Sun ent. Aries {10.3 {9.0 *riding*	
21	Sa.	☾ runs high N. E. Quake 1904 Tides {10.0 {8.6 *the*	"My dear," he said, "you put on an excellent show. There was just one thing. I've never heard of 'me-all', even in the heart of Dixie."
22	D	Palm S. Earliest possible Easter date {9.8 {8.6 *Ides.*	
23	M.	Capt. Smith sailed for America, 1614 {9.8 {8.8 *Drivers*	That was that. But two days later, when my friend was netted in one of Georgia's notorious speed traps, hauled off to a Southern-drawling Justice of the Peace and fined, he told his wife that if she ever so much as breathed a "you-all" or "we-all" again in his presence, she'd find herself "alone-all."
24	Tu.	God heals — Doctors collect the fee {9.9 {9.1 *beware —*	
25	W.	Annun. Lady Day ♂ ☍ ☾ Hol. Md. *bad*	
26	Th.	Bat. Horseshoe Bend, 1814 Kuhio Day Hawaii *spring*	
27	Fr.	G. Fri. The full Worm Moon {10.3 {10.0 *glare.*	
28	Sa.	Passover ☾ on Eq. *Snows again, that's*	
29	D	Easter Today all waters dance {— {9.9 *plain.*	
30	M.	War, plague, storm, Tues. Hol. N.C. Hol. Alas. *Real fun*	
31	Tu.	♂ ☌ ☾ ♂ ☿ ☽ Tides {10.0 {9.2 *this sun.*	

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	4N.44	7	7 01	13	9 14	19	11 21	25	13 21
2	5 07	8	7 24	14	9 35	20	11 41	26	13 41
3	5 30	9	7 46	15	9 57	21	12 02	27	13 59
4	5 53	10	8 08	16	10 18	22	12 22	28	14 18
5	6 16	11	8 30	17	10 39	23	12 42	29	14 37
6	6 39	12	8 52	18	11 00	24	13 02	30	14 56

☾ Last Quarter, 5th day, 12 h. 46 m., morning, E.
● New Moon, 12th day, 7 h. 38 m., morning, E.
☽ First Quarter, 18th day, 11 h. 10 m., evening, W.
○ Full Moon, 26th day, 12 h. 50 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
92	1	W.	5 26	H	6 11	J	12 45	12	1¾	2¼	10$^{P}_{M}$49	N	7$^{A}_{M}$57	E	SCO	18
93	2	Th.	5 24	H	6 12	J	12 48	12	2½	3	11$^{P}_{M}$47	N	8 31	D	SGR	19
94	3	Fr.	5 23	H	6 13	J	12 50	13	3¼	3¾	—	–	9 09	D	SGR	20
95	4	Sa.	5 21	H	6 14	J	12 53	13	4	4¾	12$^{A}_{M}$42	C	9 54	C	CAP	21
96	5	D	5 19	H	6 15	J	12 56	13	5	5½	1 33	C	10 45	C	CAP	22
97	6	M.	5 17	H	6 16	J	12 59	13	5¾	6½	2 19	N	11$^{A}_{M}$43	D	AQR	23
98	7	Tu.	5 16	H	6 18	K	13 02	14	6¾	7½	2 59	N	12$^{P}_{M}$45	D	AQR	24
99	8	W.	5 14	G	6 19	K	13 05	14	7¾	8¼	3 35	M	1 52	E	AQR	25
100	9	Th.	5 12	G	6 20	K	13 07	14	8½	9	4 07	L	3 01	G	PSC	27
101	10	Fr.	5 11	C	6 21	K	13 10	15	9½	9¾	4 37	K	4 12	H	PSC	28
102	11	Sa.	5 09	G	6 22	K	13 13	15	10¼	10½	5 06	J	5 25	I	ARI	29
103	12	D	5 07	G	6 23	K	13 16	15	11	11¼	5 35	H	6 40	J	ARI	0
104	13	M.	5 06	G	6 24	K	13 18	15	11¾	—	6 06	G	7 57	L	TAU	1
105	14	Tu.	5 04	G	6 25	K	13 21	15	0	0½	6 40	F	9 14	M	TAU	2
106	15	W.	5 03	G	6 27	K	13 24	16	0¾	1½	7 19	D	10 29	N	G'M	3
107	16	Th.	5 01	G	6 28	K	13 27	16	1¾	2¼	8 05	D	11$^{P}_{M}$39	O	G'M	4
108	17	Fr.	4 59	G	6 29	K	13 29	16	2½	3¼	8 59	C	—	–	CNC	5
109	18	Sa.	4 58	G	6 30	K	13 32	16	3½	4¼	10 01	C	12$^{A}_{M}$41	O	CNC	6
110	19	D	4 56	G	6 31	L	13 35	17	4½	5¼	11$^{A}_{M}$06	D	1 34	O	LEO	7
111	20	M.	4 55	F	6 32	L	13 37	17	5¾	6½	12$^{P}_{M}$14	E	2 18	N	LEO	8
112	21	Tu.	4 53	F	6 33	L	13 40	17	6¾	7½	1 21	F	2 53	M	VIR	10
113	22	W.	4 52	F	6 34	L	13 43	17	7¾	8½	2 28	G	3 24	L	VIR	11
114	23	Th.	4 50	F	6 36	L	13 45	18	8¾	9¼	3 32	H	3 50	J	LIB	12
115	24	Fr.	4 49	F	6 37	L	13 48	18	9¾	10	4 34	I	4 15	I	LIB	13
116	25	Sa.	4 47	F	6 38	L	13 51	18	10½	10¾	5 36	J	4 39	H	LIB	14
117	26	D	4 46	F	6 39	L	13 53	18	11	11¼	6 38	K	5 03	G	—	—
118	27	M.	4 44	F	6 40	L	13 56	18	11¾	—	7 39	L	5 29	F	SCO	15
119	28	Tu.	4 43	F	6 41	L	13 58	18	0	0½	8 40	M	5 57	E	SCO	16
120	29	W.	4 41	F	6 42	L	14 01	18	0½	1	9 39	N	6 28	D	SGR	17
121	30	Th.	4 40	F	6 43	L	14 03	19	1¼	1¾	10$^{P}_{M}$35	O	7$^{A}_{M}$06	D	SGR	18

APRIL hath 30 days. [1964

Yes, I met April on my way,
Part morrow and part yesterday —
And she went laughing, she was sad —
Wayward and pensive, grave and glad.
Edith C. M. Dart

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, Etc.	Farmer's Calendar.
1	W.	All Fool's Many birds returning Tides {9.8 8.8 *Two*	Birds and I cannot wake up early enough of a spring morning. They are terribly busy — but I'm not. I just listen to them proclaiming their nesting rights with all the sweetness and harmony — or early morning rasps and discords — that is natural to their species.
2	Th.	☾ in Apo. The shad are back Hol. Ariz. {9.5 8.4 *weather*	
3	Fr.	Jesus crucified 3 P.M., 33 A.D. Tides {9.2 8.0 *breeders*	
4	Sa.	☾ rides low TV industry born, 1925 *hatched this*	
5	D	Low ♋. Pocahontas (1614) m. John Rolfe *coffin*	I shall be up and about. Put the dog out and let the cats in. But I shall be quiet about it and not wake my wife (she can sleep through birds). However, she hears me puttering about for that other slipper, and so all of us . . . birds, wife, dog, cats, and I . . . take the morning together.
6	M.	Cain born Abel slain Olympic games revived, 1896 {8.6 7.8 *feeder.*	
7	Tu.	☿ Gr. El. ☿ E. Mutiny Bounty 1789 {8.7 8.2 *Clears,*	
8	W.	♂♄☾ Avoid all argument {9.0 8.6 *we insist,*	
9	Th.	Let thy vices die before thee {9.5 9.3 *only*	
10	Fr.	Sub. Thresher sank 1963 — 129 die ♀ Gr. El. ♀ E. *to be*	
11	Sa.	☾ On ☾ Eq. Hatteras cyclone, 1877 {10.3 10.5 *kissed*	As an old bird-watcher, I've decided that, generally speaking, I like the busyness of birds and their domestic regimes because I am not responsible for them. But when you weigh that, it doesn't come out very well. I am well aware that DDT and lead and many other insecticides kill birds, and I try to be as thoughtful and as sparing as I can be about the use of these. The birds that nest around my house grounds, and in my barns and orchards, make themselves my responsibility. They surely show a touching confidence in me to wish to be my tenants — or mutual owners.
12	D	2nd a. ♇. N.Y.–N.J. settled by Dutch, 1614 Hol. N.C. *by*	
13	M.	♂☿☾ Rus. warship sunk, 1904 Hol. So. *mist.*	
14	Tu.	☾ In Peri. 1st on-spot wireless dispatch, 1904 *From the*	
15	W.	♂♀☾ Israelites arr. Wilderness Sin, B.C., 1491 *haze*	
16	Th.	Gt. Lakes shipping season opens, 1963 ☿ Stat. In R.A. *comes a*	
17	Fr.	☾ runs high Boston News Letter 1st in U.S., 1704 {10.9 9.4 *glo-*	
18	Sa.	Ave. date last k. frost Einstein d. 1955 *rious blaze.*	
19	D	3rd a. ♇. Patriots' Day Hol. Me., Mass. *Rains*	But I shall be up and about. Put the dog out and let the cats in. But I shall be quiet about it and not wake my wife (she can sleep through birds). However, she hears me puttering about for that other slipper, and so all of us . . . birds, wife, dog, cats, and I . . . take the morning together.
20	M.	Time is the herb to cure all diseases {9.6 8.7 *driving,*	
21	Tu.	♂☉☾ Staten Isl. fire, 1963 Hol. Tex. {9.5 8.9 *plants*	
22	W.	Best for neg. peace ♂☌☉ Hol. Okla. *thriving.*	
23	Th.	St. George Shakespeare born and died 1564, 1616 *Bright*	
24	Fr.	Arbor Day ☾ on ☾ Eq. Ice out L. W'saukee *is right.*	
25	Sa.	Mark, Ev. Latest date Easter can fall Conf. Mem. Day (26th)	
26	D	4th a. ♇. D.S.T. begins The Full Pink Moon *This*	
27	M.	Fast Day N. H. ♂☿☾ Inf. ♂♆☾ *drizzle*	
28	Tu.	Napoleon to Elba 1814 Mars was conceived {— 9.1 *will wet*	
29	W.	☾ In ☾ Apo. Peacock capt. L'Eperlier, 1814 {10.0 8.9 *your*	
30	Th.	N.H. Lottery Bill, 1963 Tides {9.8 8.6 *whistle.*	

April 26 is when you gain one full daylight hour
Set clocks at 10, when they say 9, the night before.

1964] MAY, FIFTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	15N.14	7	16 57	13	18 30	19	19 53	25	21 02		
2	15 32	8	17 13	14	18 45	20	20 05	26	21 13		
3	15 49	9	17 29	15	18 59	21	20 17	27	21 23		
4	16 07	10	17 45	16	19 13	22	20 29	28	21 32		
5	16 24	11	18 01	17	19 26	23	20 41	29	21 42		
6	16 41	12	18 16	18	19 40	24	20 52	30	21 51		

☾ Last Quarter, 4th day, 5 h. 20 m., evening, W.

● New Moon, 11th day, 4 h. 02 m., evening, W.

☽ First Quarter, 18th day, 7 h. 43 m., morning, E.

○ Full Moon, 26th day, 4 h. 29 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Past m.	Full Sea, Boston. Morn h.	Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
122	1	Fr.	4 39	F	6 45	L	14 06	19	1¾	2½	11 P M 28	O	7 A M 49	C	CAP	19
123	2	Sa.	4 37	F	6 46	M	14 08	19	2½	3¼	—	—	8 37	C	CAP	20
124	3	D	4 36	E	6 47	M	14 11	19	3½	4	12 A M 15	O	9 31	C	CAP	21
125	4	M.	4 35	E	6 48	M	14 13	19	4¼	5	12 57	N	10 30	D	AQR	22
126	5	Tu.	4 33	E	6 49	M	14 16	19	5¼	6	1 34	M	11 A M 34	E	AQR	23
127	6	W.	4 32	E	6 50	M	14 18	20	6	6¾	2 06	L	12 P M 41	F	PSC	24
128	7	Th.	4 31	E	6 51	M	14 20	20	7	7¾	2 36	K	1 49	G	PSC	25
129	8	Fr.	4 30	E	6 52	M	14 22	20	8	8½	3 05	J	3 00	H	ARI	26
130	9	Sa.	4 29	E	6 53	M	14 25	20	8¾	9¼	3 32	I	4 13	J	ARI	27
131	10	D	4 27	E	6 54	M	14 27	20	9¾	10	4 01	H	5 30	K	TAU	28
132	11	M.	4 26	E	6 55	M	14 29	19	10½	10¾	4 33	F	6 48	L	TAU	29
133	12	Tu.	4 25	E	6 57	M	14 31	19	11½	11¾	5 11	E	8 06	N	G'M	1
134	13	W.	4 24	E	6 58	M	14 33	19	—	0¼	5 54	D	9 22	O	G'M	2
135	14	Th.	4 23	E	6 59	M	14 36	19	0½	1	6 47	C	10 30	O	CNC	3
136	15	Fr.	4 22	E	7 00	N	14 38	19	1¼	2	7 47	C	11 P M 28	O	CNC	4
137	16	Sa.	4 21	D	7 01	N	14 40	19	2¼	3	8 54	C	—	—	LEO	5
138	17	D	4 20	D	7 02	N	14 42	19	3¼	4	10 03	D	12 A M 17	N	LEO	6
139	18	M.	4 19	D	7 03	N	14 44	19	4¼	5	11 A M 13	E	12 56	M	VIR	7
140	19	Tu.	4 18	D	7 04	N	14 45	19	5½	6¼	12 P M 20	G	1 29	L	VIR	8
141	20	W.	4 17	D	7 05	N	14 47	19	6½	7¼	1 25	H	1 56	K	LIB	9
142	21	Th.	4 16	D	7 06	N	14 49	19	7½	8	2 28	I	2 21	J	LIB	10
143	22	Fr.	4 16	D	7 07	N	14 51	19	8½	8¾	3 29	J	2 45	I	LIB	11
144	23	Sa.	4 15	D	7 08	N	14 53	19	9¼	9½	4 30	K	3 08	G	SCO	12
145	24	D	4 14	D	7 08	N	14 54	19	10	10¼	5 31	L	3 33	F	SCO	13
146	25	M.	4 13	D	7 09	N	14 56	19	10¾	10¾	6 32	M	4 00	E	SGR	14
147	26	Tu.	4 13	D	7 10	N	14 58	19	11¼	11½	7 32	N	4 30	E	—	—
148	27	W.	4 12	D	7 11	N	14 59	19	—	0	8 29	O	5 05	D	SGR	15
149	28	Th.	4 11	D	7 12	N	15 01	19	0	0½	9 23	O	5 45	C	SGR	16
150	29	Fr.	4 11	D	7 13	N	15 02	18	0¾	1¼	10 12	O	6 32	C	CAP	17
151	30	Sa.	4 10	D	7 14	N	15 03	18	1½	2	10 56	N	7 24	C	CAP	18
152	31	D	4 10	D	7 15	N	15 05	18	2	2¾	11 P M 34	N	8 A M 21	D	AQR	19

MAY hath 31 days. [1964

May makes the cheerful hue;
May breeds and brings new blood;
May marcheth throughout every limb;
May makes the merry mood.
From Old Poem

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Fr.	St. Philip & James ☾rides low {9.6 8.4 *Warm*	In New Hampshire, Vermont, and Maine there is still a lot of forgotten land and wilderness. In fact, these areas are actually on the increase in certain sections. Pasture land is now little used except for calves and dry stock, and a very few sheep and goats. Land bought is mostly in suburban areas. The old farmhouses and their many acres usually go to city people who keep the land because they want to be landowners and nothing more. If they do anything with the land, they plant trees and occupy a forester long enough for the place to be called a "tree farm." And then they let the acres absorb themselves as they will.
2	Sa.	Graft your fruit trees Kentucky Derby {9.3 8.1 *drouth*	
3	D	Rog. S. Inv. of Cross Tides {9.1 8.0 *from*	
4	M.	Friends 1st meet Boston, 1664 Hol. R.I. {8.8 8.0 *mouth of*	
5	Tu.	To lose an unwanted friend, lend him money {8.8 8.3 *the south.*	
6	W.	☽☌☾ ☿☍☉ {8.9 8.6 *The cold is*	
7	Th.	Asc. D. Sun 20 m. faster than dials (6–10) Watch 9th, 10th with care	
8	Fr.	[10th ☽☌☾ ☽☿☾ ☽☿♂] *bold, and*	
9	Sa.	☾on Eq. ☿ Stat. in R.A. [10th ☽☯☾] *a storm*	
10	D	Ista. A. Mother's Day Mem. Day N.C.–S.C. *which*	
11	M.	Three Chilly Saints (11–13) Tides {10.5 11.5 *thunder*	
12	Tu.	☾in Peri 1st wild animal exhibit, U.S., 1714 *foretold.*	
13	W.	English Derby ♀ Greatest Brilliance ☆ Stat. in R.A. *Now*	
14	Th.	☽☿☾ Cincinnati tornado, 1814 Tides {11.7 10.2 *one*	
15	Fr.	☾runs high Cooper 1963 Tides {11.4 9.3 *cruel*	
16	Sa.	Armed Forces Day USSR '60 snubs Ike {11.0 9.8 *splinter*	
17	D	Whit. • Pent. Shavuoth Heloise d. 1164	
18	M.	☽☉☾ ☽☯ Tides {9.9 8.9 *from last*	
19	Tu.	Hawthorne died, 1864 Ember days 20, 22, 23 {9.5 9.0 *winter.*	
20	W.	A small leak will sink a great ship Hol. N.C. {9.2 9.1 *Don't*	
21	Th.	☾on Eq. Lindbergh arr. Paris, 1927 {9.1 9.4 *relax,*	
22	Fr.	There's a time to wink as well as to see {9.0 9.6 *Max,*	
23	Sa.	Boston's 11 o'clock bell rang each day, 1664 Tides {9.0 9.8 *this*	
24	D	Trin. S. ☽☿☾ ☿ Gr. El. W. *rain'll*	
25	M.	☽☿☯ War, plague, bad weather { 8.9 10.0 *pay your*	
26	Tu.	The full Flower Moon (above horizon 9 hrs.) { 8.3 10.0 *tax.*	
27	W.	☾in Apo. Mass. exiled Baptists, 1668 {— 8.7 *Fine or*	
28	Th.	Corpus Christi ☇ Stat. in R.A. *better, says*	
29	Fr.	☾rides low ♀ Stat. in R.A. Tides {9.9 8.5 *this*	
30	Sa.	Memorial Day Jeanne D'Arc burned. 1431 *news-*	
31	D	2nd a. ℙ. Fenians raid Canada, 1866 {9.5 8.4 *letter.*	

Actually, this is excellent land practice. Over-grazing and over-cultivating are the enemies of land. They cause erosion and sterilization. The disuse of land is good for the wildlife, that belongs more to it than do we.

Population-wise, we are sparse states — New Hampshire, Vermont and Maine. Dahl cartoons in the **Boston Herald** annually picture the fact that Vermont has more cows than people. That's good. Who wouldn't rather have more cows than people?

Recreation and hunting and fishing are our business. It's what pays us off. We who submit to the outboards and the skis and the hunters are delighted to hear about them in dollars and cents. But we care far less about it all now than we do about our easy chair and our old hammock...

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	22N.07	7	22 48	13	23 15	19	23 26	25	23 23		
2	22 15	8	22 54	14	23 18	20	23 27	26	23 21		
3	22 23	9	22 59	15	23 20	21	23 27	27	23 19		
4	22 30	10	23 03	16	23 22	22	23 27	28	23 16		
5	22 36	11	23 08	17	23 24	23	23 26	29	23 13		
6	22 42	12	23 11	18	23 25	24	23 25	30	23 09		

☾ Last Quarter, 3rd day, 6 h. 08 m., morning, W.

● New Moon, 9th day, 11 h. 23 m., evening, E.

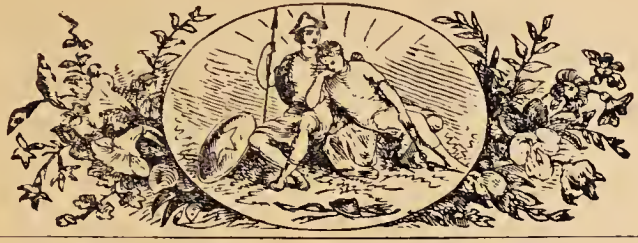
☽ First Quarter, 16th day, 6 h. 02 m., evening, W.

○ Full Moon, 24th day, 8 h. 09 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
153	1	M.	4 09	D	7 15	N	15 06	18	2¾	3½	—	–	9$^{A}_{M}$23	E	AQR	21
154	2	Tu.	4 09	D	7 16	O	15 07	18	3¾	4½	12$^{A}_{M}$08	M	10 27	F	AQR	22
155	3	W.	4 08	C	7 17	O	15 08	18	4½	5¼	12 38	L	11$^{A}_{M}$32	G	PSC	23
156	4	Th.	4 08	C	7 17	O	15 10	17	5½	6¼	1 05	K	12$^{P}_{M}$40	H	PSC	24
157	5	Fr.	4 08	C	7 18	O	15 11	17	6½	7	1 32	J	1 50	I	ARI	25
158	6	Sa.	4 07	C	7 19	O	15 11	17	7½	8	1 59	H	3 03	J	ARI	26
159	7	D	4 07	C	7 19	O	15 12	17	8¼	8¾	2 29	G	4 19	L	TAU	27
160	8	M.	4 07	C	7 20	O	15 13	17	9¼	9¾	3 03	F	5 37	M	TAU	28
161	9	Tu.	4 07	C	7 21	O	15 14	17	10¼	10½	3 42	D	6 55	N	G'M	29
162	10	W.	4 06	C	7 21	O	15 15	16	11	11¼	4 30	C	8 09	O	G'M	1
163	11	Th.	4 06	C	7 22	O	15 15	16	—	0	5 28	C	9 14	O	CNC	2
164	12	Fr.	4 06	C	7 22	O	15 16	16	0¼	0¾	6 34	C	10 09	N	CNC	3
165	13	Sa.	4 06	C	7 23	O	15 17	16	1	1¾	7 45	D	10 54	N	LEO	4
166	14	D	4 06	C	7 23	O	15 17	16	2	2¾	8 57	E	11$^{P}_{M}$29	L	LEO	5
167	15	M.	4 06	C	7 23	O	15 17	15	3	3¾	10 08	F	—	–	VIR	6
168	16	Tu.	4 06	C	7 24	O	15 18	15	4	4¾	11$^{A}_{M}$15	G	12$^{A}_{M}$00	K	VIR	7
169	17	W.	4 06	C	7 24	O	15 18	15	5	5¾	12$^{P}_{M}$19	H	12 26	J	LIB	8
170	18	Th.	4 06	C	7 24	O	15 18	15	6	6½	1 21	J	12 50	I	LIB	9
171	19	Fr.	4 06	C	7 25	O	15 18	14	7	7½	2 23	K	1 14	H	SCO	10
172	20	Sa.	4 06	C	7 25	O	15 19	14	8	8¼	3 24	L	1 38	G	SCO	11
173	21	D	4 07	C	7 25	O	15 19	14	8¾	9	4 25	M	2 04	F	SCO	12
174	22	M.	4 07	C	7 25	O	15 18	14	9½	9¾	5 25	N	2 33	E	SGR	13
175	23	Tu.	4 07	C	7 26	O	15 18	14	10¼	10¼	6 23	N	3 06	D	SGR	14
176	24	W.	4 07	C	7 26	O	15 18	13	11	11	7 19	O	3 44	C	—	—
177	25	Th.	4 08	C	7 26	O	15 18	13	11½	11¾	8 10	O	4 29	C	CAP	15
178	26	Fr.	4 08	C	7 26	O	15 18	13	—	0¼	8 56	O	5 19	C	CAP	16
179	27	Sa.	4 09	C	7 26	O	15 17	13	0¼	0¾	9 36	N	6 15	D	AQR	17
180	28	D	4 09	C	7 26	O	15 17	13	1	1½	10 10	M	7 15	D	AQR	18
181	29	M.	4 09	C	7 26	O	15 16	12	1¾	2¼	10 41	L	8 18	E	AQR	19
182	30	Tu.	4 10	C	7 26	O	15 16	12	2½	3	11$^{P}_{M}$08	K	9$^{A}_{M}$23	F	PSC	20

JUNE hath 30 days. [1964



Hark the migrant hosts of June
Marching nearer noon by noon!
Hark the gossip of the grasses
Bivouacked beneath the moon!
Charles G. D. Roberts

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	M.	Nicomede ☌☿♂ N.H. turtles lay their eggs	*Coolish,*
2	Tu.	☌♄☾ Unlucky day Tides 9.2 8.5	*foolish,*
3	W.	UT UNUM Hol. 9 SINT. 1963 So. Sts. 9.1 8.8	*mulish,*
4	Th.	Peace 1804 Rome fell w. Tripoli again, 1944 Tides 9.2 9.3	*and*
5	Fr.	☾ on Eq. Earliest rec. eclipse sun, B.C. 350	*drulish.*
6	Sa.	He that's secure is not safe Invasion 1944 9.6 10.4	*Clear,*
7	D	2nd a. T. ☌☊☾ Next transit Venus, 2004	*no*
8	M.	☌♂☾ ☌☿☾ Tides 10.1 11.5	*fear.*
9	Tu.	☾ in Peri. ☉ Partial Eclipse Tides 10.3 11.8	*Hold on,*
10	W.	Earliest sun 10–20 (4.06) Yrs. highest P.M. high tide 10.4 12.0	*bro-*
11	Th.	St. Barn. ☾ runs high Kamehameha Day — Hawaii	*ther,*
12	Fr.	Yrs. highest A.M. high tide Tides 11.9 10.2	*this*
13	Sa.	4 Nazi saboteurs capt. Long Island, 1942 11.5 9.9	*one will*
14	D	4th a. ☿. Flag D. Hol. Pa.	*make you*
15	M.	St. Bernard ☌☊☾ ♄ in Stat. R.A.	*run for*
16	Tu.	Sacred Heart B29's bomb Japan, 1944 9.9 9.3	*mother.*
17	W.	1st N.E. Methodist sermon, 1789 Bunker Hill	*Here's*
18	Th.	☾ on Eq. War decl. G.B. 1812 Tides 9.0 9.2	*a fine*
19	Fr.	☌♀☉ Inf. Much ado about nothing 8.7 9.3	*week*
20	Sa.	☌♆☾ Longest days 20–21 (15.19) Hol. W. Va.	*or more*
21	D	4th a. T. Father's Day SUMMER beg. 3.57 A.M.	*for*
22	M.	To pardon the bad is to injure the good 8.4 9.8	*chores or*
23	Tu.	☾ in Apo. Latest sunsets 23–30 (7.26) 8.5 9.9	*fun out of*
24	W.	St. John The full June Moon (Total eclipse)	*doors.*
25	Th.	Salem fire, 1914 Delmarva Chick. Fest. ☾ rides low	*Show-*
26	Fr.	U.S. troops France, 1917 — 8.6	*ery, then lowery.*
27	Sa.	☌☿☉ Sup. Stay home 9.9 8.6	*Stay in*
28	D	5th a. ☿. Tammuz 9.9 8.7	*your car;*
29	M.	St. Peter & St. Paul ☌♄☾	*lightning's*
30	Tu.	Yosemite a public park, 1864 Tides 9.7 8.9	*not far.*

Old boys have playthings as well as young; the difference is only in the price.

I think I am coining a phrase when I speak of "green weather." I mean the conditions that forest or meadow, cover or bushes and shrubs do help to create, hold and perpetuate. The amount of moisture that our growing things manufacture and maintain is as important as great storms. All growing things breathe — they take in moisture and they give it out. They create shade that makes possible water to the roots and springs and forest streams. Water, sap and pitch is their blood. They are in a sense their own reservoirs.

And in a very true sense they do create the weather for an area. We can understand quite well that a shady dell holds moisture where a sand dune would not. But the world's blood, which is water, and this green weather, is not just a matter of leaves and bark and roots, but something that these all together help make permanent for us — and this is our climate.

From our window we see the blankets of mist that lie in the river valleys and our orchards, and there will be dew on the lawn except for the few weeks of midsummer. Later there will be frost on the pumpkin. This is the ground weather, which is green weather in origin and its being.

On page 71 of this edition, there is another new weather term — "chemical weather." Just now in June we are seeing how chemical weather affects our green weather.

1964] JULY, SEVENTH MONTH.

ASTRONOMICAL CALCULATIONS.

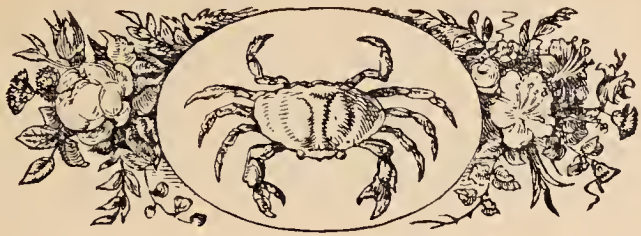
☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	23 N. 05	7	22 32	13	21 46	19	20 46	25	19 33
	2	23 01	8	22 26	14	21 36	20	20 35	26	19 20
	3	22 56	9	22 18	15	21 27	21	20 23	27	19 07
	4	22 51	10	22 11	16	21 17	22	20 11	28	18 53
	5	22 45	11	22 03	17	21 07	23	19 59	29	18 38
	6	22 39	12	21 54	18	20 56	24	19 46	30	18 24

☾ Last Quarter, 2nd day, 3 h. 31 m., evening, W.
● New Moon, 9th day, 6 h. 31 m., morning, E.
☽ First Quarter, 16th day, 6 h. 48 m., morning, E.
○ Full Moon, 24th day, 10 h. 58 m., morning, W.
☾ Last Quarter, 31st day, 10 h. 30 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
183	1	W.	4 10	C	7 25	O	15 15	12	3¼	3¾	11 P M 34	J	10 A M 29	G	PSC	21
184	2	Th.	4 11	C	7 25	O	15 14	12	4	4¾	—	—	11 A M 36	I	ARI	22
185	3	Fr.	4 11	C	7 25	O	15 14	12	5	5½	12 A M 01	I	12 P M 45	J	ARI	23
186	4	Sa.	4 12	C	7 25	O	15 13	11	6	6½	12 28	H	1 57	K	TAU	24
187	5	D	4 13	C	7 25	O	15 12	11	7	7½	12 58	F	3 12	L	TAU	25
188	6	M.	4 13	C	7 24	O	15 11	11	8	8¼	1 33	E	4 28	N	G'M	26
189	7	Tu.	4 14	C	7 24	O	15 10	11	9	9¼	2 16	D	5 43	O	G'M	27
190	8	W.	4 15	C	7 24	O	15 09	11	9¾	10¼	3 09	C	6 53	O	CNC	28
191	9	Th.	4 15	C	7 23	O	15 08	11	10¾	11	4 11	C	7 54	O	CNC	0
192	10	Fr.	4 16	D	7 23	N	15 06	10	11¾	—	5 21	C	8 45	N	LEO	1
193	11	Sa.	4 17	D	7 22	N	15 05	10	0	0½	6 34	D	9 25	M	LEO	2
194	12	D	4 18	D	7 22	N	15 04	10	0¾	1½	7 47	F	9 59	L	VIR	3
195	13	M.	4 18	D	7 21	N	15 03	10	1¾	2¼	8 59	G	10 27	K	VIR	4
196	14	Tu.	4 19	D	7 20	N	15 01	10	2¾	3¼	10 06	H	10 53	I	LIB	5
197	15	W.	4 20	D	7 20	N	15 00	10	3½	4¼	11 A M 11	I	11 18	H	LIB	6
198	16	Th.	4 21	D	7 19	N	14 58	10	4½	5	12 P M 13	J	11 P M 42	G	LIB	7
199	17	Fr.	4 22	D	7 18	N	14 57	10	5½	6	1 15	K	—	—	SCO	9
200	18	Sa.	4 23	D	7 17	N	14 55	10	6½	6¾	2 17	L	12 A M 07	F	SCO	10
201	19	D	4 24	D	7 17	N	14 53	10	7¼	7¾	3 17	M	12 34	E	SGR	11
202	20	M.	4 25	D	7 16	N	14 52	9	8¼	8½	4 16	N	1 05	D	SGR	12
203	21	Tu.	4 25	D	7 15	N	14 50	9	9	9¼	5 13	O	1 43	D	CAP	13
204	22	W.	4 26	D	7 14	N	14 48	9	9¾	10	6 06	O	2 26	C	CAP	14
205	23	Th.	4 27	D	7 14	N	14 46	9	10½	10½	6 53	O	3 14	C	CAP	15
206	24	Fr.	4 28	D	7 13	N	14 44	9	11¼	11¼	7 36	N	4 09	C	—	—
207	25	Sa.	4 29	D	7 12	N	14 42	9	11¾	—	8 13	M	5 08	D	AQR	16
208	26	D	4 30	D	7 11	N	14 41	9	0	0½	8 49	M	6 11	E	AQR	17
209	27	M.	4 31	D	7 10	N	14 39	9	0½	1	9 13	K	7 16	F	PSC	18
210	28	Tu.	4 32	E	7 09	M	14 37	9	1¼	1¾	9 39	J	8 21	G	PSC	19
211	29	W.	4 33	E	7 08	M	14 35	9	2	2½	10 04	I	9 28	H	ARI	20
212	30	Th.	4 34	E	7 06	M	14 32	9	2¾	3¼	10 31	H	10 35	J	ARI	21
213	31	Fr.	4 35	E	7 05	M	14 30	10	3½	4	10 P M 59	G	11 A M 46	K	ARI	22

JULY hath 31 days. [1964



When the tangled cobweb pulls
The cornflower's cap awry,
And the lilies tall lean over the wall
To bow to the butterfly,
It is July.

Susan Hartley Swett

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	W.	Dominion Day Ross abduction (see pg. 50) 1874 *Hot, then*	When I am tired and try to close my eyes — not too tight, but soft to make my lids quiet on things that have meant peace to me — trains at night come back and the sound — umpity, umpity, umpity — as rail speaks to wheel and wheel speaks to rail.
2	Th.	Visit. of Mary ☾ on Eq. Tides {9.4 9.4 *cools*	
3	Fr.	Gen. Jackson abducted from the Constitution, 1834 {9.4 9.7 *into*	
4	Sa.	Ind. Day Was not cel. 1881 Tides {9.3 10.2 *mighty*	
5	D	6th a. ♎. ☌☽ Tides {9.4 10.7 *pools.*	I remember, with especial assurance of peace recaptured, a little sleeping car that had a coal car and an engine in front of it and a baggage car behind, and that was all there was. We were going uphill all night out of San Francisco mostly by a river. There was a swinging oil lamp at each end of our car and that must have looked like a pair of yellow fireflies as we wandered through the night.
6	M.	Don't burn others' houses to roast your own eggs {9.6 11.1 *Heavy*	
7	Tu.	Frances Cabrini ☌♂☾ ☌♀☾ {9.8 11.5 *rains,*	
8	W.	☾ in Peri. 1st Jewish settler N.Y.C., 1654 {10.0 11.8 *Old*	
9	Th.	☾ runs high ☉ Partial Eclipse Tides {10.2 11.9 *Abe*	
10	Fr.	☌☿☾ Whittier b. 1834 {10.3 11.8 *proclaims.*	
11	Sa.	Sow fall turnips ♀ Stat. in R.A. Tides {— 10.2 *Good*	
12	D	8th a. ♓. ☌☉☾ {11.5 10.1 *vacation*	
13	M.	8.62 in. rain New Haven, 1897 Hol. Tenn. {11.0 9.9 *weeks,*	
14	Tu.	Bastille Day Chicago fire, 1874 {10.4 9.7 *if it's*	
15	W.	St. Swithin ☾ on Eq. Unlucky day {9.8 9.5 *dry*	
16	Th.	Barnum, Bailey last circus, 1956 Tides {9.2 9.3 *heat*	
17	Fr.	☌♆☾ Whistler d. 1903 Hol. P.R. {8.6 9.2 *you*	
18	Sa.	☌☌♂ Maids marry today (any reason will do) {8.3 9.2 *seek.*	
19	D	8th a. ♎. Fast of Av Tides {8.1 9.2 *Showers*	
20	M.	St. Margaret Dragons beware! ☾ in Apo. *just*	
21	Tu.	Good china, like a good reputation, is easily cracked {8.1 9.5 *now*	
22	W.	M. Magdalene ☾ rides low Tides {8.2 9.7 *and*	
23	Th.	Collect medicinal herbs Tides {8.4 9.8 *then*	
24	Fr.	The full Hot Moon English took Gibraltar, 1704 Hol. Utah *but*	
25	Sa.	St. James Dog Days begin [26 th ♀ Gr. Br.] *always*	
26	D	10th a. ♓. St. Anne ☌♄☾ *clears*	
27	M.	♆ Stat. in R.A. Seven Sleepers {10.1 9.1 *again.*	
28	Tu.	Noah sent forth a dove & a raven Tides {10.1 9.3 *This*	
29	W.	Hill your Indian corn ☾ on Eq. Tides {10.0 9.5 *storm*	
30	Th.	Ponies penned Assateague, Va. Tides {9.9 9.7 *is*	
31	Fr.	Skate & Seadragon No. Pole, 1962 Tides {9.6 9.9 *warm.*	

At dusk, the little train, which had turned around somewhere, came back to us and we had a race with the river towards San Francisco.

1964] AUGUST, EIGHTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

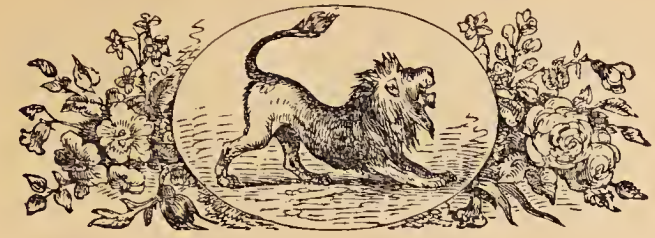
Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days	0 /
1	17N.54	7	16 17	13	14 31	19	12 37	25	10 35
2	17 38	8	16 00	14	14 13	20	12 17	26	10 15
3	17 23	9	15 43	15	13 54	21	11 57	27	9 54
4	17 07	10	15 25	16	13 35	22	11 37	28	9 32
5	16 51	11	15 08	17	13 16	23	11 17	29	9 11
6	16 34	12	14 50	18	12 57	24	10 56	30	8 49

● New Moon, 7th day, 2 h. 17 m., evening, W.
☽ First Quarter, 14th day, 10 h. 20 m., evening, W.
○ Full Moon, 23rd day, 12 h. 26 m., morning, W.
☾ Last Quarter, 30th day, 4 h. 16 m., morning, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
214	1	Sa.	4 36	E	7 04	M	14 28	10	4½	5	11PM31	E	12PM57	L	TAU	23
215	2	D	4 37	E	7 03	M	14 26	10	5½	6	—	–	2 10	M	TAU	24
216	3	M.	4 38	E	7 02	M	14 24	10	6½	7	12AM09	D	3 23	N	G'M	25
217	4	Tu.	4 39	E	7 01	M	14 22	10	7¾	8	12 56	C	4 34	O	G'M	26
218	5	W.	4 40	E	6 59	M	14 19	10	8¾	9	1 52	C	5 38	O	CNC	27
219	6	Th.	4 41	E	6 58	M	14 17	10	9½	10	2 57	C	6 33	N	CNC	28
220	7	Fr.	4 42	E	6 57	M	14 15	10	10½	10¾	4 09	D	7 18	M	LEO	29
221	8	Sa.	4 43	E	6 56	M	14 12	10	11½	11¾	5 24	E	7 55	L	LEO	1
222	9	D	4 44	E	6 54	M	14 10	10	—	0¼	6 36	F	8 26	K	VIR	2
223	10	M.	4 45	E	6 53	L	14 07	11	0½	1	7 48	G	8 53	J	VIR	3
224	11	Tu.	4 46	F	6 51	L	14 05	11	1¼	1¾	8 55	I	9 18	I	LIB	4
225	12	W.	4 48	F	6 50	L	14 02	11	2¼	2¾	10 01	J	9 43	H	LIB	5
226	13	Th.	4 49	F	6 49	L	14 00	11	3	3½	11AM04	K	10 08	F	SCO	6
227	14	Fr.	4 50	F	6 47	L	13 57	11	4	4¼	12PM06	L	10 35	E	SCO	7
228	15	Sa.	4 51	F	6 46	L	13 55	12	4¾	5¼	1 08	M	11 06	E	SGR	8
229	16	D	4 52	F	6 44	L	13 52	12	5¾	6¼	2 07	N	11PM40	D	SGR	9
230	17	M.	4 53	F	6 43	L	13 50	12	6¾	7	3 05	O	—	–	SGR	10
231	18	Tu.	4 54	F	6 41	L	13 47	12	7¾	8	3 59	O	12AM20	C	CAP	11
232	19	W.	4 55	F	6 40	L	13 45	12	8½	8¾	4 49	O	1 07	C	CAP	12
233	20	Th.	4 56	F	6 38	L	13 42	13	9¼	9½	5 33	N	2 00	C	AQR	13
234	21	Fr.	4 57	F	6 37	L	13 39	13	10	10¼	6 12	N	2 58	D	AQR	14
235	22	Sa.	4 58	F	6 35	L	13 37	13	10¾	10¾	6 45	M	4 01	E	AQR	15
236	23	D	4 59	G	6 33	K	13 34	13	11¼	11½	7 15	L	5 06	F	—	—
237	24	M.	5 00	G	6 32	K	13 32	14	—	0	7 42	K	6 12	G	PSC	16
238	25	Tu.	5 01	G	6 30	K	13 29	14	0¼	0½	8 08	I	7 20	H	PSC	17
239	26	W.	5 02	G	6 29	K	13 26	14	0¾	1¼	8 35	H	8 28	I	ARI	18
240	27	Th.	5 04	G	6 27	K	13 24	14	1½	2	9 02	G	9 37	J	ARI	20
241	28	Fr.	5 05	G	6 25	K	13 21	14	2¼	2¾	9 33	F	10AM48	L	TAU	21
242	29	Sa.	5 06	G	6 24	K	13 18	15	3¼	3¾	10 07	E	12PM00	M	TAU	22
243	30	D	5 07	G	6 22	K	13 15	15	4¼	4½	10 50	D	1 12	N	G'M	23
244	31	M.	5 08	G	6 20	K	13 13	16	5¼	5½	11PM42	C	2PM22	O	G'M	24

AUGUST hath 31 days. [1964



All the long August afternoon
The little drowsy stream
Whispers a melancholy tune,
As if it dreamed of June
And whispered in its dream.

W. D. Howells

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Sa.	LAMMAS DAY ☌ ♃ ☾ Hol. Col. {9.4 10.1 *Sit out*	It is very strange indeed that I should remember so clearly and so often something from my boyhood that just may never have happened at all.
2	D	10th a. T. 7 clippers at Golden Gate, 1855 *this*	
3	M.	Sodom & Gomorrah overthrown {9.2 10.6 *wet air,*	
4	Tu.	☌ ☿ ☉ ☌ ♀ ☾ ☌ ♂ ☾ {9.3 11.0 *playing*	
5	W.	☾ Runs high ☾ In Peri. ☿ Gr. El. E. *solitaire.*	
6	Th.	Trans. Ederle swam Eng. Channel, 1926 *Sun burns*	
7	Fr.	Name of Titov 17 tl. Jesus around world, 1961 *now —*	
8	Sa.	Look to thine enemies to learn thy faults Tides {10.3 11.6 *and*	
9	D	12th a. P. ☌ ☉ ☾ ☌ ☿ ☾ *how!*	
10	M.	St. Lawrence Shooting stars around now *Wind*	
11	Tu.	☾ on Eq. Palm leaf hats Boston, 1827 {10.8 10.1 *roars,*	
12	W.	First N.Y. Police Force, 1658 Tides {10.2 9.9 *while it*	
13	Th.	French power broken Blenheim, 1704 Tides {9.6 9.6 *pours.*	
14	Fr.	☌ Ψ ☾ Hol. Ark. & R.I. {8.9 8.3 *Have fun*	
15	Sa.	Assum. of V. Mary Lafayette visit Am., 1824 *this*	
16	D	12th a. T. Galveston hurr., 1944 Bennington Bat. Hol. Vt.	
17	M.	Cat Nights begin ☾ in Apo. Tides {7.8 8.9 *week*	
18	Tu.	☿ Stat. in R.A. Mt. Whitney 1st climbed, 1873 *a*	
19	W.	☾ rides low Record heat wave end, 1944 Tides {8.0 9.3 *long*	
20	Th.	Destroy bushes and sprouts Alaska disc. 1741, {8.2 9.5 *trip*	
21	Fr.	He that complains hath too much {8.5 9.8 *away seek.*	
22	Sa.	Mona Lisa stolen from Louvre, 1911 Be calm tomorrow Tides {8.8 10.0	
23	D	14th a. P. ☌ ♄ ☾ The full Sturgeon Moon	
24	M.	St. Bartholomew ☌ ♄ ☉ {— 9.5 *Under-*	
25	Tu.	Hurricane adds damage Wash., D.C., 1814 {10.3 9.7 *ground*	
26	W.	☾ on Eq. Sherman nears Atlanta, 1864 {10.3 10.0 *moon*	
27	Th.	Confucius born 550 B.C. Tides {10.2 10.2 *means*	
28	Fr.	☌ ♀ ♂ Leap Year's last chance to leap {10.0 10.2 *cool,*	
29	Sa.	Beheading of St. John Baptist ♀ Gr. El. W. ☌ ♃ ☾ *bad*	
30	D	14th a. T. Cleopatra suicide 30 B.C. *weather*	
31	M.	Could be big doings next 2 days {9.0 10.2 *soon.*	

The two of us, for want of nothing better to do and wanting something to happen, had gone into the barn that moonlight night and climbed the rickety ladder to the hayloft. There came a sure sense upon us that it was not for pigeons and bats that we had come. In the windows of the loft the moon streamed through and made its patterns on the hay. And outside the elm was etched in moonlight.

And then we saw them. One had a great white beard and I thought his eyes gleamed. The other was a little man. The moonlight never lay full upon him, but I just could catch the feeling of his tall peaked hat. And then white beard moved out of the moonlight into the shadowy corner where the hay was deep and the other moved with him.

But there was no rustle of hay. My friend shouted, "Who are you? Who are you?" There was no answer, and not a sound but the sound of our own breathing. And we tumbled down the ladder and fled into the house.

Just two tramps? Or we didn't see them at all? We did see them. And over the years they have become as real to me as ghosts. Our ghosts.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	8N.06	7	5 53	13	3 36	19	1 17	25	1 03		
2	7 44	8	5 30	14	3 13	20	0 54	26	1 26		
3	7 22	9	5 08	15	2 50	21	0 31	27	1 49		
4	7 00	10	4 45	16	2 27	22	0N.07	28	2 13		
5	6 38	11	4 22	17	2 04	23	0S. 16	29	2 36		
6	6 16	12	3 59	18	1 41	24	0 39	30	2 59		

● New Moon, 5th day, 11 h. 35 m., evening, E.
☽ First Quarter, 13th day, 4 h. 24 m., evening, E.
○ Full Moon, 21st day, 12 h. 31 m., evening, E.
☾ Last Quarter, 28th day, 10 h. 02 m., morning, W.

KEY LETTERS GIVEN TO CORRECTIONS TABLE, PAGES 31-35, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
245	1	Tu.	5 09	G	6 19	K	13 10	16	6¼	6¾	—	–	3PM27	O	CNC	25
246	2	W.	5 10	G	6 17	K	13 07	16	7½	7¾	12AM41	C	4 23	O	CNC	26
247	3	Th.	5 11	G	6 15	K	13 04	17	8½	8¾	1 49	C	5 11	N	LEO	27
248	4	Fr.	5 12	G	6 14	J	13 02	17	9½	9¾	3 02	D	5 51	M	LEO	28
249	5	Sa.	5 13	H	6 12	J	12 59	17	10¼	10½	4 15	F	6 23	L	VIR	29
250	6	D	5 14	H	6 10	J	12 57	18	11	11½	5 27	G	6 52	J	VIR	1
251	7	M.	5 15	H	6 08	J	12 53	18	11¾	—	6 36	H	7 18	I	LIB	2
252	8	Tu.	5 16	H	6 07	J	12 50	18	0¼	0½	7 43	I	7 43	H	LIB	3
253	9	W.	5 17	H	6 06	J	12 48	19	1	1¼	8 49	K	8 08	G	SCO	4
254	10	Th.	5 18	H	6 03	J	12 45	19	1¾	2	9 52	L	8 35	F	SCO	5
255	11	Fr.	5 19	H	6 01	J	12 42	19	2½	2¾	10 55	M	9 04	E	SCO	6
256	12	Sa.	5 20	H	6 00	J	12 39	20	3¼	3¾	11AM57	N	9 37	D	SGR	7
257	13	D	5 21	H	5 58	J	12 36	20	4¼	4½	12PM55	N	10 15	C	SGR	8
258	14	M.	5 23	H	5 56	J	12 34	20	5	5½	1 51	O	10 58	C	CAP	9
259	15	Tu.	5 24	H	5 54	J	12 31	21	6	6¼	2 43	O	11PM48	C	CAP	10
260	16	W.	5 25	H	5 53	J	12 28	21	7	7¼	3 29	O	—	–	CAP	11
261	17	Th.	5 26	I	5 51	I	12 25	21	8	8	4 09	N	12AM45	C	AQR	12
262	18	Fr.	5 27	I	5 49	I	12 22	22	8¾	9	4 45	M	1 46	D	AQR	13
263	19	Sa.	5 28	I	5 47	I	12 19	22	9½	9¾	5 16	L	2 50	E	PSC	14
264	20	D	5 29	I	5 45	I	12 17	23	10	10¼	5 44	K	3 58	F	PSC	15
265	21	M.	5 30	I	5 44	I	12 14	23	10¾	11	6 10	J	5 06	G	—	—
266	22	Tu.	5 31	I	5 42	I	12 11	24	11½	11¾	6 37	I	6 15	I	ARI	17
267	23	W.	5 32	I	5 40	I	12 08	24	—	0	7 04	G	7 25	J	ARI	18
268	24	Th.	5 33	I	5 38	I	12 05	24	0½	0¾	7 34	F	8 38	K	TAU	19
269	25	Fr.	5 34	I	5 37	I	12 02	24	1¼	1½	8 08	E	9 51	M	TAU	20
270	26	Sa.	5 35	I	5 35	I	12 00	25	2	2¼	8 48	D	11AM04	N	G'M	21
271	27	D	5 36	I	5 33	I	11 57	25	3	3¼	9 36	C	12PM16	O	G'M	22
272	28	M.	5 38	J	5 31	H	11 54	25	4	4¼	10 33	C	1 22	O	CNC	23
273	29	Tu.	5 39	J	5 30	H	11 51	26	5	5¼	11PM38	C	2 20	O	CNC	24
274	30	W.	5 40	J	5 28	H	11 48	26	6	6½	—	–	3PM10	N	LEO	25

SEPTEMBER hath 30 days. [1964

The mellow moon, the changing leaves,
The earlier setting sun,
Proclaim at last, my merry boys,
The harvest time begun.

C. G. Eastman

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Tu.	☾ runs high ☾ in Peri. [2nd ☌☉] *Enjoy*	The glow of the setting sun faded behind the mountain, but a big round golden moon was rising over the eastern hills. Bats flickered through the gloaming and an owl hooted. The black flies and mosquitoes zinged and whined, but Squire's furious old pipe kept them at a distance.
2	W.	☌☿☉ Inf. ☌☌ ☌♀☾ {9.1 10.6 *these,*	
3	Th.	Hay fever worst This day bec. 14th, 1752 {9.4 10.9 *Mister,*	
4	Fr.	Moses, Pat. St. Cuthbert forging beads *please!*	
5	Sa.	Modesty is a virtue, bashfulness is vice Dog Days end *Too*	
6	D	16th a. ☔. ☌♇☉ Unlucky days (6–7) *late*	
7	M.	Labor Day Rosh Hoshanah *now, the*	
8	Tu.	Nativity of Mary ☾ on Eq. Tides {10.8 10.5 *glass*	It was pleasant on Squire Brown's porch, but tobacco and flies and moonlight suggest hornpouting. So we drove up to the long stillwater where I tie up my boat.
9	W.	Fast of Gedalia 1st N.Y. Mtd. Police, 1904 Hol. Cal. {10.4 10.3 *is*	
10	Th.	Harvest cranberries ☌♆☾ ☿ Stat. in R.A. *dropping*	
11	Fr.	Gt. Atlantic hurricanes 1804, 1944 (8–16) Tides {9.3 9.6 *low.*	Now the hornpout is not a pretty fish. He has horns and whiskers, and he'll stick you if you're careless. But he is quite literally the staff of life for many a family hereabouts. You can almost always catch your limit, for he breeds like a poor relation. And when you cook him, he's a sweeter morsel than any native trout (but don't quote me). I'd rather catch a trout, but I'd rather eat a hornpout.
12	Sa.	To a boiling pot the flies come not Hol. Md. *One's hot,*	
13	D	16th a. ♏. Fishes are spawning *one's not.*	
14	M.	Holy Cross ☾ in Apo. ⚳ Stat. in R.A. *Prelude*	
15	Tu.	☾ ride ☾ low Year's lowest a.m. high tide 7.7 ft. (15–16 & Oct. 14)	
16	W.	Yom Kippur Vegetation made Ember D. 16, 18, 19 *to*	
17	Th.	St. Lambert Sun, stars, moon made Citizenship Day *the*	
18	Fr.	Fall foliage flags flying ☿ Gr. El. W. {8.4 9.4 *fall mood.*	
19	Sa.	☌♄☾ Unlucky day {8.8 9.7 *Now roam*	
20	D	18th a. ☔. Noah made Ark, B.C., 2348 *from*	
21	M.	St. Matthew ☌☿♎ Harvest Moon Tabernacles	
22	Tu.	FALL begins 7.17 P.M. Sun ent. Libra ☾ on Eq. *home.*	
23	W.	Tempers bearing much have much to bear {— 10.5 *Take*	
24	Th.	Woodchucks hibernate John. Baptist conceived {10.4 10.7 *care,*	
25	Fr.	Beware of frosts ☌⚳☾ Tides {10.8 10.7 *of this*	
26	Sa.	Day equals night Am. Indian Day (27th) *storm be-*	
27	D	18th a. ♏. ☾ in Peri. D.S.T. ends some places *ware.*	
28	M.	☾ runs high 1st baseball scandal, 1865 *Flying leaves*	
29	Tu.	St. Michael Simchath Torah *announce*	
30	W.	St Jerome ☌☌☾ Tides {8.8 10.0 *a freeze.*	

Oak apples now forecast next winter's weather.

1964] OCTOBER, TENTH MONTH.

ASTRONOMICAL CALCULATIONS.

⊙'s Declination.

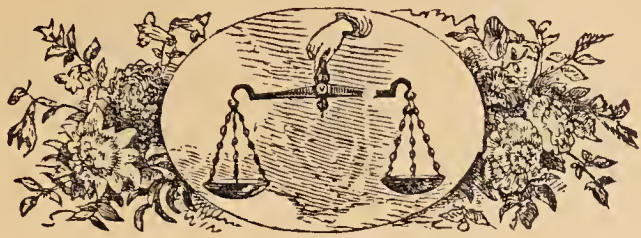
Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	3s. 23	7	5 41	13	7 57	19	10 10	25	12 16
2	3 46	8	6 04	14	8 20	20	10 31	26	12 37
3	4 09	9	6 27	15	8 42	21	10 52	27	12 57
4	4 32	10	6 50	16	9 04	22	11 14	28	13 17
5	4 55	11	7 13	17	9 26	23	11 35	29	13 37
6	5 18	12	7 35	18	9 48	24	11 56	30	13 57

● New Moon, 5th day, 11 h. 20 m., morning, E.
☽ First Quarter, 13th day, 11 h. 57 m., morning, E.
○ Full Moon, 20th day, 11 h. 46 m., evening, W.
☾ Last Quarter, 27th day, 4 h. 59 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 31-35 FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
275	1	Th.	5 41	J	5 26	H	11 45	26	7¼	7½	12$^{A}_{M}$47	D	3$^{P}_{M}$50	M	LEO	26
276	2	Fr.	5 42	J	5 24	H	11 42	27	8¼	8½	1 59	E	4 24	L	VIR	27
277	3	Sa.	5 43	J	5 23	H	11 40	27	9¼	9½	3 10	F	4 53	K	VIR	28
278	4	D	5 44	J	5 21	H	11 37	27	10	10¼	4 20	H	5 19	J	VIR	29
279	5	M.	5 45	J	5 19	H	11 34	28	10¾	11	5 27	I	5 44	I	LIB	0
280	6	Tu.	5 46	J	5 18	H	11 31	28	11½	11¾	6 32	J	6 08	G	LIB	1
281	7	W.	5 47	J	5 16	H	11 28	28	—	0	7 38	K	6 35	F	SCO	2
282	8	Th.	5 49	J	5 14	H	11 26	28	0½	0¾	8 42	L	7 02	E	SCO	3
283	9	Fr.	5 50	J	5 12	G	11 23	29	1¼	1½	9 44	M	7 33	D	SGR	4
284	10	Sa.	5 51	K	5 11	G	11 20	29	2	2¼	10 45	N	8 08	D	SGR	5
285	11	D	5 52	K	5 09	G	11 17	29	2¾	3	11$^{A}_{M}$42	O	8 50	C	SGR	6
286	12	M.	5 53	K	5 08	G	11 14	29	3½	3¾	12$^{P}_{M}$36	O	9 38	C	CAP	7
287	13	Tu.	5 54	K	5 06	G	11 12	30	4½	4¾	1 24	O	10 32	C	CAP	8
288	14	W.	5 55	K	5 04	G	11 09	30	5½	5½	2 06	N	11$^{P}_{M}$30	D	AQR	9
289	15	Th.	5 57	K	5 03	G	11 06	30	6¼	6½	2 43	N	—	–	AQR	10
290	16	Fr.	5 58	K	5 01	G	11 03	30	7¼	7½	3 15	M	12$^{A}_{M}$33	E	PSC	11
291	17	Sa.	5 59	K	5 00	G	11 01	30	8	8¼	3 44	L	1 38	F	PSC	12
292	18	D	6 00	K	4 58	G	10 58	31	8¾	9	4 10	K	2 46	G	PSC	13
293	19	M.	6 01	K	4 56	G	10 55	31	9½	9¾	4 37	I	3 55	H	ARI	14
294	20	Tu.	6 03	K	4 55	G	10 52	31	10¼	10½	5 04	H	5 05	I	ARI	16
295	21	W.	6 04	K	4 53	F	10 50	31	11	11¼	5 33	G	6 18	K	—	—
296	22	Th.	6 05	L	4 52	F	10 47	31	11½	—	6 06	E	7 33	L	TAU	17
297	23	Fr.	6 06	L	4 50	F	10 44	31	0	0¼	6 44	D	8 50	M	TAU	18
298	24	Sa.	6 07	L	4 49	F	10 42	32	1	1¼	7 31	C	10 05	O	G'M	19
299	25	D	6 09	L	4 48	F	10 39	32	1¾	2	8 26	C	11$^{A}_{M}$15	O	G'M	20
300	26	M.	6 10	L	4 46	F	10 36	32	2¾	3	9 30	C	12$^{P}_{M}$18	O	CNC	21
301	27	Tu.	6 11	L	4 45	F	10 34	32	3¾	4	10 38	D	1 09	O	CNC	22
302	28	W.	6 12	L	4 43	F	10 31	32	4¾	5	11$^{P}_{M}$49	E	1 52	N	LEO	23
303	29	Th.	6 14	L	4 42	F	10 28	32	5¾	6¼	—	–	2 27	M	LEO	24
304	30	Fr.	6 15	L	4 41	F	10 26	32	7	7¼	1$^{A}_{M}$00	F	2 57	K	VIR	25
305	31	Sa.	6 16	L	4 39	F	10 23	32	8	8¼	2$^{A}_{M}$08	G	3$^{P}_{M}$23	J	VIR	26

OCTOBER hath 31 days. [1964



O suns and skies and clouds of June,
And flowers of June together,
Ye cannot rival for one hour
October's bright blue weather.

Helen Jackson

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Th.	☌☿☾ Pick ferns for Xmas bouquets Hol. Mo. *Gales*	I like shotguns, as most of us do, whether we can hit anything with them or not. It's a pleasant thing to see them standing in the rack in the corner of my study. And there are special memories attached to each. Here's the 12-gauge A. H. Fox with which I shot my first duck; here's the 16-gauge Scott that my uncle carried so many years quail shooting in South Carolina; a Remington automatic; and an L. C. Smith 12-gauge that looks like a riot gun. Its former owner sawed off both barrels by about eight inches so he could get a wider pattern. I swopped him even with a nice 20-gauge (with which I could hit nothing) and I have never regretted it.
2	Fr.	Racer's hurricane, Texas, 1837 Tides {9.4 / 10.3 *at sea,*	
3	Sa.	☌☉☾ Gales 1841 Tides {9.8 / 10.5 *rain*	
4	D	20th a. ☽. Al Smith d. 1944 St. Francis D'Assisi *for*	
5	M.	Prune or plant forest trees ☾ on Eq. Tides {10.4 / 10.5 *thee.*	
6	Tu.	To keep secrets from enemies tell them not to friends *No ice,*	
7	W.	Stratford, Conn. settled, 1637 Tides {— / 10.5 *bad heat,*	
8	Th.	☌♆☾ 1st geraniums So. Afr., 1952 {9.9 / 10.3 *rain*	
9	Fr.	Only ann. eclipse 19th century, 1847 {9.4 / 10.0 *or sleet: a*	
10	Sa.	Neufchatel def. Endymion, 1814 Hol. Okla. {8.9 / 9.7 *fine*	
11	D	Mission ☾ in Apo. Hol. Neb. {8.4 / 9.3 *week.*	
12	M.	Col. D. ☾ Rides low Hol. all except ten states *Change-*	
13	Tu.	ZR3 Dirigible Ger. to U.S., 1924 {7.8 / 8.6 *able beyond*	
14	W.	T.R. shot by assas., 1912 Wm. Penn b. 1644 Tides {7.7 / 8.5 *all*	
15	Th.	This day in 1582 was Oct. 5 ☌☿☉ Sup. *limits,*	
16	Fr.	☌♄☾ ☌☿♋ Unlucky day *no need*	
17	Sa.	Prince Wales visit Boston, 1860 Tides {8.6 / 9.2 *to await*	
18	D	22nd a. ☽. 1st Int. Bike Race, 1891 Alaska Day	
19	M.	☾ on Eq. Buffalo hurr., 1844 *Mark Twain's*	
20	Tu.	The full Hunter's Moon Above horizon 12 hrs. 1 m. {10.3 / 10.3	
21	W.	Little strokes fell great oaks Tides {10.8 / 10.4 *"Minute".*	
22	Th.	☌♅☾ Cuban crisis, 1962 *Stormy and*	
23	Fr.	Lilly predicted (and set) London Fire, 1666 ☾ in Perl. *rough,*	
24	Sa.	U. N. DAY Set clocks back one hr. {10.2 / 11.2 *rugged*	
25	D	22nd a. ☾. D.S.T. ends {9.9 / 10.9 *and tough.*	
26	M.	Jet Era began, 1958 ☾ runs high {9.5 / 10.5 *Cool's the*	
27	Tu.	Know a fool, know his brother The one will recommend t'other *rule.*	
28	W.	St. Simon St. Jude Adam & Eve created *Big*	
29	Th.	Prune or plant fruit trees ☌♂☾ {8.8 / 9.6 *blow*	
30	Fr.	☌☉☾ Snowed Norwalk, Conn., 1925 {9.0 / 9.6 *may*	
31	Sa.	Halloween ☌☿ ☾ Hol. Nev. {9.4 / 9.7 *show.*	

Well, it's what you're gunning for, and while a sawed-off gun might be a good freak on quail, it wouldn't do much on ducks and geese. And speaking of ducks and geese makes me remember the monster gun they used to have at one of the gunning stands I went to. In the days of market gunning for wild fowl, and later in the gunning stands, it was not uncommon to see 10- or even 8-gaugers fired from the shoulder. But this gun was literally a cannon. You loaded into the muzzle with nails and spikes and put your powder in and touched it off with a match. I fired it once and got pushed farther back than the hardware went forward.

It was a museum piece and I wish I had it — just to astonish my grandchildren.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

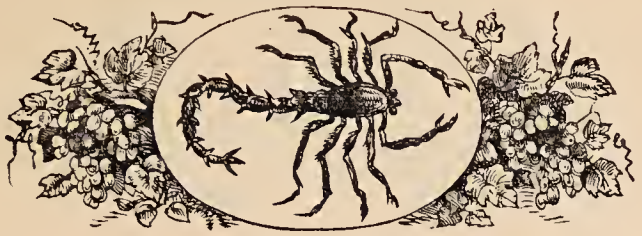
Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	14s. 35	7	16 26	13	18 06	19	19 35	25	20 51		
2	14 54	8	16 43	14	18 22	20	19 49	26	21 02		
3	15 13	9	17 00	15	18 37	21	20 02	27	21 13		
4	15 32	10	17 17	16	18 52	22	20 15	28	21 24		
5	15 50	11	17 34	17	19 07	23	20 27	29	21 34		
6	16 08	12	17 50	18	19 21	24	20 39	30	21 43		

● New Moon, 4th day, 2 h. 17 m., morning, E.
☽ First Quarter, 12th day, 7 h. 21 m., morning, E.
○ Full Moon, 19th day, 10 h. 43 m., morning, W.
☾ Last Quarter, 26th day, 2 h. 11 m., morning, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
306	1	D	6 17	L	4 38	F	10 21	32	$8\frac{3}{4}$	$9\frac{1}{4}$	$3^{A}_{M}15$	H	$3^{P}_{M}48$	I	LIB	27
307	2	M.	6 18	L	4 37	F	10 18	32	$9\frac{1}{2}$	10	4 20	J	4 12	H	LIB	28
308	3	Tu.	6 20	M	4 36	E	10 16	32	$10\frac{1}{4}$	$10\frac{3}{4}$	5 25	K	4 36	G	SCO	29
309	4	W.	6 21	M	4 34	E	10 13	32	11	$11\frac{1}{2}$	6 29	L	5 03	F	SCO	0
310	5	Th.	6 22	M	4 33	E	10 11	32	$11\frac{3}{4}$	—	7 32	M	5 32	E	SCO	1
311	6	Fr.	6 23	M	4 32	E	10 09	32	0	$0\frac{1}{4}$	8 34	N	6 06	D	SGR	2
312	7	Sa.	6 25	M	4 31	E	10 06	32	$0\frac{3}{4}$	1	9 33	O	6 45	C	SGR	3
313	8	D	6 26	M	4 30	E	10 04	32	$1\frac{1}{2}$	$1\frac{1}{2}$	10 29	O	7 30	C	CAP	5
314	9	M.	6 27	M	4 29	E	10 01	32	$2\frac{1}{4}$	$2\frac{1}{4}$	$11^{A}_{M}19$	O	8 21	C	CAP	6
315	10	Tu.	6 28	M	4 28	E	9 59	32	3	$3\frac{1}{4}$	$12^{P}_{M}03$	O	9 18	C	AQR	7
316	11	W.	6 30	M	4 27	E	9 57	32	$3\frac{3}{4}$	4	12 42	N	10 17	D	AQR	8
317	12	Th.	6 31	M	4 26	E	9 55	31	$4\frac{3}{4}$	5	1 15	M	$11^{P}_{M}20$	E	AQR	9
318	13	Fr.	6 32	M	4 25	E	9 52	31	$5\frac{1}{2}$	$5\frac{3}{4}$	1 44	L	—	—	PSC	10
319	14	Sa.	6 33	M	4 24	E	9 50	31	$6\frac{1}{2}$	$6\frac{3}{4}$	2 10	K	$12^{A}_{M}25$	F	PSC	11
320	15	D	6 35	M	4 23	E	9 48	31	$7\frac{1}{4}$	$7\frac{3}{4}$	2 36	J	1 33	G	ARI	12
321	16	M.	6 36	M	4 22	E	9 46	31	$8\frac{1}{4}$	$8\frac{1}{2}$	3 02	I	2 41	I	ARI	13
322	17	Tu.	6 37	N	4 21	D	9 44	31	9	$9\frac{1}{4}$	3 29	G	3 52	J	TAU	14
323	18	W.	6 38	N	4 20	D	9 42	30	$9\frac{3}{4}$	$10\frac{1}{4}$	4 00	F	5 06	K	TAU	15
324	19	Th.	6 40	N	4 20	D	9 40	30	$10\frac{1}{2}$	11	4 36	E	6 24	M	—	—
325	20	Fr.	6 41	N	4 19	D	9 38	30	$11\frac{1}{4}$	$11\frac{3}{4}$	5 20	D	7 42	N	G'M	16
326	21	Sa.	6 42	N	4 18	D	9 36	30	—	0	6 13	C	8 58	O	G'M	17
327	22	D	6 43	N	4 17	D	9 34	29	$0\frac{3}{4}$	$0\frac{3}{4}$	7 16	C	10 07	O	CNC	18
328	23	M.	6 44	N	4 17	D	9 33	29	$1\frac{1}{2}$	$1\frac{3}{4}$	8 26	C	11 05	O	CNC	19
329	24	Tu.	6 46	N	4 16	D	9 31	29	$2\frac{1}{2}$	$2\frac{3}{4}$	9 38	D	$11^{A}_{M}53$	N	LEO	20
330	25	W.	6 47	N	4 16	D	9 29	29	$3\frac{1}{2}$	$3\frac{3}{4}$	$10^{P}_{M}50$	F	$12^{P}_{M}31$	M	LEO	21
331	26	Th.	6 48	N	4 15	D	9 27	28	$4\frac{1}{2}$	$4\frac{3}{4}$	—	—	1 02	L	VIR	22
332	27	Fr.	6 49	N	4 15	D	9 26	28	$5\frac{1}{2}$	6	$12^{A}_{M}00$	G	1 29	K	VIR	23
333	28	Sa.	6 50	N	4 14	D	9 24	28	$6\frac{1}{2}$	7	1 07	H	1 54	I	LIB	24
334	29	D	6 51	N	4 14	D	9 23	27	$7\frac{1}{2}$	8	2 13	I	2 17	H	LIB	25
335	30	M.	6 52	N	4 14	D	9 21	27	$8\frac{1}{2}$	9	$3^{A}_{M}16$	J	$2^{P}_{M}41$	G	LIB	26

NOVEMBER hath 30 days. [1964



An' now the Ingin summer time, 'ith all its rest, is here,
A piece of sweet meat stuck between the slices of the year;
A sorter reign er jubilee 'twixt snow an' thunder showers;
A chunk er sweetness sandwiched in between the frost and flowers.

Sam Walter Foss

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	D	24th a. ☽. All Saints ☾ on Eq.	*September*
2	M.	All Souls ♄ Stat. in R.A. Tides 10.1 / 9.8	*weather.*
3	Tu.	Election Day Winant, 1947 suicide	*Prepare*
4	W.	Lincoln m. Mary Todd, 1842 Hol. Okla. 10.4 / 9.5	*for the*
5	Th.	The plot never forgot ☌☿☾ Tides 10.3 / —	*worst*
6	Fr.	St. Leonard Noah's birthday B.C., 2948	*ere this*
7	Sa.	Barn your cattle African inv. 1942 Tides 8.9 / 10.0	*storm*
8	D	24th a. ♏. ☾ in Apo. El. Roosevelt d. 1962	
9	M.	1st Auto Show, 1900 ☾ rides low ☌♆☉	*bursts.*
10	Tu.	Some men have wit — for what? For writing letters? No — for not. 8.1 / 9.0	
11	W.	St. Martin Vet's D. Hol. 46 states	*Not so*
12	Th.	☌♄☾ Atlanta bt. 1864 7.9 / 8.6	*good, keep*
13	Fr.	INDIAN SUMMER (13–20) ☌☊☉	*on that*
14	Sa.	Moby Dick publ. 1851 Sady's Day Tides 8.4 / 8.8	*hood.*
15	D	26th a. ☽. Unlucky days 15–16 8.9 / 9.1	*The*
16	M.	☾ on Eq. Cushing bec. Cardinal, 1958 9.5 / 9.5	*summer*
17	Tu.	Daylight fireball meteor, Eur. 1955 10.2 / 9.8	*the Indians*
18	W.	Dig root crops for cold cellar ☌☊☾ Tides 10.8 / 10.1	*can*
19	Th.	The full Travel Moon Gettysburg Address, 1863 11.3 / 10.3	*have.*
20	Fr.	☾ in Peregrine ☾ Peri. White b. 1620 11.6 / 10.3	*Nothing*
21	Sa.	1st St. Lawrence Steamer, 1846 Mayflower Compact	*wrong*
22	D	26th a. ♏. St. Cecilia ☾ runs high	*here,*
23	M.	Prune grapevines Hatteras hurr. 1912 9.8 / 11.2	*so be*
24	Tu.	Jokes make enemies of friends — never vice versa	*of good*
25	W.	St. Catharine Marie Celeste aband., 1872 9.2 / 10.1	*cheer.*
26	Th.	Thanksgiving Day ☌☌☾ ☌♁☾	
27	Fr.	Geese flying south The Portland sank, 1898 9.0 / 9.3	*Rain,*
28	Sa.	☾ on Eq. 1st phonograph, 1887 Tides 9.1 / 9.1	*sleet,*
29	D	Advent ☽. [30 th ☿ E. Gr. El.]	*freeze*
30	M.	St. Andrew Hanukkah ☌☿☾	*noses & feet.*

Fatness means excellence — only in hogs.

I remember dogs as well as I remember their masters. Dogs usually have a sweet (or unsweet) consistency in their natures which is not true of their masters, who are variable, depending upon many factors, such as strong drink and stock markets. A dog is not educated to these. Generally speaking, he is just the sort of fellow he is always.

But this wasn't quite so with Jiggs. Jiggs fooled me once, but he never did so again. He was a tight-haired, enormous, brown Chesapeake Bay with rippling muscles, baleful green eyes, and a mouth as big as an alligator's. He was watch-dog and retriever at our gunning stand.

There was a gunner who looked after the stand, the decoys and Jiggs. But he wasn't always awake late at night when I came in. Jiggs was. There were no lanterns burning. And in the blackness Jiggs would simply close his jaws around my leg — but no teeth — while I called for the gunner and got released.

I was scared of Jiggs, and Jiggs knew it. But one night when Jiggs had grabbed me, I called and called for the gunner. He simply wasn't there. I could almost feel Jiggs cock his head, and then he let me go and led me in through the darkness 'til I found a lantern and lit it. He lay down beside me. Many a time after that he would grab me in the dark. But I never called to the gunner, and Jiggs would cock his head and let me go. Jiggs had a sense of humor.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	21s. 53	7	22 40	13	23 11	19	23 25	25	23 23
	2	22 02	8	22 46	14	23 15	20	23 26	26	23 21
	3	22 10	9	22 52	15	23 18	21	23 27	27	23 19
	4	22 18	10	22 58	16	23 20	22	23 26	28	23 16
	5	22 26	11	23 03	17	23 23	23	23 26	29	23 12
	6	22 33	12	23 07	18	23 24	24	23 25	30	23 08

● New Moon, 3rd day, 8 h. 19 m., evening, W.
☽ First Quarter, 12th day, 1 h. 02 m., morning, W.
○ Full Moon, 18th day, 9 h. 42 m., evening, E.
☾ Last Quarter, 25th day, 2 h. 27 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGES 81-85, FOR ALL POINTS OUTSIDE NEW ENGLAND

Day of Year	Day of Month	Day of Week	☉ Rises h. m.	Key	☉ Sets h. m.	Key	Length of Days h. m.	Sun Fast m.	Full Sea, Boston. Morn h.	Full Sea, Boston. Eve. h.	☽ Rises h. m.	Key	☽ Sets h. m.	Key	☽ Place	☽ Age
336	1	Tu.	6 53	N	4 13	D	9 20	26	9¼	9¾	4$^{A}_{M}$20	L	3$^{P}_{M}$06	F	SCO	27
337	2	W.	6 54	N	4 13	D	9 19	26	10	10½	5 23	M	3 33	E	SCO	28
338	3	Th.	6 55	N	4 13	D	9 17	26	10½	11	6 25	N	4 05	D	SGR	29
339	4	Fr.	6 56	N	4 13	D	9 16	25	11¼	11¾	7 25	N	4 43	C	SGR	1
340	5	Sa.	6 57	N	4 12	D	9 15	25	11¾	—	8 22	O	5 26	C	CAP	2
341	6	D	6 58	N	4 12	D	9 14	24	0¼	0½	9 15	O	6 15	C	CAP	3
342	7	M.	6 59	O	4 12	C	9 13	24	1	1¼	10 01	O	7 09	C	CAP	4
343	8	Tu.	7 00	O	4 12	C	9 12	23	1¾	1¾	10 41	N	8 07	D	AQR	5
344	9	W.	7 01	O	4 12	C	9 11	23	2½	2½	11 15	N	9 09	E	AQR	6
345	10	Th.	7 02	O	4 12	C	9 10	23	3¼	3½	11$^{A}_{M}$46	M	10 12	F	PSC	7
346	11	Fr.	7 03	O	4 12	C	9 09	22	4	4¼	12$^{P}_{M}$12	L	11$^{P}_{M}$16	G	PSC	8
347	12	Sa.	7 04	O	4 13	C	9 09	22	5	5¼	12 37	J	—	—	PSC	9
348	13	D	7 05	O	4 13	C	9 08	21	5¾	6	1 01	I	12$^{A}_{M}$21	H	ARI	10
349	14	M.	7 05	O	4 13	C	9 08	21	6¾	7	1 28	H	1 28	I	ARI	11
350	15	Tu.	7 06	O	4 13	C	9 07	20	7½	8	1 55	G	2 39	K	TAU	12
351	16	W.	7 07	O	4 13	C	9 07	20	8¼	9	2 28	E	3 53	L	TAU	13
352	17	Th.	7 07	O	4 14	C	9 06	19	9¼	9¾	3 07	D	5 11	M	G'M	14
353	18	Fr.	7 08	O	4 14	C	9 06	19	10	10¾	3 55	C	6 29	O	G'M	15
354	19	Sa.	7 09	O	4 15	C	9 06	18	11	11½	4 54	C	7 44	O	—	—
355	20	D	7 09	O	4 15	C	9 06	18	11¾	—	6 03	C	8 49	O	CNC	16
356	21	M.	7 10	O	4 15	C	9 06	17	0½	0¾	7 18	D	9 44	O	LEO	17
357	22	Tu.	7 11	O	4 16	C	9 06	17	1¼	1½	8 34	E	10 28	M	LEO	18
358	23	W.	7 11	O	4 16	C	9 06	16	2¼	2½	9 47	F	11 03	L	VIR	19
359	24	Th.	7 11	O	4 17	C	9 06	16	3¼	3½	10$^{P}_{M}$57	H	11 32	K	VIR	20
360	25	Fr.	7 11	O	4 18	C	9 06	15	4	4½	—	—	11$^{A}_{M}$58	J	VIR	21
361	26	Sa.	7 12	O	4 18	C	9 07	15	5	5½	12$^{A}_{M}$04	I	12$^{P}_{M}$23	I	LIB	22
362	27	D	7 12	O	4 19	C	9 07	14	6	6½	1 09	J	12 46	G	LIB	23
363	28	M.	7 12	O	4 20	C	9 07	14	7	7½	2 13	K	1 10	F	SCO	24
364	29	Tu.	7 13	O	4 20	C	9 08	13	8	8½	3 15	L	1 37	E	SCO	26
365	30	W.	7 13	O	4 21	C	9 08	13	8¾	9¼	4 17	M	2 07	D	SGR	27
366	31	Th.	7 13	O	4 22	C	9 09	12	9½	10	5$^{A}_{M}$18	N	2$^{P}_{M}$42	D	SGR	28

DECEMBER hath 31 days. [1964

Now winter comes, the drifting snow
Shifts through the elms and sinks below
Upon the paths, whose vesture white
Now marks, now hides, with covering light,
The traces of passers to and fro.

George Pierce Baker

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Tu.	☌♆☾ Conn. gave up Long Isl. 1664 Hol. Ark. *Ground*	I like some people, but the countless birds and animals I know are far more diverse and interesting. Outside of hairdos and moustaches, or the lack of them, and grossness or skinniness, dark-skinned or yellow, or white, people are all about the same. Animals and birds are of infinite varieties.
2	W.	Open foes you often curse, But pretended friends are worse. {10.1 8.9	
3	Th.	☉ Partial eclipse Mary Baker Eddy, 1910 {10.1 8.8 *swells*	
4	Fr.	Kill pork and beef Earliest sunsets 5–11 (4.12) {10.1 8.7 *foretell*	
5	Sa.	☌☍☉ ☌☿☾ {10.0 — *fall's death*	
6	D	**2nd S. A. St. Nich.** ☾ in Apo. ☾ rides low	
7	M.	Pearl Harbor Wash. Monument capped (6th) 1884 {8.5 9.7 *knell.*	
8	Tu.	Immac. Con. L.A. No. 3 in 1953 *Gales from*	
9	W.	☿ Stat. in R.A. ☌♀♆ {8.3 9.2 *the Northeast*	
10	Th.	☌♄☾ Hudson R. frozen, 1814 Hol. Wyo. {8.2 8.9 *unfit*	
11	Fr.	Laughing gas first used by dentists, 1844 {8.3 8.8 *for man*	
12	Sa.	Bad storms 1904, 1944, 1960 Tides {8.5 8.7 *or beast.*	
13	D	**3rd S. A. St. Lucy** ☾ on Eq. *Season-*	
14	M.	Mariner 21,000 mi. off Venus, 1962 {9.3 9.0 *ably fine*	
15	Tu.	Famous Hartford Convention, 1814 Fast of Tebet {9.8 9.3 *days*	
16	W.	☌☌☾ Bat. Bulge 1944 Ember Days 16, 18, 19 *until*	
17	Th.	Lazarus died 2nd tl.—63 A.D. Shortest days 17–25 (9.06) *dark*	
18	Fr.	The full Cold Moon in total eclipse ☌☿ ☉ Inf. *clouds*	
19	Sa.	Pompeia seduced Clodius 62 B.C. ☾ in Peri. ☾ runs high *hide*	
20	D	**4th S. A.** ☉ Stat. in R.A. Forefather's Day [21] *the*	
21	M.	St. Thomas Win. begins 2.50 P.M. *sun's rays.*	
22	Tu.	Hard winter, 1740 began — worst ever Tides {10.0 11.3 *Rain,*	
23	W.	Wealth is never yours until you learn to enjoy it *don'tcha*	
24	Th.	☌♁☾ ☌☍☾ {9.6 10.1 *know, this time*	
25	Fr.	Christmas P in R.A. Stat. *with snow.*	
26	Sa.	St. Stephen ☾ on Eq. Tides {9.2 9.0 *Let's just*	
27	D	**1st S. a. Ch.** John, Ev. Tides {9.2 8.6	
28	M.	Childermas ☿ Stat. in R.A. Judas born {9.2 8.4 *say*	
29	Tu.	☌♆☾ Great waves at sea Tides {9.8 8.3 *it is*	
30	W.	Latest sunrises 30–Jan. 9 (7.13) Avoid going out this New Year's Eve	
31	Th.	Happy New Year! ☌♀☾ ☌☿☾ *Winter.*	

Nature is manifold in its surprises — but man is just man. He looks only a little less like an ape than he used to, though he does have a special fascination if, say, he is a cannibal.

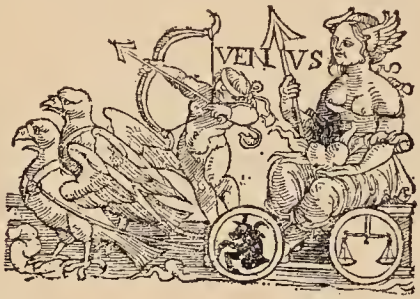
When I have completely retired, it will be to solitudes from the busy, troubled world. I shall not spend my last days observing my fellow men, but collecting shells and fossils, and bird-watching.

VENUS, MARS, JUPITER AND SATURN, 1964

MORNING AND EVENING STARS, TOO

Below are given the times of the rising or setting of the Planets named, on the first, eleventh and twenty-first of each month. The time of the rising or setting of any one of said Planets between the days named may be found with sufficient accuracy by interpolation. For explanation of keys (used in adjusting times given to your town) see pages 81–84. These appear below in capital letters.

(A Planet is called Morning Star when it is above the horizon at sunrise, and Evening Star when it is above the horizon at sunset. More precisely, it is a Morning Star when it is less than 180° west of the Sun in right ascension and Evening Star when it is less than 180° east. When the planet is near conjunction or opposition, the distinction is unimportant.)



VENUS

Venus is an Evening Star for the first half of the year, until it comes to inferior conjunction on June 19. It is a Morning Star for the balance of the year. Its greatest brilliance as an Evening Star comes in mid-May when it will have doubled its brightness from that at the year's start. Its greatest brilliance as a Morning Star will be at the start of the last week in July.

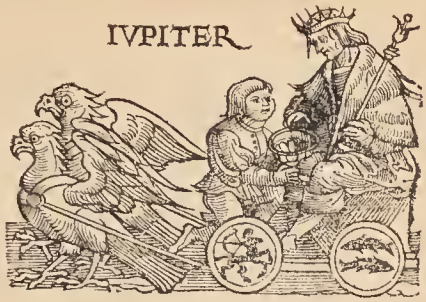
JAN	1st	sets	6 49 P.M.	D
	11th	"	7 15 P.M.	E
	21st	"	7 40 P.M.	G
FEB	1st	sets	8 06 P.M.	H
	11th	"	8 29 P.M.	I
	21st	"	8 52 P.M.	J
MAR	1st	sets	9 12 P.M.	K
	11th	"	9 33 P.M.	L
	21st	"	9 54 P.M.	M
APR	1st	sets	10 15 P.M.	O
	11th	"	10 30 P.M.	P
	21st	"	10 40 P.M.	P
MAY	1st	sets	10 40 P.M.	P
	11th	"	10 29 P.M.	P
	21st	"	10 05 P.M.	P
JUN	1st	sets	9 18 P.M.	P
	11th	sets	8 14 P.M.	O
	21st	rises	4 09 A.M.	D
JUL	1st	rises	3 15 A.M.	D
	11th	"	2 34 A.M.	E
	21st	"	2 04 A.M.	E
AUG	1st	rises	1 39 A.M.	E
	11th	"	1 26 A.M.	E
	21st	"	1 21 A.M.	D
SEP	1st	rises	1 24 A.M.	E
	11th	"	1 32 A.M.	E
	21st	"	1 44 A.M.	E
OCT	1st	rises	2 00 A.M.	F
	11th	"	2 19 A.M.	G
	21st	"	2 38 A.M.	H
NOV	1st	rises	3 01 A.M.	I
	11th	"	3 23 A.M.	J
	21st	"	3 46 A.M.	K
DEC	1st	rises	4 10 A.M.	L
	11th	"	4 34 A.M.	M
	21st	"	4 59 A.M.	N
	31st	rises	5 22 A.M.	N

MARS

Mars is an Evening Star until February 16th when it comes to conjunction and a Morning Star for the rest of the year.

JAN	1st	sets	5 08 P.M.	C
	11th	"	5 08 P.M.	D
	21st	"	5 10 P.M.	D
FEB	1st	sets	5 11 P.M.	E
	11th	sets	5 12 P.M.	F
	21st	rises	6 38 A.M.	L
MAR	1st	rises	6 19 A.M.	K
	11th	"	5 58 A.M.	K
	21st	"	5 36 A.M.	J
APR	1st	rises	5 11 A.M.	I
	11th	"	4 48 A.M.	H
	21st	"	4 26 A.M.	H
MAY	1st	rises	4 04 A.M.	G
	11th	"	3 43 A.M.	F
	21st	"	3 22 A.M.	F
JUN	1st	rises	3 00 A.M.	E
	11th	"	2 42 A.M.	E
	21st	"	2 25 A.M.	D
JUL	1st	rises	2 09 A.M.	D
	11th	"	1 55 A.M.	C
	21st	"	1 42 A.M.	C
AUG	1st	rises	1 30 A.M.	C
	11th	"	1 20 A.M.	C
	21st	"	1 11 A.M.	C
SEP	1st	rises	1 02 A.M.	C
	11th	"	12 54 A.M.	D
	21st	"	12 46 A.M.	D
OCT	1st	rises	12 38 A.M.	E
	11th	"	12 29 A.M.	E
	21st	"	12 19 A.M.	E
NOV	1st	rises	12 07 A.M.	F
	11th	"	11 53 P.M.	F
	21st	"	11 40 P.M.	G
DEC	1st	rises	11 24 P.M.	G
	11th	"	11 06 P.M.	G
	21st	"	10 46 P.M.	H
	31st	rises	10 22 P.M.	H

JUPITER



Jupiter is an Evening Star until it comes to conjunction on April 22nd and again from its opposition on November 12th to the end of the year. Between these dates it will be a Morning Star.

JAN	1st	sets	12 01 A.M.	J
	11th	"	11 24 P.M.	J
	21st	"	10 51 P.M.	J
FEB	1st	sets	10 17 P.M.	J
	11th	"	9 47 P.M.	J
	21st	"	9 17 P.M.	J
MAR	1st	sets	8 51 P.M.	K
	11th	"	8 23 P.M.	K
	21st	"	7 56 P.M.	K
APR	1st	sets	7 26 P.M.	K
	11th	"	6 59 P.M.	K
	21st	sets	6 32 P.M.	K
MAY	1st	rises	4 29 A.M.	F
	11th	"	3 55 A.M.	F
	21st	"	3 22 A.M.	F
JUN	1st	rises	2 45 A.M.	F
	11th	"	2 12 A.M.	F
	21st	"	1 39 A.M.	E
JUL	1st	rises	1 05 A.M.	E
	11th	"	12 31 A.M.	E
	21st	"	11 53 P.M.	E
AUG	1st	rises	11 15 P.M.	E
	11th	"	10 39 P.M.	E
	21st	"	10 02 P.M.	E
SEP	1st	rises	9 21 P.M.	E
	11th	"	8 43 P.M.	E
	21st	"	8 04 P.M.	E
OCT	1st	rises	7 23 P.M.	E
	11th	"	6 42 P.M.	E
	21st	"	5 59 P.M.	E
NOV	1st	rises	5 12 P.M.	E
	11th	rises	4 29 P.M.	E
	21st	sets	6 00 A.M.	M
DEC	1st	sets	5 15 A.M.	M
	11th	"	4 30 A.M.	M
	21st	"	3 47 A.M.	M
	31st	sets	3 05 A.M.	M

SATURN

Saturn is an Evening Star as the year begins, remaining so until its conjunction on February 15th. It will then be seen as a Morning Star until its opposition on August 24th. Thereafter it is an Evening Star for the balance of the year.

JAN	1st	sets	7 39 P.M.	E
	11th	"	7 05 P.M.	E
	21st	"	6 31 P.M.	F
FEB	1st	sets	5 55 P.M.	F
	11th	sets	5 22 P.M.	F
	21st	rises	6 27 A.M.	L
MAR	1st	rises	5 54 A.M.	L
	11th	"	5 18 A.M.	L
	21st	"	4 42 A.M.	L
APR	1st	rises	4 01 A.M.	L
	11th	"	3 24 A.M.	L
	21st	"	2 47 A.M.	L
MAY	1st	rises	2 10 A.M.	L
	11th	"	1 32 A.M.	L
	21st	"	12 54 A.M.	L
JUN	1st	rises	12 12 A.M.	L
	11th	"	11 29 P.M.	L
	21st	"	10 50 P.M.	L
JUL	1st	rises	10 11 P.M.	L
	11th	"	9 31 P.M.	L
	21st	"	8 50 P.M.	L
AUG	1st	rises	8 06 P.M.	L
	11th	"	7 25 P.M.	L
	21st	rises	6 44 P.M.	L
SEP	1st	sets	4 33 A.M.	F
	11th	"	3 50 A.M.	F
	21st	"	3 07 A.M.	F
OCT	1st	sets	2 25 A.M.	F
	11th	"	1 44 A.M.	F
	21st	"	1 03 A.M.	F
NOV	1st	sets	12 19 A.M.	F
	11th	"	11 36 P.M.	F
	21st	"	10 58 P.M.	F
DEC	1st	sets	10 21 P.M.	F
	11th	"	9 45 P.M.	F
	21st	"	9 10 P.M.	F
	31st	sets	8 35 P.M.	F

MERCURY

Mercury will be favorably situated for being seen as an Evening Star when near its greatest eastern elongations about April 7, August 5, and November 30. On these dates it will set 1 h. 46 m., 0 h. 59 m., and 1 h. 12 m., respectively, after sunset. It will be seen most readily as a Morning Star when near its greatest western elongations about January 26, May 24, and September 18, on which dates it will rise 1 h. 30 m., 0 h. 58 m., and 1 h. 31 m., respectively, before sunrise.

OUTDOOR PLANTING TABLE, 1964

Find the latitude of your town or city. Interpolate between columns below to find your planting date. For example, if you live in Grove City, Pa. (Lat. 41°09′35″), this would mean the latitude is about halfway between Boston-Phila. So your planting times would also be halfway between. N.B. Plant one week later for every 500-ft. elevation above sea level.

The "Moon Most Favorable" columns give the superstitious times when the phase of moon is "right" for planting the crop indicated during 1964. See also pages 9, 38–41. For flowers, use same dates as Beans, except bulbs, for which use the Beets column.

These columns show, for crops bearing fruits above ground, the "light" (new to the full) of the moon; for crops bearing fruits below ground the "dark" (full to the new).

In using the figures below, bear in mind that numerals are being used to indicate both the months and the days; for example: in the first column after Barley, 5-15/6-21 means you plant between May 15 and June 21. Where a comma appears, such as 5, 1-15 in the first column after Early Beets, it would be read as May 1 through 15.

Above Ground Crops Best Signs: ARI, CNC, LIB, ACQ, PSC. Below Ground TAURUS	42°21′44″ Boston Latitude		39°56′58″ Phila. Latitude		33°45′10″ Atlanta Latitude	
	Plant Anytime Between Dates Below	Moon Most Favorable Between	Plant Anytime Between Dates Below	Moon Most Favorable Between	Plant Anytime Between Dates Below	Moon Most Favorable Between
Barley	5-15/6-21	5, 15-26	3-15/4-7	3, 15-27	2-15/3-7	2, 15-27
Beans (Early)	5-7/6-21	5, 11-26	4, 15-30	4, 15-26	3-15/4-7	3, 15-27
(Late)	6-15/7-15	6, 15-24	7, 1-21	7, 9-21	8, 7-30	8, 7-23
Beets (Early)	5, 1-15	5, 1-10	3-15/4-3	3-28/4-3	2, 7-29	2, 7-12
(Late)	7-15/8-15	7, 25-31	8, 15-30	8, 24-30	9, 1-30	9, 1-4
Broccoli (Early)	5, 15-30	5, 15-26	3, 7-30	3, 13-27	2-15/3-15	2, 15-27
(Late)	6-15/7-7	6, 15-24	8, 1-20	8, 7-20	9, 7-30	9, 7-21
Brussels Spr.	5, 15-30	5, 15-26	3-7/4-15	3, 13-27	2-11/3-20	2, 13-27
Cabbage (E)	5, 15-30	5, 15-26	3-7/4-15	3, 13-27	2-11/3-20	2, 13-27
Plants (L)	6-7/8-7	6, 9-24	7-1/9-7	7, 9-24	7-15/9-30	7, 15-24
Carrots (Early)	5, 15-30	5, 27-30	3, 7-31	3, 7-12	2-15/3-7	2-28/3-7
(Late)	6-15/7-21	6, 25-30	7, 7-30	7, 25-30	8-1/9-7	8, 1-6
Cauliflower (E)	5, 15-30	5, 15-26	3-15/4-7	3, 15-27	2-15/3-7	2, 15-27
Plants (L)	6-15/7-21	6, 15-24	7-1/8-7	7, 9-24	8, 7-30	8, 7-23
Celery (Early)	5-15/6-30	5, 27-31	3, 7-30	3, 28-30	2, 15-28	2/28
(Late)	7-15/8-15	7, 25-31	8-15/9-7	8, 24-31	9, 15-30	9, 22-30
Corn Sweet (E)	5-10/6-15	5, 11-26	4, 1-15	4, 12-15	3, 15-29	3, 15-27
(Late)	6, 15-30	6, 15-24	7, 7-21	7, 9-21	8, 7-30	8, 7-23
Cucumber	5-7/6-20	5, 15-26	4-7/5-15	4, 12-26	3-7/4-15	3, 13-27
Eggplant Plants	6, 1-30	6, 9-24	4-7/5-15	4, 12-26	3-7/4-15	3, 13-27
Endive (Early)	5, 15-30	5, 15-26	4-7/5-15	4, 12-26	2-15/3-20	2, 15-27
(Late)	6, 7-30	6, 9-24	7-15/8-15	7, 15-24	8-15/9-7	8, 15-23
Kale (Early)	5, 15-30	5, 15-26	3-7/4-7	3, 13-27	2-11/3-20	2, 13-27
(Late)	7-1/8-7	7, 9-24	8, 15-31	8, 15-23	9, 7-30	9, 7-21
Leek Plants	5, 15-30	5, 27-30	3-7/4-7	3, 7-12	2-15/4-15	2-28/3-12
Lettuce	5-15/6-30	5, 15-26	3, 1-31	3, 13-27	2-15/3-7	2, 15-27
Melon (Musk)	5-15/6-30	5, 15-26	4-15/5-7	4, 15-26	3-15/4-7	3, 15-27
Onion Plants	5-15/6-7	5, 27-31	3, 1-31	3, 28-31	2, 1-28	2, 1-12
Parsley	5, 15-30	5, 15-26	3, 1-31	3, 13-27	2-20/3-15	2, 20-27
Parsnip	4, 1-30	4, 1-11	3, 7-31	3, 7-12	1-15/2-4	1-29/2-4
Peas (Early)	4-15/5-7	4, 15-26	3, 7-31	3, 13-27	1-15/2-7	1, 15-27
(Late)	8, 15-30	8, 15-23	9, 7-30	9, 7-21	10, 15-30	10, 15-20
Pepper Plants	5-15/6-30	5, 15-26	4, 1-30	4, 12-26	3, 1-20	3, 13-20
Pumpkin	5, 15-30	5, 15-26	4-23/5-15	4, 23-26	3, 7-20	3. 13-20
Potatoes	5, 1-15	5, 1-10	4, 1-15	4, 1-11	2-10/3-1	2, 11, 12
Radish (Early)	4, 15-30	4, 27-30	3, 7-31	3, 28-31	1-21/3-1	1-29/2-12
(Late)	8, 15-30	8, 24-30	9, 7-30	9, 22-30	10, 1-21	10, 1-4
Spinach (Early)	5, 15-30	5, 15-26	3-15/4-20	3, 15-27	2-7/3-15	2, 13-27
(Late)	7-15/9-7	7, 15-24	8-1/9-15	8, 7-23	10, 1-21	10, 5-20
Swiss Chard	5, 1-30	5, 11-26	3-15/4-15	3, 15-27	2-7/3-15	2, 13-27
Summer Squash	5-15/6-15	5, 15-26	4-15/5-1	4, 15-26	3-15/4-15	3, 15-27
Tomato Plants	5, 15-30	5, 15-26	4, 7-30	4, 15-26	3, 7-20	3, 13-20
Turnip (Early)	4, 7-30	4, 7-11	3, 15-30	3, 28-30	1-20/2-15	1-29/2-12
(Late)	7-1/8-15	7, 1-8	8, 1-20	8, 1-6	9-1/10-15	9, 1-4
Wheat (Winter)	8, 11-15	8, 11-15	9-15/10-20	9, 15-21	10-15/12-7	10, 15-20
(Spring)	4, 7-30	4, 12-26	4, 1-20	4, 12-20	3, 15-31	3, 15-27

MOON AND ZODIAC SIGN TIMES

Best superstitious times for activities listed below. Letters denoting activities appear opposite best dates. If date wrong time of year for you — or inconvenient — use dates where proper sign abbreviation appears in next to last column, pages 10–32.

A Cut brush, grass, pull weeds.
B Cut, set posts, timbers.
C All pruning, cut hay.
D Plant above-ground crops.
E Plant root crops, paint house.
F Harvest crops, herbs.
G Breed, create, bake, set hens.
H Weaning.
I Slaughtering.
J Operations, pull teeth, etc.
K Do hair, shear sheep, buy clothes.
L Business, taking risks.
M Fishing.
N Travel, marriage, romance.

SIGN	OCCURS BETWEEN	BEST TIME FOR
Capricornus (CAP)	Dec. 22–Jan. 19	J, G, I, H.
Aquarius (AQR)	Jan. 20–Feb. 18	D, K, B, I, H, A.
Pisces (PSC)	Feb. 19–Mar. 20	D, M, B, G, I, H, C.
Aries (ARI)	Mar. 21–Apr. 19	D, L, G, F, I.
Taurus (TAU)	Apr. 20–May 20	E, K, B, I, F, G.
Gemini (G'M)	May 21–June 20	J, G, L, A, I, F.
Cancer (CNC)	June 21–July 22	D, M, K, G, I, A, C.
Leo (LEO)	July 23–Aug. 22	K, B, A, F, N.
Virgo (VIR)	Aug. 23–Sept. 22	J, K, L, A, I, F.
Libra (LIB)	Sept. 23–Oct. 22	D, N, K, G, I.
Scorpio (SCO)	Oct. 23–Nov. 22	M, G, I, A.
Sagittarius (SGR)	Nov. 23–Dec. 21	J, N, K, F, I, H.
Light of Moon	New to Full	D, C, G, K, L, M, N.
Dark of Moon	Full to New	E, A, H, I, J, F.

PART TWO

Secrets of the Zodiac & Planets

(Being the interpretation, astrologic, and just for fun, Of all serious scientific data in Part One.)

FAMOUS DEBOWELLED MAN OF THE SIGNS

♈ Aries, head. ARI
Mar. 21-Apr. 19
♉ Taurus, neck. TAU
Apr. 20-May 20
♊ Gemini, arms. G'M
May 21-June 20
♋ Cancer, breast. CNC
June 21-July 22
♌ Leo, heart. LEO
July 23-Aug. 22
♍ Virgo, belly. VIR
Aug. 23-Sept. 22
♎ Libra, reins. LIB
Sept. 23-Oct. 22
♏ Scorpio, secrets. SCO
Oct. 23-Nov. 21
♐ Sagittarius, thighs. SGR
Nov. 22-Dec. 21
♑ Capricornus, knees. CAP
Dec. 22-Jan. 19
♒ Aquarius, legs. AQR
Jan. 20-Feb. 18
♓ Pisces, feet. PSC
Feb. 19-Mar. 20

Man of the Signs used by Abe Weatherwise, 1784

These signs abbreviated appear for each day pages 10-32, and their "meanings" on 37-41.

Those signs which follow are actual patterns from the sky, as the ancients saw these in 1570 (see Hygini, Augusti Liberti, published in that year).

Cassandra predicted for Hecuba the destruction of Troy
Long before Caesar Imperator was even a boy.

In the next three pages you'll find, carefully arranged,
Just about everything current for the astrologically deranged.
Here we present in a most serious vein
Most of the nonsense the Signs are 'sposed to make plain.

But first we must warn you, astrology's not too simple.
(Compared to it the tallest mountain's but a pimple.)
For instance, what good is it to tell you about Aries
When you, born in Taurus, want to know about Lend-Lease?
Or, born in Capricornus with Saturn for your planet,
You would care little that Aquarius' birthstone is garnet?
These Sign times (pages ten to thirty-two) are all astronomical,
Thirty precessional days ahead of the usual astrological.
So, how do you use this most valuable Part Two
When with the preceding mathematical Part One you are through?

First, ask Mamma when you were born; then find the Sign
Which is yours for all of your happy life line.
Then, read about you, your weak points and strong:
That Sign of yours tells where you are short and where long.
Finally, look sharp (next to last column pages ten to thirty-two)
For the days when your Sign is in the stars above you.
Behave on those days as the Sign says you should
And all will be well—that is, astrologically good.

However, dear reader, please take our most honest advice:
Keep away from this stuff—God and your Bible will more than suffice.

ARIES

ABBR: "ARI" SIGN: LAMB
Controls the head and face
Belongs to those born Mar. 21-Apr. 19
Ruling Planet, Mars; Birthstone
Jasper or Bloodstone: Color, Red.

In things scientific or by philosophy solved
Be bold, be a leader, be absolutely resolved.
But control your temper, never be resentful;
When Mars is ascendent, life is particularly eventful.
During its visitations, keep a tight hold on the reins,
Push hard, but remember—be calm, use your brains.

TAURUS

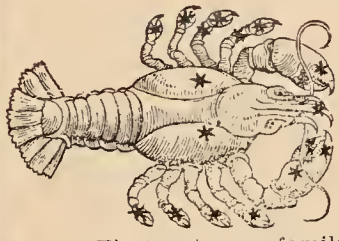
ABBR: "TAU" SIGN: BULL
Controls the throat and neck
Belongs to those born Apr. 20-May 20
Ruling Planet, Venus; Birthstone
Diamond or Sapphire; Color, Blue.

The beautiful in Nature, in Art, or Down on the Farm
Is what will reward you and do the least harm.
Don't be discouraged, however bad life seems;
You must bring light into darkness, this Sign deems.
When Venus gets up—see page thirty-four—arise
And shine with her; be jolly, be friendly, particularly nice.

GEMINI

ABBR: "G'M" SIGN: TWINS
Controls shoulders, lungs, arms,
hands, and the nervous system.
Belongs to those born May 21-June 20
Ruling Planet, Mercury: Birthstone,
Emerald; Color, Light Grey.

For writing or teaching,
For change ever reaching!
YOU must always keep busy,
But overexcitement will make you quite dizzy.
Mercury's your boy in the Geminian sky.
Under him, all new adventures try.

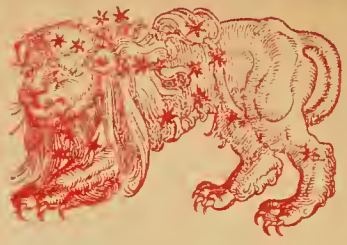


CANCER

ABBR: "CNC" SIGN: CRAB
Controls breast and stomach
Belongs to those born June 21-July 22
Ruling Planet, Moon; Birthstone,
Agate; Color, Green.

First put your family, your children, your home;
Then comes your business. And wherever you roam
Collect stamps or antiques, shoe buckles, or books,
Be adventurous in odd ways, but avoid all dark nooks.
Watch carefully each month the moon and its phase;
From its new to its full are your very best days.

LEO



ABBR: "LEO" SIGN: LION
Controls the heart
Belongs to those born July 23-Aug. 22
Ruling Planet, Sun; Birthstone,
Ruby; Color, Red.

Be the good fellow, always well met;
Politics, fund raising, charities, your best bet.
But make certain in whatever you undertake
You'll be the top dog—eat and keep all of the cake!
Have no fear of the Sun, it's your friend and companion,
But avoid same for speeches (or gambling) as you would a deep canyon.

VIRGO

ABBR: "VIR" SIGN: VIRGIN
Controls the lower intestines
Belongs to those born Aug. 23-Sept. 22
Ruling Planet, Mercury; Birthstone,
Sardonyx; Colors, Onyx and Carnelian.

Thou art a complicated soul we fear.
Success will be bought at prices most dear.
But with caution, and care for your health,
Take a chance now and then; it may bring you wealth.
Watch Mercury as you would a wonderful hawk.
When it's up, go to work, never mind the big talk.

LIBRA

ABBR: "LIB" SIGN: SCALES
Controls the loins
Belongs to those born Sept. 23-Oct. 22
Ruling Planet, Venus; Birthstone,
Chrysolite; Color, Crimson.

Be a doctor, or lawyer, artist, or white collar chief;
In anything except a profession you won't find relief.
Collect or make etchings; architecture'd be fine.
Seek out cheerful, affectionate people along the line.
Venus, the dear, when she is upstairs,
Is the time to give parties and improve your affairs.

SCORPIO

ABBR: "SCO" SIGN: SCORPION
Controls the generative organs
Belongs to those born Oct. 23-Nov. 22
Ruling Planet, Mars; Birthstone,
Aquamarine or Opal
(Blue Green or Black)

You are what's known as a character strong;
With the fearless and brave you surely belong.
You'll go far as a builder, or sheriff, or in travel;
But the mysteries of romance you'll never unravel.
Mars is the monster in the sky up above—
So you should take care in all questions of love.

SAGITTARIUS

ABBR: "SGR" SIGN: ARCHER

Controls the thighs
Belongs to those born Nov. 23-Dec. 21
Ruling Planet, Jupiter; Birthstone,
Topaz; Color, Purple.

You are definitely "big time"—a real v.i.p.;
In business or sports or profession, you'll see.
Be sure and discount all hate of your boss;
String along with him—don't be the off-horse.
When Jupiter's up, put on your wide smiles—
He means good luck, especially for running more miles.

CAPRICORNUS

ABBR: "CAP" SIGN: GOAT

Controls the knees
Belongs to those born Dec. 22-Jan. 19
Ruling Planet, Saturn: Birthstone,
Turquoise: Color, Sky Blue.

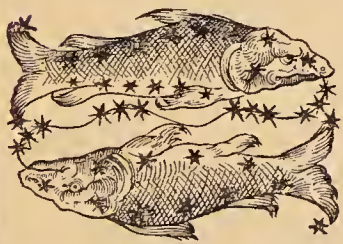
Don't worry, you'll just never be anyone's goat.
You'll do well in business, **big** business (please note).
On the side, religion and science for you will be good.
Live with ideas, and action; words aren't your food.
But when Saturn gets up in the sky overhead
About all we can advise is "go home to bed."

AQUARIUS

ABBR: "AQR" SIGN: WATER BOY

Controls the legs
Belongs to those born Jan. 20-Feb. 18
Ruling Planet, Uranus; Birthstone,
Garnet; Color, Mixed.

Be a museum curator
Or large hospital manager.
Uranus, too distant to be seen,
Up or down, is taken to mean
Time of year, day, or hour
In your life is the real power.



PISCES

ABBR: "PSC" SIGN: FISH

Controls the feet
Belongs to those born Feb. 19-Mar. 20
Ruling Planet, Neptune: Birthstone,
Amethyst; Color, Marine.

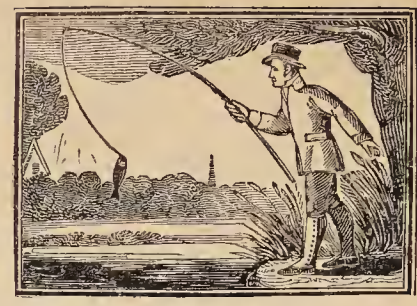
George Washington is a good example;
On his good traits never trample.
Never, ever, take a back seat—
Only there with your failings you'll meet.
Your planet Neptune is a peculiar bird;
Do what you will—charging for it would be absurd.

KILLING FROSTS and GROWING SEASONS

Courtesy of U. S. Weather Bureau

City	G.S. (Days)	Last Frost Spring	First Frost Fall
Lander, Wyo.	123	May 18	Sept. 18
Bismarck, N.D.	133	May 11	Sept. 21
Alpena, Mich.	141	May 13	Oct. 1
Helena, Mont.	145	May 7	Sept. 29
Reno, Nev.	145	May 14	Oct. 6
Marquette, Mich.	149	May 13	Oct. 9
Concord, N.H.	149	May 7	Oct. 3
Duluth, Minn.	152	May 6	Oct. 5
Green Bay, Wisc.	157	May 5	Oct. 9
Pocatello, Ida.	160	Apr. 29	Oct. 6
Denver, Colo.	160	May 3	Oct. 10
Pierre, S. Dak.	160	Apr. 30	Oct. 7
Minneapolis	166	Apr. 27	Oct. 10
Detroit, Mich.	170	Apr. 28	Oct. 15
Des Moines, Ia.	171	Apr. 21	Oct. 9
Fort Wayne, Ind.	171	Apr. 25	Oct. 13
Ludington, Mich.	172	May 2	Oct. 21
Albany, N.Y.	174	Apr. 24	Oct. 15
Madison, Wisc.	174	Apr. 26	Oct. 17
Santa Fe, N.M.	177	Apr. 25	Oct. 19
Hartford, Conn.	177	Apr. 20	Oct. 13
Toledo, Ohio	179	Apr. 22	Oct. 18
Portland, Maine	181	Apr. 19	Oct. 17
Spokane, Wash.	182	Apr. 14	Oct. 13
Parkersburg	184	Apr. 17	Oct. 18
Omaha, Nebr.	184	Apr. 14	Oct. 15
Salt Lake City	185	Apr. 18	Oct. 20
Chicago, Ill.	186	Apr. 16	Oct. 19
St. Joseph, Mo.	191	Apr. 9	Oct. 17
Trenton, N.J.	191	Apr. 16	Oct. 24
Springfield, Mo.	193	Apr. 12	Oct. 22
Boston, Mass.	195	Apr. 14	Oct. 26
Wichita, Kans.	197	Apr. 9	Oct. 23
Cincinnati, Ohio	198	Apr. 8	Oct. 23
Lewiston, Ida.	201	Apr. 6	Oct. 24
Harrisburg, Pa.	202	Apr. 9	Oct. 28
Evansville, Ind.	207	Apr. 5	Oct. 29
Cairo, Ill.	212	Mar. 31	Oct. 29
Richmond, Va.	216	Mar. 31	Nov. 2
Roseburg, Ore.	217	Apr. 8	Nov. 11
Oklahoma City	218	Mar. 30	Nov. 3
Chattanooga	220	Mar. 29	Nov. 4
Raleigh, N.C.	223	Mar. 27	Nov. 5
Little Rock, Ark.	241	Mar. 18	Nov. 14
El Paso, Tex.	242	Mar. 19	Nov. 16
Tucson, Ariz.	243	Mar. 11	Nov. 9
Macon, Ga.	245	Mar. 14	Nov. 14
Columbia, S.C.	246	Mar. 17	Nov. 18
Montgomery, Ala.	250	Mar. 8	Nov. 13
Shreveport, La.	251	Mar 6	Nov. 12
Portland, Ore.	251	Mar. 15	Nov. 21
San Bernardino	259	Mar. 8	Nov. 22
Eureka, Calif.	277	Mar. 16	Dec. 18
Del Rio, Tex.	277	Feb. 23	Nov. 27
Sacramento	283	Feb. 19	Nov. 29
Phoenix, Ariz.	296	Feb. 10	Dec. 3
Yuma, Ariz.	334	Jan. 20	Dec. 20
San Francisco	350	Jan. 13	Dec. 29
Los Angeles	*	*	*
Miami, Fla.	*	*	*
San Diego	*	*	*

*Frosts do not occur every year.



BEST FISHING DAYS, 1964

There are probably more "fishing calendars" sold each year than all the almanacs put together. It is likely that the more mystifying the ingredients of these calendars are, the more popular they become. Almost all agree, however, that fishing is better when 1) the barometer is rising or high; 2) when the moon is between the new and the full; and 3) when the moon is in the astrological sign of Cancer, Pisces or Scorpio. The days listed herewith are days during which all three of the above are seen to occur.

Jan. 17, 18, 19, 26, 27
Feb. 14, 15, 22, 23
Mar. 13, 20, 21
Apr. 17, 18
May 14, 15, 23, 24
June 11, 12, 19, 20, 21
July 9, 17, 18
Aug. 7, 13, 14
Sept. 9, 10, 11, 19, 20
Oct. 7, 8, 16, 17, 18
Nov. 4, 5, 13, 14
Dec. 10, 11, 12

However, even under the best of conditions, those who know how to catch fish will be far more successful than those who don't. Some, of course, like gardeners with "green thumbs," are born that way. Others have made themselves expert in knowing the best places, hours, tackle, and lures.

Here are a few observations, taken from a room full of fishing books and clippings, which may or may not prove helpful.

Water temperatures between 55°F and 74°F are best.

The clearer the water, the better, preferably with a slight ripple.

South and West winds are the best, or any offshore breeze.

ALL YE "DAY ANIMALS" — TAKE COURAGE!

The Harvest Moon which will rise at 12:31 P.M. on September 21, 1964, will end a long series of Harvest Moons, the evening light from which has been of decreasing value. Beginning with the Harvest Moon of 1965, things will be different: for from then until 1973, when it will reach its peak high value, each Harvest Moon will be slightly more beneficial to mankind than the one before it.

Beneficial? Well, for one thing, harvesters of salt marsh hay will be better able to see what they are doing under this bright moon. Apples, conceivably from the added strength of the moon's rays, will ripen sooner — tomatoes also. Just so with all of the fruits, nuts, grapes, etc., which tend to ripen during or after the harvest moon interval. It has been said too that all living creatures, including human beings, are divided into two parts: first, those who enjoy and thrive best in the glare of sunlit days; and, secondly, those who thrive best at night. The owl, for example, and the raccoon, are examples of this second group. The first group, or "day animals," will, of course, benefit more from these more powerful harvest moons than will the others.

The explanation of why there is a difference in these harvest moons follows.

In northern latitudes, the smallest angle made by the ecliptic and the horizon is when Aries rises, at which time Libra sets; the greatest when Libra rises and Aries sets. Therefore, when the moon is in Pisces and Aries (September and October) she differs but two hours in rising for six days together, or about twenty minutes later each day. When she is in the opposite signs of Virgo and Libra she differs almost four times as much in rising: namely, one hour and about fifteen minutes. However, the moon does not move in the ecliptic; rather its motion is elevated, during its ascending node some 5⅛ degrees above it, and, during its descending node as much below it. When she is north of the ecliptic she rises sooner and sets later than if she moved in the ecliptic. As there is a complete revolution in these nodes every 18⅔ years, the following table reveals in what years the harvest moons are least beneficial as to the times of their rising, and in which years most beneficial. The column under L indicates those years (because they fall about the descending node) in which the Harvest Moons will be least beneficial. In all the columns from N to S the harvest moons will descend gradually into the lunar orbit, and rise to less heights above the horizon. From S to N they ascend, in the same proportion, to greater heights above the horizon. In both columns under S, the harvest moons are in the lowest part of the moon's orbit, and therefore stay shortest of all above the horizon; in the columns under N, just the reverse.

YEARS IN WHICH HARVEST MOONS ARE LEAST BENEFICIAL

N					L			S
1956	1957	1958	1959	1960	1961	1962	1963	1964
1975	1976	1977	1978	1979	1980	1981	1982	1983
1993	1994	1995	1996	1997	1998	1999	2000	2001

YEARS IN WHICH THEY ARE MOST BENEFICIAL

S					M			N
1965	1966	1967	1968	1969	1970	1971	1972	1973
1984	1985	1986	1987	1988	1989	1990	1991	1992
2002	2003	2004	2005	2006	2007	2008	2009	2010

INTERNATIONAL GEOPHYSICAL CALENDAR 1964

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
				2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

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		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

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				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

INTERNATIONAL YEARS OF THE QUIET SUN

AS THE YEARS of 1964 and 1965 are at the low point of the sunspot frequency curve, there will be less interference than usual with observations and experiments by man in space from the turbulent emissions into space from the sun; hence, the appelation "Years of the Quiet Sun". Days of special interest are noted by appropriate symbols herewith. The so-called "World Days" are so noted that experimenters and observers in different parts of the world may conduct collaborative activities. *Courtesy J. Virginia Lincoln, U. S. Nat. Bureau of Standards.*

- Regular World Day (RWD)
- Day of Solar Eclipse
- Day with unusual meteor shower activity
- World Geophysical Interval (WGI)
- Quarterly World Day (QWD), also a PRWD and GWD
- Priority Regular World Day (PRWD)
- Geophysical World Day (GWD)

INTERNATIONAL GEOPHYSICAL CALENDAR 1965

JANUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY

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	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH

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	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

S	M	T	W	T	F	S
				1	2	3
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

S	M	T	W	T	F	S
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

S	M	T	W	T	F	S
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8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

THE SCIENTIFIC REVOLUTION

As has so often been observed in history, major advances in one segment of civilization will be accompanied by corollary advances in all or most of the other segments. For example, in the industrial revolution of the 19th century, the advances in steam power and machinery were accompanied by progress in agriculture, medicine, education and communication. There are few individuals living today, however, with sufficient scientific background to understand fully the broad implications of this scientific revolution in which we are living. The layman becomes aware of only some of its breakthroughs. It is the rare individual indeed who sees all the aspects of this revolution, not only as these happen to have personal, family or business impact, but also as these may change national, world — even universal — concepts of existence. It is an exciting age. Only nine years ago, a few visionary members of the American Rocket Society proposed that man place a satellite in space. It took two years for the United States Government to accept such a proposal. And, in 1963, at the very moment of this writing (9:15 A.M., May 15th) Gordon Cooper is on his two-day trip of twenty-two times around the world in space. To be living in such an age is to know that truth is actually stranger than fiction. What is even more inspiring is the knowledge that, with scientific advancement firmly entrenched in the great universities and other endowed and public institutions, this progress and growth which we have helped to bring about will continue long after we are gone. To know that we are a part of the civilization which initiated the scientific strides towards the benefitting of all mankind in centuries to come, gives a greater meaning and fullness to all of our lives.

The listings which follow have been chosen only at random. Little is mentioned here with regard to new developments in politics, education, mental health, crime, art, music, labor, leisure time, finance, conservation, religion, sociology, marriage, love, population or numerous other fields of human endeavors and pleasures. Pure science does not concern itself with these things. If it produces the capabilities of the destruction of mankind through the C Bomb, or financial disaster through expensive, unproductive trips to the moon, it also produces the capabilities of useful progress and happiness. It is the responsibility of man in his application of these capabilities that the final results be for good — not for evil.

Atomic Energy

In this Atomic Year 20, surface ships and submarines, equipped with atomic motor power are able to cruise without refueling for months at a time. An atomic-powered moon rocket is under construction. Atomic energy electric power plants are operating with success in various locations. Through cyclotrons and other atom or particle separation processes, analysis of the components of the physical universe is being made down to billionths of seconds, degrees and millimeters. Through such analyses, medicine, agriculture, geology, chemistry, anthropology, etc., are establishing new criteria. It may be said that without atomic energy, the scientific revolution would be without its sparkplug. That it could also destroy us may lead us, or at least the optimistic among us, to hope it is the greatest incentive towards world peace that mankind has ever known.

Radiation

We have discovered that there are positrons, antiprotons and neutrons out of which a so-called antimatter can be produced. Antimatter, uniting with matter, makes pure energy or radiation. This could mean a passenger from this "matter" earth might not survive for long on the Moon or Mars if perchance the latter are "antimatter" globes. But radiation also means many other things: food such as bacon, chicken, fish — once treated by varying degrees of radiation — may be kept at room temperature for many months without spoiling: radiation destroys certain kinds of cancer cells. Research in the application of radiation towards useful purposes has only just begun.

Hormones

Isolation of the "Peter Pan" hormone makes possible, once fully developed, a stage of human existence in which it is "always afternoon" or "always morning." Space travelers would, through this hormone, always remain at the same age. The isolation of other hormones has meant the development of new feeds, such as DIETHYLSTIL for cattle and poultry, which hasten the availability, at lower costs, of the meat. Still others, have been used in the making of certain sprays for increasing (and retarding) the growth of trees, shrubs and weeds.

Such companies as High Voltage Engineering design and produce accelerators which yield powerful beams of particles or radiation useful in nuclear physics research, deep cancer therapy, industrial X-ray, irradiation of plastics, and sterilization of surgicals, drugs and foods.

Research

Since 1940 governmental appropriations for research and development have increased from 400 million dollars annually to over ten billion annually. Over two million people are now employed in these fields. In 1940 there were 650,000. There are now some 600,000 students enrolled in science and engineering courses. In 1940 there were 225,000. To these figures must be added those of private businesses, foundations and institutions. For example, the Sloan Foundation, which is only one of many, gives awards of some $235,000 in sixteen colleges and universities each year to twenty-four individual faculty members. Basic research extends into all kinds of subjects: hyperoxia, hypothermic stress, aviation physiology, geodesy, meteorology, etc. etc. . . . there is no horizon or limit to its extent. Universal laws of gravitation—and conservation—are being seriously questioned. There may possibly be two universes—one in which mermaids have the head of a woman and legs of a fish and that in which they have the head of a fish and legs of a woman.

Noise

The Chrysler Bell Victory Siren, when finished, made the loudest continuous noise ever created by mechanical means—one equal to the shouting potential of 4,000 million ordinary men.

Medicine

There have been many breakthroughs in vaccine development. It has been found the milk of vaccinated cows prevents disease in animals as well as humans. The Salk vaccine is reducing polio. Certain vaccines are helpful in the prevention or cure of colds and pneumonia. Various uses of penicillin, for control of infection, are common. Tranquilizers are being used to arrest anxiety; other drugs to increase it. Dentists have drills for teeth which are so fast that the pain of tooth filling is greatly diminished.

Insect and Weed Control

DDT and other pesticides, herbicides and weed-killers have been developed for the elimination of insects, weeds, shrubs—as well as just about anything (and everything) in Nature. There have been personal reactions, some well taken and some not, that this practice may already have gone too far.

Communications

Television, radio, radar and telephone are common household words. Space satellites make possible live TV programs from Japan on the one side of us, from Great Britain and France on the other. Prolonged radar contact was held between October 1st and December 17, 1962 not only from California with Venus but also from our Explorer space rocket relay. Such contact revealed that Venus may be rotating once as it goes around the Sun, in a direction opposite to that followed by the Earth.

Laser

A light beam powerful enough to burn holes in tungsten metal or diamonds is one of this country's most spectacular developments. Laser light beams have a capacity for carrying messages, phone calls, etc., hundreds of times greater than the capacity of radio waves. Out of Laser could grow a complete revolution in the communications and weapons industries. Its invention means interplanetary or space ship conversations can be said to be practical. The Laser light beam may be the outer and inner death ray . . . as well as the possible answer to successful quick eye and tumor operations.

Optical Aids

Super-microscopes as well as telescopes are revealing worlds which man has never seen before. From the former has grown a new branch of cytology; namely, the study of the cells in living matter. From the latter, new views of the stars and planets.

Aviation

On May 26, 1961, a new record for flight between Paris and New York was established by a jet plane: 3 hours, 19½ minutes, 41¼ seconds. The Lindbergh flight of May 20, 1927 took 33 hours, 29 minutes. On August 19, 1957, a manned balloon ascended to 100,000 feet for thirty-two hours.

Space

In 1962 there were launched some thirty-eight scientific satellites and space probes; some twenty by the U.S.A., one by the U.S.A. and Canada, sixteen by the U.S.S.R., and one by Great Britain. Through these, experiments were conducted with regard to moon impact, TV photography, cloud cover, ice reconnaisance, infrared light, man in space flight, U V, X-ray, gamma radiation, cosmic rays, geomagnetic fields, dust, the ionosphere, electron density and temperature, solar U V, radio propagation, communications repeating, Venus, energetic particles, artificial radiation belts, Mars, micrometeroids and navigation.

The Nimbus, which follows the Tiros in space observations, is now being assembled, and will be able, through data storage, to convert optical images to electrical charge patterns—and thence transform these patterns into video signals. Its automatic photographic capability produces a picture every 208 seconds and useful correlations are expected from it between emitted radiation, earth fluxes and cloud patterns; i.e. heat loss or gain, the snspected basis of weather.

About a month ago, the NASA asked for industry proposals for the study of sustaining four men in space for one year. However, despite general research on the project since 1960, no definite program for manned space stations has as yet been approved.

The administration-approved goal of landing on the moon is being carried forward in a series of experimental projects. One of them is RIFT, the first nuclear rocket vehicle. This could reach the moon in only two and one-half days. Others are GEMINI and APOLLO—vehicles which could presumably carry two or more men in extended flights. Much depends on the findings of the space bio-scientists regarding the biological engineering of placing—and maintaining—men in space.

Continued from page 67

to the gallon already in the 5-gallon vessel, and there will be 4 gallons left in the keg and 4 in the 5-gallon vessel. (2) 54.746+ inches. (3) The man had 65 geese. (4) The amounts invested are $256,070.40, $326,817.93 and $417,-111.67. The amount at maturity is $532,351.94. (5) The 40 lb. weight must be cut into pieces weighing 1, 3, 9 and 27 lbs.; by the use of these any number of pounds from 1 to 40 can be weighed. For example, to weigh 25 lbs. the 27 lb. and the 1 lb. are put into one scale and the 3 lb. into the other. (6) $50.50. Rule: Multiply the highest number by its half and then add a half. (7) 46.4549+ feet. (8) He was using the old 47th Euclid, the "pons asinorum." The square of 6 is 36; of 8 is 64; and 36 plus 64 is 100, of which the square root is 10.

Anecdotes and Pleasantries

LONGFELLOW'S FIRST POEM

Mister Phinney had a turnip
And it grew behind the barn
And it grew there and it grew there
And the turnip did no harm.

And it grew there and it grew there
'Til it could grow no bigger
Then Mister Phinney took it up
And put it in the cellar.

And it lay there and it lay there
'Til it began to rot
Then Mrs. Phinney brought it up
And put it in the pot.

And she cooked it and she cooked it
As long as she was able
Then Mrs. Phinney took it out
And put it on the table.

Then Mr. Phinney and his wife
They both sat down to sup
And they ate and they ate
'Til they ate the turnip up.

HOW'S THAT AGAIN?

Among the Hottentots (Hottentoten) the kangaroos (Beutelratte) are found in great numbers. Many of them wander over the country free and unmolested; others less fortunate are taken by hunters and put into cages (Kotter), provided with covers (Lattengitter) to keep out the rain. These cages are called in German Lattengitterwetterkotter, and the kangaroo after his imprisonment takes the name of Lattengitterwetterkotterbeutelratte. One day an assassin (Attentater) was arrested who had killed a Hottentot woman, Hottentotenmutter, the mother of two stupid and stuttering children in Strattertrottel. This woman, in the German language, is entitled Hottentotenstrattertrottelmutter, and her assassin takes the name Hottentotenstrattermutterattentater. The murderer was confined in a kangaroo's cage — Beutelrattenlattengitterwetterkotter, whence a few days later he escaped; but fortunately he was recaptured by a Hottentot, who presented himself at the mayor's office with beaming face.

"I have captured the Attentater," said he.

"Which one?" replied the mayor. "We have several."

"The Attentaterlattengitterwetterkotterbeutelratte."

"Which Attentater are you talking about?"

"About the Hottentotenstrattertrottelmutterattentater."

"Then why don't you say at once the Hottentotenstrottelmutterattentaterlattergitterwetterkotterbeutelratte;"

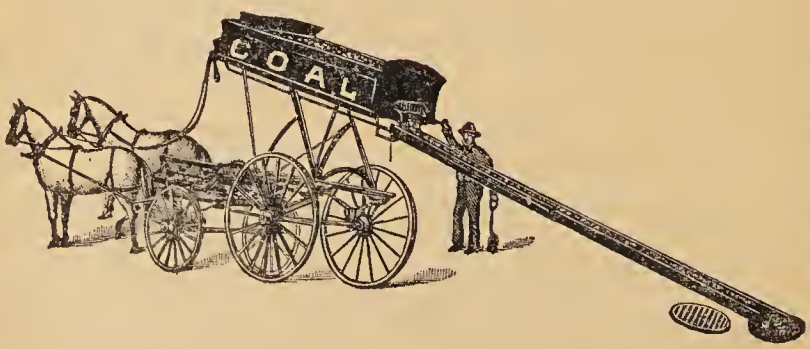
The Hottentot fled in dismay.

Courtesy: Dean Clark

A CLINCHER

Two men having agreed to a bet to be won by whoever could tell the greatest lie — one of them declared that on a certain evening he threw a nail with such force towards the moon that it went through to its head. "That's true," replied his opponent, "for I was on the other side at the time, and clinched it with a claw hammer." The prize was adjudged to the latter — and since that time every outrageous falsehood has been termed a clincher.

Anson Allen, 1818



Courtesy: Foxhall Press

OVERHEARD IN BOSTON

"He's cousin to a clam — can keep quiet in more languages than there are."

OUT OF A JOB

W'en a man has no part in the work of the earth,
W'en a feller is out of a job.
He feels the whole blund'ring mistake of his birth
W'en a feller is out of a job.
He feels he's no share in the whole of the plan
That he's got the mitten from nature's own han',
That he's a rejected an' left-over man,
W'en a feller is out of a job.
Ev'ry man, that's a man wants to help push the world,
But he can't if he's out of a job;
He is left out behind, on the shelf he is curled,
W'en a feller is out of a job.
Ain't no juice in the earth an' no salt in the sea
Ain't no ginger in life in this land of the free,
An' the universe ain't what it's cracked up to be,
W'en a feller is out of a job.

Sam Foss

HE'D HAVE LOST TODAY

At Newbury, England, a gentleman recently made a wager of $5,000 that at 8 o'clock on a particular evening he would sit down to a dinner in a well-woven, well-dyed, well-made suit of clothes, the wool of which formed the fleece on the sheep's back at 5 o'clock that same morning. The sheep were shorn; the wool washed, carded, stubbed, rove, spun and woven; the cloth was scoured, fulled, tended, raised, sheared, dyed and dressed; the garments were made. At a quarter past six he sat down to dinner at the head of his guests, in a complete damson-colored suit — thus winning his wager, with an hour and three-quarters to spare.

Leavitt's, 1873

WORLD'S FIRST NEWSPAPER

The oldest news sheet appearing to be of a periodical character, is in the British Museum. Its title is, "**Newe Zeitung aus Hispanien und Italien** (New Tidings from Spain and Italy); black letter, 4 leaves 4to. Mense Februario, 1534."

It appears to have been printed at Nuremberg. It contains the first news of the discovery of Peru. It states that one Pizario has attacked Cassiko, lord of Peru, seized the country, and two millions in gold and silver.

It has generally been supposed, from the various researches which have been made, that the first newspaper published in modern Europe made its appearance at Venice in 1536; but the jealousy of the government would not allow of its being printed, so that, for many years, it was circulated in manuscript.

Cyclo. Com. Anecdotes

WE INEDIBLE YANKEES

"Britons," said Lord Shackleton, "are rather more edible than Americans."

Noble eyebrows lifted in the House of Lords.

His Lordship continued: "There is a story of the cannibals in Polynesia who no longer allow their tribes to eat Americans."

"Why not?" asked an annoyed peer.

"Because," said Lord Shackleton, "the cannibals say American fat is contaminated."

He had the undivided attention of the House of Lords as he went into detail.

"Recent figures show we have two parts per million DDT in our bodies, whereas the figure for an American is about 11 parts per million," he said.

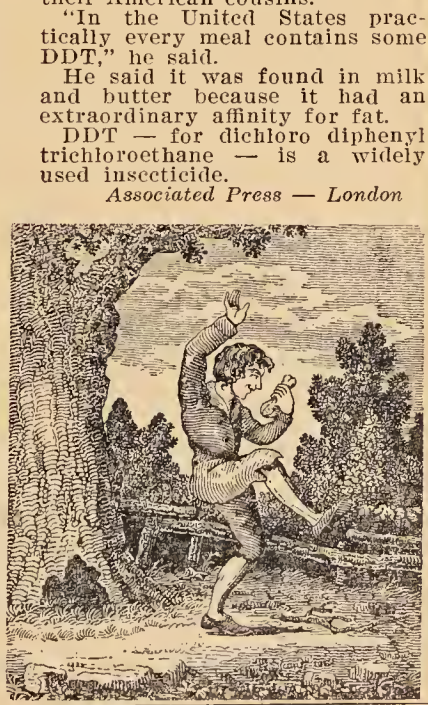
The debate on the dangers of the increasing use of chemicals was opened by a peer who made no reference on whether his fellow countrymen taste better than their American cousins.

"In the United States practically every meal contains some DDT," he said.

He said it was found in milk and butter because it had an extraordinary affinity for fat.

DDT — for dichloro diphenyl trichloroethane — is a widely used insecticide.

Associated Press — London



THE MOST PROFOUND AND PAINFUL MYSTERY OF CHARLEY ROSS

On July 1, 1874, some ninety years ago, two men in a buggy lured four-year-old Charley Ross and his brother Walter (nearly six), with candy and promises of firecrackers, into riding with them from in front of their home on East Washington Lane, Germantown, Pennsylvania, to "Aunt Susie's, who keeps a store." Walter was returned home, but to this day Charley remains among the missing.

Charley Ross

Walter Ross, after being set down at a cigar store (about six miles away in Kensington, Pa.) was given twenty-five cents and told to get firecrackers for himself and torpedoes for his brother. This he did, but when he came out of the store, the men, Charley, horse and wagon were gone. Completely lost and deserted, he began to cry. A Mr. Henry Peacock brought him home. Walter was able to describe the abductors, the horse, the wagon, and the route taken to the cigar store in great detail. Walter, from the time he and Charley had entered the wagon until his return home at 8 P.M., had been gone about five hours. When asked about Charley, his only immediate comment was,

"Why he is all right, he is in the wagon."

The father of Walter and Charley was a Philadelphia business man, Christian K. Ross. He seems to have been a man of more than moderate means. At the time of Charley's abduction, Mrs. Ross was in Atlantic City with their elder daughter, Sophia. Their younger, Annie, was at home. Their two older boys were vacationing with their grandmother in Middletown, Pa. Also at home were two maids, a cook, a gardener, Ross' brother-in-law, and two other adult individuals.

The distracted father, after night and day inquiries and search in cooperation with the police, finally inserted an advertisement in a local newspaper. Before it appeared, however, he received a note, postmarked "July 3, 8 A.M. Philadelphia," from the abductors. They offered to return Charley but only "befor you git him from us, and pay us a big cent to."

There followed a long series of notes from the abductors to Mr. Ross. In each there was an insistence upon having $20,000 ransom money in ten dollar bills and instructions on how and where to deliver the money. The abductors wanted their money anywhere from five to ten hours before return of the child, and complete freedom from observation or pursuit. (From these notes it was learned that four men, rather than only two, were involved in the abduction.) The answers to their notes were to be inserted as classified advertisements in various newspapers — some as far away as New York City.

One suggestion was that Mr. Ross appear with the money at a deserted bridge, unaccompanied and unobserved. Mr. Ross was urged at this time to have the Treasury issue counterfeit bills for the payment; also to have the bridge posts hollowed out. In these police could hide. This meeting, however, did not materialize, as the abductors did not show up.

The most fantastic of the abductors' suggestions — and one which Mr. Ross followed — was that Mr. Ross was to place the bills in a locked suitcase. He was then to take a train from Philadelphia to New York; and thence from New York to Albany. All during this train ride he was to occupy the back platform of the rear car — and watch for a man by the side of the tracks who would be waving a torch and a flag. When he saw this man, he was to drop the valise off the back platform. If he did not see the man at all (which Mr. Ross did not), he was to call at the General Delivery window at the Post-office in Albany for a letter which would contain further instructions. This trip took Mr. Ross some five frustrating hours. There was no letter at Albany. Following it, he took to his bed, seriously ill, and was unable to negotiate with the abductors, or anyone else, for the next three months.

With the case moving into New York, the police there became convinced that one William Mosher and one Joseph Douglas were the criminals who had abducted Charley Ross. After some weeks of failure to find these criminals, the police were informed that in an attempt to rob the summer home of Supreme Court Justice Van Brunt in Bay Ridge, Long Island, both had been shot and killed. Douglas, mortally wounded, made a confession before he died.

"It's no use lying now: Mosher and I stole Charley Ross from Germantown."

Mosher's wife was cross-examined shortly after her husband's death. But the names or whereabouts of the two confederates of Douglas and Mosher in the abduction were never learned — nor were any more ransom notes received. Neither was any further clue obtained as to where Charley Ross was being held in captivity or whether he had been, as the ransom notes had threatened, murdered.

Christian Ross investigated some 261 cases in 33 states, Cuba, Canada, Scotland, and Germany, of "missing children" some individual thought might be his. He was constantly hounded by soothsayers, mystics, and all kinds of cranks. Public subscriptions were raised to meet his financial expenses. One man even offered to pay the whole $20,000 ransom money for him. The authorities, for the most part, in the end agreed that if he had flatly refused to negotiate with the abductors, or pay any ransom money at all, it is likely that his son would have eventually been returned to him, unharmed.

Washington Lane from which Charley Ross was stolen.

Courtesy American Automobile Association

Auto Laws 1963

State	Max. Speed Open Hwy. (R reasonable)	Date Regis. Expires (Incl. Grace)	Driving License Minimum Age	Gasoline Tax	Per Cent Sales Tax	Period of Stay[1] (R reciprocal)	Min. Cost of Regis. (3M lb–100 HP)	Cost of Driver's License
Ala.	60–50N	11/15	16	*.07	1½	30 days	$ 3.75	$2.25
Alas.	50	5/31 t	*16a	.08	...	90 days	30.00	5.00—3Y
Ariz.	50–45N	12/31	18b	.05	3	[4]	4.00	2.50—3Y
Ark.	60	1/31	14ac	.065	3	90 days	14.50	2.00
Cal.	65	2/4	16d	.06	3†	[3]	8.00	3.00—3Y
Colo.	60	2/28	17b	.06	2	30 days	5.75	2.25—3Y
Conn.	55	[2]	*16ef	.06	3½	6 mos.	10.00	6.00—2Y
Del.	50	[2]	16	.06	...	90 days	10.00	4.00—2Y
D.C.	25	3/31	16a	.06	2	R	22.00	3.00—3Y
Fla.	65–55N	2/20	16ag	.07	1	R	15.00	3.00—2Y
Ga.	60–50N	4/1	16h	.065	3	30 days	5.00	1.00
Hawaii	45	3/31	15 i	.085–11	...	10 days or[3]	16.00	3.00
Idaho.	60–55N	12/31	16g	.06	...	R	17.50	4.00—2Y
Ill.	65	3/1	16a	.05	3½	R	22.00	3.00—3Y
Ind.	65	2/28	16	.06	...	60 days	12.00	1.50—2Y
Iowa.	70–60N	1/31	16g	.06	2	R	12.00†	3.00—2Y
Kan.	70–60N	2/15	16g	.05	2½	R	10.00	2.00
Ky.	60–50N	3/1	16a	.07	3	R	5.00	2.00—2Y
La.	60	2/6	15	.07	2	R	3.00	2.50—2Y
Maine.	45	2/28	17aj	.07	3	R	15.00	2.00
Md.	55	3/31	16k	.06	2	90 days	15.00	7.00—2Y
Mass.	40	12/31	*16a	.055	...	R	6.00	5.00—2Y
Mich.	65–55N	2/28	*16ag	.06	4	90 days	10.50	4.00—3Y
Minn.	60–50N	3/1	15e	.05	...	R	30.00†	3.00—4Y
Miss.	65	10/31	15	.07	2	30 days	12.00	2.50
Mo.	65–60N	[2]	16 j	.05	2	R	37.50	1.00—3Y
Mont.	R-55N	2/15	15	.06	...	60 days	10.00	4.00—2Y
Nebr.	65–55N	2/28	16glm	.07	...	R	8.00	2.00—2Y
Nev.	R	6/30	16gn	.06	2	[3]	5.50	2.00—2Y
N.H.	50	3/31	*16j	.07	...	R	12.00	5.00—2Y
N.J.	50	[2]	17o	.06	...	60 days	15.00	3.00
N.M.	70–60N	3/2	*18jq	.06	1	[3]	30.00	3.25—2Y
N.Y.	50	1/31	18bp	.06	...	R	15.00	5.00—3Y
N.C.	60	2/15	*16a	.07	1½	R	10.00	2.50—4Y
N.D.	65	12/31	16g	.06	2	R	32.00	3.00—2Y
Ohio.	60–50N	3/31	16gq	.07	3	R	10.00	1.00—3Y
Okla.	65–55N	3/2	16dg	.065	2	60 days	30.00†	4.00—2Y
Ore.	55	[2]	16g	.06	...	[3]	10.00	2.75—2Y
Penna.	50	3/31	18b	.05	4	R	10.00	4.00—2Y
R.I.	50–45N	3/31	16	.07	3	R	11.00	8.00—2Y
S.C.	55	10/31	16g	.07	3	[3]	4.30	.50—4Y
S.D.	70–60N	3/31	16g	.06	2	60 days	22.00	2.00—4Y
Tenn.	65–55N	3/31	16g	.07	3	30 days	9.50	2.00—2Y
Texas.	60–55N	4/1	16g	.05	1½	R	11.88	3.00—2Y
Utah.	60–50N	2/28	16r	.06	2½	R	6.00	3.00—5Y
Vt.	50	3/31	*18b	.065	3	R	32.00	2.50
Va.	55	4/15	18ahp	.07	...	60 days	10.00	2.00—3Y
Wash.	60	1/31	16	.075	4	R	7.60	4.00—2Y
W. Va.	55	6/30	16s	.07	3	30 days	20.00	5.00—4Y
Wis.	65–55N	[2]	16g	.06	3	R	16.00	2.50—2Y
Wyo.	65	2/1	*15s	.05	2	90 days	7.50	2.00—3Y

[1]Applies to non-residents. "Reciprocal" means state extends non-resident identical privileges granted by home state of non-resident motorist. Some states require visitors to register beyond specific time. In most states those intending permanent residence must buy new plates and secure new driving license at once, or within limited time. Employment or placing children in public school is often considered intent to reside permanently. [2]Staggered. [3]Until expiration of home registration. [4]Visitor's permit req. after 10 days.

(a) Under 18 must have consent of par or guard; (b) Jr. p'mt 16; (c) 14–16 need accompaniment by lic. op.; (d) Instruction p'mt 15½; (e) Provisional license to 21; (f) 16–18 app. must have completed driver course; (g) Jr. p'mt 14; (h) Learner's p'mt 15; (i) Under 20 need par./guard consent; (j) Jr. p'mt 15; (k) Under 21 need par/guard. consent & proof of fin. responsibility; (l) Probationary lic. to 20; (m) 14–16 accomp. by lic. driver over 21; (n) With consent of par./guard.; (o) 16 for agric. pursuits; (p) Exc. some cities; (q) Provisional lic. 16–18; (r) 15½ if drive course comp.; (s) Under 21 birth certif. or par. sig. req. (t) Must regis. car in 48 hrs.

†Plus various adj. *Learner's permit *not* req.

MOO-MOO'S METALLIC SMORGASBORD

by Liam Dougherty

If you should happen to be cutting up touches with a friendly cow and her moo seems to sound to you like $1.98 played on a cash register in three-quarter time, don't be surprised. No doubt the poor girl suffers from "hardware disease" and is more non-plussed than you are.

"Hardware disease" in cattle, according to the Canadian Veterinary Medical Association, derives from their propensity for swallowing nails and bite-sized pieces of metal lying about the barnyard. In a ruminant — who has more than ample time to reflect upon what she is eating — this would appear to be a deliberate indiscretion, exaggerated carelessness, or both. It is, however, neither. Like any member of her sex, La Holstein is an indiscriminate browser and seems to be unable to resist the standard compulsion to pick up free samples for which she has no practical use.

As one might suspect, this metallic smorgasbord contributes nothing to the bovine dict but gastronomical unhappiness. For after jingling in the cow's paunch a while, they move on and become responsible for tender abrasions and leaks in her plumbing system.

Because "hardware disease" has been increasing rapidly north of the border in recent years, the cow's friendly veterinarian is quick to suspect a case of nagging hardware when he hears her complaint. If a check with an instrument similar to a war-time mine detector confirms this suspicion, he will at once scribble a prescription for *One Magnet: to be taken internally before meals.*

This swallowed magnet, beating metal odds and ends to the paunch, will attract and hold them, thus forestalling intestinal wear and tear. If the cow's proprietor changes her magnet every 1000 miles, or sprinkles a dash of rust inhibitor on her dry cereal if milk shows a reddish tinge, her dietary worries will be over.

ROADSIDE REMEDIES OF YESTERYEAR

Those who would not even touch a wild mushroom for fear of immediate and fatal poisoning, as well as those who are forever stuffing themselves with roadside plant tidbits without knowing that some are as deadly as the wrong kind of mushroom, should immediately get off a five-dollar bill to Nelson Coon, Vineyard Haven, Massachusetts, for his latest book called "Using Plants for Healing." Herein will be found great pleasure and instruction for the above two groups . . . and for a third "middle ground" group (i.e. most of us). This third group will be astounded, amused, and fascinated by Mr. Coon's 165-pages-long Chapter V . . . a listing, with about one page to each, of most of the common varieties of roadside and garden plants, what to avoid, which are useful, dosage, preparation, history, and tradition. *Burdock roots* for blood purification, *Jack-in-the-Pulpit* for sore throats, *Barberry berries* for jaundice, *Thistle* for increasing the attractive faculty of men, *Lily of the Valley* for heart disease, *Dogwood* for a fever, *Foxglove* for asthma, *Juniper* berries for dropsy, *Partridge berries* for diarrhea; these are just a few on Mr. Coon's list.

The Indians knew about these plants, of course. Some living today still do. So did "materia medica" and present day prescriptions will sometimes include what some of these plants contain. Readers must be cautioned, however, that roadside plants today will probably have been sprayed; and too, that the old formulas may not, by reasons of change of nomenclature, hold true today. Furthermore there is no way of knowing *now* how patients who used these cures *then* really fared.

"Switchel"

The late Arthur Staples remains the OFA's favorite Yankee essayist. Most of his charming work appeared in the Lewiston Evening Journal, from which this essay is taken. It concerns that famous drink of the Old New England Gods—a drink which was common in the hayfield and even contributed to the oratory of statesmen.

A correspondent for a New York paper recently told of attending a historical pageant in New England where a soft drink was served to visitors that was called "switchel" and she thought it was a concoction of molasses, ginger and vinegar, but she was not sure. She desired a genuine old-fashioned recipe.

If this good woman had gone to the Standard dictionary, she would have found this distinctively American drink listed there. It is defined as "A drink made of molasses and water, sometimes with vinegar, ginger or rum added; hence any strong drink, flavored." An illustration is cited from C. D. Warner's "Being a Boy" which reads: "The luncheon was packed in a large basket with bottles of root beer and a jug of switchel."

Curiously enough, Noah Webster does not include switchel in his unabridged, although as a native of New England and probably schooled in the haying season customs of his boyhood, he should have been well acquainted with this then popular hot-weather, home-made drink.

For switchel might be termed the original home-brew of New England. And it was by no means peculiar to New England either. In the letters of John Fairfield, you may find a most interesting comment on switchel which came from Ben:Perley Poore's "Reminiscences." Ben: Perley Poore (he always wrote his name with the colon) was a famous newspaper correspondent who lived a long time in Washington and attained a fame that may be contemporary, but which was in his day believed to be immortal. Alas! How certain is oblivion. I remember his writings in the old Boston Journal, which every good Republican "took in" as Uncle Solon Chase used to term it, while the Democrats took the Boston Post.

Our national Congress met in the early days in close quarters in Washington and the floor of the House and of the Senate were frequently crowded with visitors. The senators and members of the House sat with their hats on, after the manner of England's House of Commons. It was years after the days of John Adams before the "cloak room" was established; before hats disappeared from the heads of the members and before the floors of the two houses were reserved for the members only.

These were the days of John Randolph, Clay, Crawford, Calhoun, Webster, Silas Wright, and their predecessors, with old Davy Crockett lurking around in the background. Every one drank strong drink and took snuff.

In the center of the Senate was a table on which stood a magnificent silver urn filled with snuff, favorite varieties disposed so that the members might choose. It was the custom of such as Calhoun, Randolph, Clay, etc., to pause in the midst of a speech and with magnificent gesture stalk over to the urn, dip into it: take a pinch of snuff between their fingers and producing the magnificent silken bandanna which was the ornament of every true gentleman of those exquisite days, complete the performance with a flourish of the silken banner and a glorious approval of the snuff. Randolph had a style; Clay had a style; Calhoun had a style and some of them were excessively French in their manner—especially Randolph, who had been abroad.

But this is not "switchel" though it is gradually approaching the subject. On hot days—all summer and spring and often in winter, a great bowl of switchel stood in the centre of the Senate or the House. This was made after a favorite receipt and liberally "flavored" with Jamaica Rum. Members paused in their great speeches—those that yet ring through the ages perhaps—and going up to the great bowl, dipped deep. Sometimes they paused glass in hand, to emphasize a telling sentence: sometimes they orated glass in hand and then drank deep and again stalked back majestically to their place with switchel under their belts.

Attendants came in every little while and refilled the bowl. The odor of the beverage with its lemons and rum and its spices filled the senate-chamber with a suggestive perfume of oratory and rum. Enormous quantities of it were consumed every day. Members were continually leaving their seats and silently approaching the tank of coolness. This was "switchel," so called and so paid for in the appropriations of the infant nation.

But "switchel" was switchel, whether with rum or without rum. The memory of hay-time drinks yet lingers in the mind. This was always —families differed—made of ginger, molasses, ice (if any could be obtained); water: sometimes lemons, and it was put into a stone jug and hidden under a shady place. To go to it, lift the jug from its retreat, see its sides all dewy with distillation and drink "moderately" was the privilege of all. And grandmother made the switchel.

THREE GOOD MAINE BLUEBERRY RECIPES

Home Tested and Furnished by Arley Carmen Clark

SLUMP AND GRUNT

The ingredients are the same for both desserts but the method of preparation differs. Both are hearty and delicious and should be served while warm with a pitcher of thick cream or a spoonful of whipped cream, slightly sweetened and flavored with a dash of nutmeg.

½ c. water
1 qt. blueberries
1 c. sugar
2 tbsp. butter
1 c. flour
2 tsp. baking powder
½ tsp. salt
¼ c. sugar
½ c. milk

Slump: In a deep skillet or wide bottom saucepan, put the water, butter, berries, and the 1 c. of sugar. Bring to boiling point. Mix remainder of ingredients to stiff batter. Spoon this over berries as dumplings. Cover tightly and simmer for 12 min. Do not remove cover during cooking time.

Grunt: Preheat oven to 400°. Grease a deep baking dish and put the water, 1 c. of sugar and berries into this and place in oven while mixing topping dough. Blend butter into flour. Add remaining ingredients. Spoon this over hot berries. Bake for 20 min.

CRUNCH

Mix:

1 c. oatmeal
1 c. brown sugar
½ c. white flour
½ c. dry milk
½ tsp. salt
½ tsp. cinnamon

Blend in: ½ c. butter. Spread ⅔ of this mixture in a greased 8x8 baking dish. Over this spread 1½ c. blueberries. Spread remainder of crumb mixture over berries. Bake about 45 min. at 350°.

Serve warm or cold with ice cream or whipped cream.

MEETING EMERGENCIES FROM THE PANTRY WITH FOODS THAT KEEP

by

Beatrice Trum Hunter

author of

The Natural Foods Cookbook

and

Gardening Without Poisons

For those who prefer to stock their pantry shelves with foods which keep well without modern preservatives, Nature seems to have made ample provision.

Many natural foods keep well, provided they are whole, in tightly closed containers, and stored in a cool place. Nuts, in their shells, are an example. Shell them as needed, and they will provide a quick snack, a garnish for a feast, or the main protein of a meal. Sprinkle them, whole or grated, over fruit or vegetable salad. Grind them in an electric seed grinder, add a small amount of oil and salt, and you have created an epicurean nut spread. Liquefy them in an electric blender in water, add honey and a dash of cinnamon, and you have a nut milk drink fit for Olympian gods.

Sun-dried fruits, such as dates, figs, raisins, apricots, cherries, apples and peaches, store as well as nuts, and can be eaten out of hand. Mixed with nuts, they are excellent between-meal or TV snacks. For picnicking, hiking, or boating, they are lightweight yet concentrated food, reminiscent of Indian pemmican. To moisten dried fruit, it is not necessary to cook it. Merely soak it in water for a few hours and the fruit becomes plump. Drain, chop, and soak in honey, and this fruit becomes a tasty, mock marmalade.

Raw unfiltered honey is a fine staple. It never molds, has good flavor and food value, and yet it has an enviable "long shelf life" without tampering. For variety, unsulfured molasses, date sugar and maple sugar are also natural sweeteners which store well.

St. John's bread, or carob, is a snack which you remember from childhood years. A jar of these mineral-rich yet low-fat pods, somewhat chocolate-like in flavor, can be stored in the pantry as a treat for visiting children. The ground-up pods, as carob powder, can be used to flavor milkshakes, baked goods or cake frosting.

A variety of beverages can be created within minutes in an electric blender if the pantry is stocked with milk powder, soy powder, dried banana flakes, rice polishings and other staples.

Coconut shreds are prepared easily by grating fresh coconut and drying slowly in an oven with low heat. The shreds store, unsweetened, and as a garnish for fruit, create an ambrosial dessert.

Whole grains, such as brown rice, wheat, rye, millet, corn, barley, buckwheat and bulghur keep well as long as the grains remain unbroken. They can be cooked whole, as hearty cereals, or as additions to soup. For the gourmet as well as the homemaker concerned with food values, an investment in a home electric mill is worthy of consideration. What aroma and flavor are imparted to the products made with freshly ground flour! It is comparable to the fragrance of freshly ground coffee, pepper or nutmeg.

It should be apparent that the modern pantry shelf can be stocked with foods that offer good taste as well as good nutrition. "Long

Continued on page 72

TABLE OF MEASURES

Apothecaries

1 scruple=20 grains
1 dram=3 scruples
1 ounce=8 drams
1 pound=12 ounces

Avoirdupois

1 pound=16 ounces
1 hundredweight=100 pounds
1 ton=20 hundredweight=2000 pounds
1 long ton=2240 pounds

Cubic Measure

1 cubic foot=1728 cubic inches
1 cubic yard=27 cu. feet
1 register ton (shipping measure)=100 cubic feet
1 U. S. shipping ton=40 cu. ft.
1 cord=128 cubic feet
1 U. S. liquid gallon=4 quarts=231 cubic inches
1 imperial gal.=1.20 U. S. gals.=0.16 cubic feet
1 board foot=144 cubic inches

Dry Measure

2 pints .....=1 quart (qt.)
4 quarts .....=1 gallon (gal.)
2 gallons or 8 quarts .....=1 peck
4 pecks .....=1 struck bushel

Linear Measure

1 foot=12 inches
1 yard=3 feet
1 rod=5½ yards=16½ feet
1 mile=320 rods=1760 yards=5280 feet
1 U. S. nautical mile=6076.1033 feet
1 knot=1 nautical mile per hour
1 furlong=⅛ mile=660 feet=220 yards
1 league=3 miles=24 furlongs
1 fathom=2 yards=6 feet
1 chain=100 links=22 yards
1 link=7.92 inches
1 hand=4 inches
1 span=9 inches

Square Measure

1 square foot=144 square inches
1 sq. yard=9 sq. feet
1 sq. rod=30¼ sq. yards=272¼ sq. feet
1 acre=160 sq. rods=43560 sq. ft.
1 sq. mile=640 acres=102400 sq. rods
1 sq. rod=625 square links
1 sq. chain=16 square rods
1 acre=10 square chains

Troy

(Used in weighing gold, silver, jewels)

1 pennyweight=24 grains
1 ounce=20 pennyweight
1 pound=12 ounces

Household Measures

120 drops water=1 teaspoon
60 drops thick fluid=1 teaspoon
2 teaspoons=1 dessertspoon
3 teaspoons=1 tablespoon
16 tablespoons=1 cup
1 cup=½ pt.
1 cup water=½ lb.
3 tablespoons flour=1 oz.
2 tablespoons butter=1 oz.
3 teaspoons soda=½ oz.
4 teaspoons baking powder=½ oz.
2 cups granulated sugar=1 lb.
3¾ cups confectioners' sugar=1 lb.
2½ cups wheat flour=1 lb.
3½ cups whole wheat flour=1 lb.
2½ cups buckwheat flour=1 lb.
5⅓ cups coffee=1 lb.
6½ cups tea=1 lb.
2 cups lard=1 lb.
2 cups butter=1 lb.
2 cups corn meal=1 lb.
2 cups powdered sugar=1 lb.
2¾ cups brown sugar=1 lb.
2⅔ cups raisins=1 lb.
2⅔ cups currants=1 lb.
9 eggs=1 lb.

Liquid Measure

4 gills=1 pint (O.)
2 pints=1 quart (qt.)
4 quarts=1 gallon (gal.)
63 gallons=1 hogshead (hhd.)
2 hogsheads=1 pipe or butt
2 pipes=1 tun

Metric

1 inch=2.54 centimeters
1 meter=39.37 inches
1 yard=0.914 meters
1 mile=1609.344 meters=1.61 kilometers
1 sq. inch=6.45 sq. cm.
1 sq. yard=0.84 sq. m.
1 sq. mile=2.59 sq. km.
1 acre=0.40 hektars
1 cu. yard=0.76 cubic meters
1 cu. meter=1.31 cubic yards
1 liter=1.06 U. S. liquid quarts
1 hektoliter=100 liters=26.42 U. S. liquid gallons
1 U. S. liquid quart=0.94 liters
1 U. S. liquid gallon=3.76 liters
1 metric ton=1000 kilograms
1 kilogram=2.20 pounds
1 pound avoirdupois=0.45 kilograms

GESTATION AND REPRODUCTION TABLE

	Proper age for first mating	Period of power of reproduction in years	No. of females for one male	Period of gestation and incubation		
				Shortest days	Mean days	Longest days
Mare	3 yrs.	10 to 12		325	336	352
Stallion	4 "	12 to 15	20 to 30			
Cow	18-24 mos.	10 to 14		235	282	300
Bull	12-18 "	10 to 12	30 to 40			
Ewe	18 "	6		145	147	152
Ram	12-14 "	7	35 to 45			
Sow	9 "	6		110	114	120
Boar	9 "	6	8 to 12			
She Goat	18 "	6		147	151	155
He Goat	18 "	5	20 to 30			
Ass	3 yrs.	10 to 12		356	367	378
Jack	4 "	12 to 15	20 to 30			
She Buffalo	18-24 mos.	8		309	315	325
Bitch	16-18 "	8		58	63	67
Dog	12-16 "	8				
She Cat	12 mos.	6		58	60	64
He Cat	12 "	10	6 to 8			
Doe Rabbit	6 "	5 to 6		25	30	35
Buck Rabbit	6 "	5 to 6	30			
Cock	6 "	5 to 6	12 to 18			
Hen		5 to 6		19	21	24
Turkey				24	26	30
Duck				28	30	32
Goose				27	30	33
Pigeon				16	18	20
Pea Hen				25	28	30
Guinea Hen				20	23	25
Swan				40	42	45
Hen or Duck's Eggs				22	30	34
Robin's Eggs				13	16	19

REPRODUCTIVE CYCLE IN FARM ANIMALS

Courtesy F. N. Andrews — Purdue University

	Reoccurs if not Bred (Days)	Estrual Cycle incl. Heat Period (Days)		In Heat for		Usual Time of Ovulation
		Ave.	Range	Ave.	Range	
Mare	16	21	10–37	5–6 days	1–37 days	24–48 hours before end of estrus
Sow	19	21	18–24	2–3 days	1–5 days	Usually second day of estrus
Ewe	15	16	14–20	30 hours	20–42 hours	1 hour before end of estrus
Goat	19	20	12–25	36–48 hours	20–80 hours	Near end of estrus
Cow	20	19–20	16–24	16–20 hours	8–30 hours	14 hours after end of estrus
Bitch	180	24		21–28 days		
Cat	120			3–12 days		

JACK'S BEANSTALK MAY HAVE BEEN GROWN TO THE ACCOMPANIMENT OF THE WAGNERIAN CYCLE

by Liam Dougherty

If you had a grandmother who hummed to the plants on her kitchen window sill as she watered and picked off dead leaves, she was probably being more progressive than you gave her credit for at the time. According to a paper read by a scientist from India at a recent International Botanical Congress, plants respond to music with *significant growth increases.*

As an experiment, native climbing shrubs of the Pothos family were exposed to a half-hour daily ration of recorded flute music each day for thirty days. The same number of plants of similar size and potential vigor — selected, possibly, by one of those "independent testing laboratories" so popular with fair-minded advertisers — were grown without benefit of music as a control group.

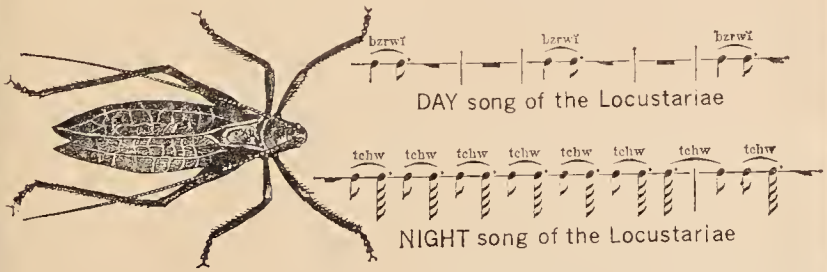
At the end of the experiment, the Pothos from the cultural environment was found to have outgrown, significantly, its rival with no advantages. Average height had been increased by twenty-five per cent, number of leaves by fifty per cent and average length and breadth of leaves by thirty per cent. These statistics were considered convincing by the assembled scientists, with the possible exception of the usual spoil-sport types who remembered that the experiment was made in a country whose flautists had long been famous for their ability to raise hooded cobras and rope-trick ropes from empty baskets by dint of a bit of tootling.

However, these sceptics were probably brought into the fold by the results of a para'lel study of seedlings of the Sensitive Plant, *Mimosa Pudica.* The mimosa is a plant with curious foliage which closes as quickly as a Hibernian's purse if it is touched or shaken. It grew fifty per cent larger and developed thirty-five per cent more prickles as a consequence of listening to a violin for twenty-five minutes daily.

Although there has been no practical use of these findings suggested, to the farmer with musical taste and a record library dramatic horticultural possibilities might come to mind; Sousa brass bands in the potato patch, Chopin among the pea rows and a string trio in the asparagus bed.

Toward a more resonant cantaloupe with Brahms!

Beefsteak tomatoes might be seduced by Bach to the extent that they would produce larger tenderloins: spines on cucumbers might be multiplied by Stravinsky; a Dixieland trombone might encourage watermelon vines to march right off the property.



Editor's Note: Author Dougherty's essay reminds us of how Nature does supply music for the growing plants. All around them, in growing season, is a veritable symphony — the songs of insects — night and day.

WORD CHARADES, RIDDLES and REBUSES

(For answers, see page 67)

I

II

With *first* I travelled on my way
To my old homestead, there to stay;
There *next* I did with might and fist
Till *last* compelled me to desist
And made the *whole* so hard and thin,
That doing *two* took all my tin.

III

A letter was sent addressed as here shown. Who was it intended for and where did the man live?

Wood
I
Mass

IV

V

My 1st is in wholesale but not in retail.
My 2nd is in hate but not in love.
My 3rd is in cottage but not in house.
My 4th is in carrot but not in parsnip.
My 5th is in snow but not in water.
My whole is useful on the farm.

VI

I'm good and bad, large and small,
I go and come at every call,
Great good I've done, great wrong at times,
I've paved the way for many crimes.
To do my work I go with speed;
Great men admit how much they need
My aid to help success attain.
Without such help chaos would reign.
Of late I've soared to greater height,
Science has come to give more light.
Not made with wood or metal ore,
Through starry space I often soar.

VII

VIII

Now here's a little cheap charade,
He who doth *last* his first to aid,
Mayhap hath friend, of a knave made.

IX

Why is a bald head like the North Pole?

X

I am composed of 22 letters:

My 4, 14, 6 is what many long to hear, when 10, 19, 3, 14, makes them ask a question.

My 22, 7, 5, 8, 18, 2, is something nice to eat, either raw or cooked.

My 11, 1, 20 is a marsh.

My 9, 13, 21, 15, 16, 17, 12, is to finish and my whole is an adage.

XI

OLD-FASHIONED PUZZLES

(For answers, see page 67)

I

Two men have purchased together an eight gallon keg of vinegar; when they come to divide it they find that they have only two empty vessels, one of which holds 5 and the other 3 gallons. How can they divide the vinegar by the use of these vessels so that they have 4 gallons apiece?

II

A stick of timber in the form of a wedge is ten feet long and two feet wide, 20 inches thick at one end and 14 inches thick at the other end. How far from the thicker end must it be cut in two so as to divide it into two equal parts?

III

A man driving his geese to market was met by another who said, "Good morrow, with your hundred geese." He replied, "I have not a hundred, but if I had half as many more as I now have, and two geese and a half, I should have a hundred." — How many had he?

IV

An estate of one million dollars is to be divided into three parts, which are to be invested at 5% compound interest, payable annually, for the benefit of three children whose ages are six, eleven and sixteen years. The amounts of the three funds, when the children successively reach the age of twenty-one years, are to be equal. What are the several sums of money invested, and what is the amount that each child will receive?

V

A grocer having no weights, except a 40 lb. leaden one, wishes to have this cut into four weights in such a manner that he can weigh with these four weights any number of pounds from one up to forty. What should be the weight of the different pieces?

VI

Long ago, a man in Pennsylvania used to "chance off" a bicycle each week. The purchaser would buy a sealed ticket with a number on it, running from 1 to 100. He would pay the number of cents equal to the number on his ticket. On Saturday night, the person holding the winning number, drawn from a box, would get the bicycle. But the question always vigorously debated by those assembled was "How much does the man running this game of chance take in each week?" One day an elderly man spoke up and provided both the answer and a simple rule by which to solve the same problem whatever the amounts involved. What was his answer?

VII

Suppose a cow is hitched in line with one diagonal of a square barn so that she can just graze to the ends of the other diagonal. If one eighth of the circumference is covered by the barn, what must the side of the barn be in order that she may graze over one half acre?

VIII

We remember watching a stone mason years ago about to start the building of the foundation walls of a new house. He started at one corner and drove in a stake. Then he stretched a line, parallel to the street, measured eight feet along this line and drove in another stake at that point. He took a second line, stretched it at approximately right angles to the first and drove a third stake exactly six feet from the original stake along this second line. Next, from one terminal stake he measured in a straight line the length of the diagonal between the two. It was somewhere near ten feet but not exactly. So he shifted the stake at the end of the six-foot leg until the distance between it and the stake at the end of the eight-foot leg was exactly ten feet. We asked him what he'd accomplished. He said that he now knew that the angle at the original stake between the two legs was exactly a right angle, although he didn't know — or care — *why* this was so. Can you give the mathematical reason?

FISH AND GAME SUMMARY

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Based on latest (mostly 1962-63) available laws courtesy of State Fish & Game Commissioners. For the most part 1964 laws not released until after press date (June, 1963) and so no attempt is made here at accuracy; in fact, only approximations of the months which may include seasons are given. This table useful only for vacation planning considerations and to satisfy curiosity as to what the various states offer in the way of hunting and fishing. Migratory Bird Regulations are available at any post office.

EXACT DATES, LIMITS, ETC. MUST BE VERIFIED LOCALLY.

STATE / SPECIES	ANTELOPE	BEAR	DEER	MT. GOAT SHEEP	ELK	MINK	MUSKRAT	OPOSSUM	RABBIT	RACCOON	SQUIRREL
Alabama		C	11-12			11-2	11-2	11-2	10-2	11-2	10-1
Alaska		9-6	8-12	7-9	8-12	11-1	1-5		9-4	1-12	O
Arizona (1962)	9	9-2	9-11	12	9-11		O		O	O	9-11
Arkansas		11-1	11-1		11-1	11-1	11-3	11-1	9-1	11-1	9-1
California	C	9-12	8-10	C	C	11-2	11-3	O	10-1	O	11-12
Colorado (1962)	P9	4-10	9-12	P9	P11	11-1	11-4	O	10-2	O	
Connecticut		O	11-12			C	C	O	10-1	9-1	10-1
Delaware (1962)			11			12-3	12-3	11-1	11-12	11-1	9-10
Florida		11-12	11-12						O		11-2
Georgia (1962)		11-1	11			11-2	11-2	10-1	11-2	10-1	9-12
Hawaii	C		S	S							
Idaho	S	O	9-12	9	9-12	11-12	11-12		9-2	O	C
Illinois			11-12			11-1	11-1	11-1	11-1	11-1	7-1
Indiana			S			11-1	11-1	11-1	11-1	11-1	8-10
Iowa (1962)			12			11-12	11-2		9-2	10-2	9-12
Kansas	C		C			12-1	12-1	12-1	12-10	O	9-12
Kentucky (1962)			11			11-1	11-1	11-1	11-1	10	8-12
Louisiana		12	11						10-2		10-1
Maine		O	10-12			11	11		10-3	8-12	10-11
Maryland (1962)		C	12			1-3	1-3	9-1	11-1	9-1	10
Massachusetts		10-12	12			11-1	11-12	9-12	10-2	9-12	10-11
Michigan		9-10	9-11		C	11-1	11-1	O	10-2	10-12	10-11
Minnesota		O	11			11	11		10-2	10-12	10-12
Mississippi (1962)		C	11-12			12-1	12-1	12-1	10-2	O	10-12
Missouri			11			12-1	12-1	11-1	5-2	11-1	5-12
Montana	10-11	3-11	10-11	9-11	10-11	11-12	11-4				O
Nebraska (1962)	9		11			11-3	11-3	O	O	O	9-12
Nevada	8-9		10	12	11	11-3	11-3		10		
New Hampshire		10-12	12			10-3	10-3		10-3	9-12	10
New Jersey		C	12			12-3	12-3		11-12	12-3	11-1
New Mexico	9-10	9-11	10-12	X	9-12	12	11-3		O	O	9
New York		10-12	10-12			10-3	12-4	O	10-2	10-2	10-12
Long Island		C	C						11-1	11-2	11-12
North Carolina		10-12	10-12			11-2	11-2	10-2	11-2	10-2	10-1
North Dakota (1962)	9		9-11	C	C	11-12	11-12	X	O	O	9-12
Ohio (1962)			12			11-2	11-3	11-2	11-12	11-12	9-10
Oklahoma (1962)			S			12-1	12-1	12-1	O	12-1	5-12
Oregon (1962)	P8	O	10	C	10-11	11-1	11-2	O	O	O	O
Pennsylvania		11	12		C	11-1	11-1	O	11-12	O	11-12
Rhode Island			10, 1						11-12	10-1	11-12
South Carolina		S	S			S	S	S	S	S	S
South Dakota	9	T	11	C	C	11	11	11	O	O	O
Tennessee		10	11-12			10-1	11-1	10-1	10-1	10-1	9-12
Texas	9-10	11-12	12	C	12	11-1	11-3	O	O	O	5-7, 10-12
Utah	P		10-11		9-11	10-5	O		O		4
Vermont		9-11	11		C	10-2	10-4	O	10-2	10-12	10
Virginia		11-1	11-1			12-3	12-3	10-1	11-2	10-3	11-2
Washington	C	O	10-11	9	11	11-1	11-3	O	10-2	O	C
West Virginia		11	12			11-2	11-2	11-2	11-1	10-1	10-1
Wisconsin (1962)		10-11	10-11			10-1	11-12	11-12	10-1	S	10-1
Wyoming (1962)	9-11	4-6	9-11	9-11	9-11	9-10					

SPECIALS IN CERTAIN STATES:

ALLIGATOR: Ala. (C), Ga. (6-1); Fla. (6-1)
WILD BOAR: Cal. (10-3), Fla. (S), N. C. (10-12), Haw. (O), Tenn. (10, 2), Tex. (10)
BUFFALO: Alaska (C), Ariz. (10), Utah (P), Tex. (C)
CARIBOU: Alaska (S)
CHACHALACA: Texas (12-1)
JAVELINA: Ariz. (2), Tex. (11-12)
MOOSE: Alaska (9), Idaho (P), Mont. (9-11), Wyo. (9-10)

SYMBOLS USED PAGES 62 AND 63

Months: January is represented by the numeral "1" — February by the numeral "2", etc. Seasons: In the columns under the various animals, birds, and fishes you will note numerals. Thus "12-3" means the season opens in December and closes in March. A number alone means the season opens and closes within that month. Thus "12" alone means the season is December. A number followed by a comma denotes two seasons: thus "9, 12" would mean one September and another in December. "O" means no closed season; "X" not available; "S" special seasons; "C" closed; "P" permit only.

VERIFY EXACT OPENING & CLOSING DATES IN EVERY CASE.

PARTRIDGE GROUSE	PHEASANT	QUAIL	TURKEY	STATE SPECIES	BASS	CATFISH PERCH SUNFISH CRAPPIE	PIKE PICKEREL	SALMON	BROOK TROUT	LAKE TROUT	WHITEFISH
		11–2	12, 4	Alabama	O	O	O	O	O	O	O
8–4				Alaska	O	O	O	O	O	O	O
		12	10	Arizona (1962)	O	O			O	O	
C	C	12–1	4	Arkansas	O		O	O	O	O	
O	11	11–12	C	California	O	O	O	5–10	5–10	5–10	5–10
8	11	11	10	Colorado (1962)	O	O	O	5–10	5–10	5–10	5–2
10–12	10–12	10–11		Conuecticut	4–10	4–10	4–10	4–10	4–10	4–10	C
	11–12	11–12		Delaware (1962)	O	O	O	O	4–11	O	O
		11–2	11–1	Florida	O	O	O	O	O	O	O
11–12		11–1	11–1	Georgia (1962)	O	O	O	O	4	4	O
11–1	11–1	10–1	C	Hawaii	O	O-X-O-X	X	X	X	X	X
9–10	10–11	10–11		Idaho	O	O	X	S	6–10	5–11	O
C11–12	11–12	11–12	C	Illinois	O	O	5–11	O	O	O	O
11–12	S	11–12	C	Indiana	O	O	O	O	5–8	O	O
11–12	11–12	11–12		Iowa (1962)	5–2	O	5–2		O		
11	11–12	11–12	C	Kansas	O	O	C		O		
11–1		11–1		Kentucky (1962)	O	O	O	O	O	O	O
		11–2	4	Louisiana	O	O	O				
10–11	10–11	10–11		Maine	6–9	4–9	4–9	4–9	4–9	4–9	4–9
11–1	11–1	11–1	10	Maryland (1962)	4–2	4–12	4–12	O	4–2	O	O
10–11	10–11	10–11	C	Massachusetts	4–2	4–2	4–2	4–2	4–10	10–2	X
10–11	10	C	C	Michigan	6–12	O	4–3		4–9	4–9	4–9
9–11	10–11	C	C	Minnesota	5–2	O	5–2	X	5–9	1–9	O
		12–1	4	Mississippi (1962)	O	O	O	O	O	O	O
	11	11–12	4	Missouri	5–2	O	O		X		
9	10–11	C	10	Montana	O	O	O	5–11	5–11	5–11	12–3
10	11	11		Nebraska (1962)	O	O	O	O	O	O	O
10	11	11		Nevada	O	O		S	O	O	O
10–12	10	C		New Hampshire	6–10	5–10	4–3	4–9	4–9	1–9	1–8
11–1	11–12	11–2	C	New Jersey	O	O	O	C3–4	C3–4	C3–4	O
9	10	X	9–11	New Mexico	O	O	X	X	5–11		X
10, 12	10–11	10–11	C	New York	7–11	O	5–2	4–9	4–9	4–9	4–9
11	11–12	11–12		Long Island	7–11	O	5–2		4–9		
10–2	11–2	11–2	11–2	North Carolina	O	O	O		4–9	4–8	O
9–11	10–12	X	P	No. Dakota (1962)	6–12	O	5–2	5–12	5–2	5–2	X
11–12	11–12	C	C	Ohio (1962)	O	O	O	O	O	O	O
	5	11–12		Oklahoma (1962)	O	O	O	O	O	O	O
10–11	10–11	10–11	X	Oregon	O	O	O	4–10	4–10	4–10	O
11–12	11	10–11	11	Pennsylvania	6–3	5–3	5–3	O	4–9	4–10	O
11–12	11–12	11–12		Rhode Island	4–2	O	4–2				
S		S	S	South Carolina	O	O	O	O	3–9	3–9	O
9	10	11	10	South Dakota	O	O	O		O		
11–2		11–1	4–5	Tennessee	O	O	O	X	O	X	X
C	C	12–1	11–12	Texas	O	O	O	O	O	O	O
9–11	11	11–12		Utah	O	O	O		6–11	6–11	6–2
10	10	C	C	Vermont	6–11	O	5–3	4–9	4–9	4–9	
11–2	P	11–2	11–1	Virginia	O	O	O	O	X	X	O
9–11	10–12	10–X	10–12	Washington	O	O		O	4–10	4–10	O
10–1	11–1	11–1	10–1	West Virginia	O	O	O	O	5–12	5–12	O
10–11	10–11	S	C	Wisconsin	5–2	O	5–2	X	5–9	1–9	O
				Wyoming (1962)	5–10	5–10	5–10	5–10	5–10	5–10	5–10

BLUEGILL: Ind. (O), Mich., N. M. (O), S. D. (O), Tenn. (O)
BUFFALO: Minn. (O), S. Dak. (O), Tex. (O)
BULL FROGS: Ariz. (6–11), Ark. (5–12), Del. (5–12), Haw. (O), Ida. (6–10), Ill. (6–8), Ia. (5–11), Ind. (4, 6–10), Kans. (7–9), Mo. (7–11), Neb. (7–11), Nev. (O), N.Mex. (8), Ore. (O), Pa. (7–10), Tenn. (6–3), W. Va. (6–7), Wis. (5–12)
RAINBOW: Haw. (8–9), N. Mex. (O), Ark. (O)
SHAD: Calif. (O), Ct. (4–6), Del. (3–6), Fla. (1–4), Ga. (O), Md. (3–9), N. H. (1–8), Ore. (O)
STURGEON: Ida. (O), Mich. (O), S. Dak. (O), Wis. (S)
TERRAPIN: Fla. (X), Pa. (11–3)

BLUE BEARD

By Gaffer Black Beard, For the Amusement of *Little Lack Beard* and his *Pretty Sisters*

(*From the original, 1804, John Adams, Printer*)

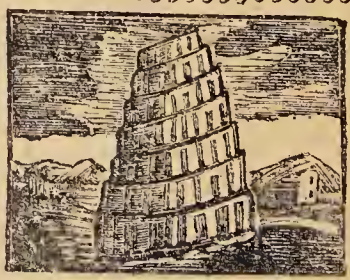
Once upon a time there lived, a great way off, an old man who had two daughters. The name of the elder was Fatima, the younger Irene. Irene was a very pretty girl, but Fatima was beauty itself. The fame of her beauty reached the ears of a very great man, I should have said tyrant, for he was a very cruel, overbearing nobleman, and had been married to several ladies, of whom nobody knew what was become; but as he was very rich and lived in a grand castle; he somehow or other, was never long without a wife. This nobleman, whose name was Abomelique, but generally called Blue Beard, on account of his beard being of that colour, being determined to see her, under a pretense of business, paid the father of Fatima a visit. No sooner did Blue Beard see Fatima than he fell violently in love with her. I should not say love, for it was that kind of love a wolf has for a pretty innocent lamb. He told her father the reason of his coming was to offer to make her his wife.

The father was quite delighted with the offer. Irene too thought she should like it vastly. As to poor Fatima, she fainted away.

Fatima had a real love for Selim, to whom her father had promised his consent in marriage. You see, promises with some, like pye-crust, are made to be broken. As Fatima knew she should be forced to go with Blue Beard, she wrote immediately to Selim. Well, as soon as she had finished her letter, she gave it to a trusty messenger, who set off full speed and soon arrived at Selim's house. I must now return to Blue Beard. No sooner had the sun gilded the mountain's tops than he was up, and a procession was ordered to move towards the village: the great Abomelique himself, riding on an elephant, under a fine silken canopy: next followed another elephant richly dressed, with a fine seat on his back, and a silken canopy over it, for Fatima and her sister; a fine Arabian horse followed, led by a black slave for her father; a band of music following. Blue Beard brought some fine clothes along with him for Fatima and her sister, which the father insisted upon their wearing.

After being dressed in a very grand manner, Fatima was put, or rather forced, into her seat on the elephant's back along with her sister Irene. The music began to play, and off the great Abomelique marched in triumph with his prize. Her lover Selim no sooner received her letter, than, knowing no time was to be lost, he went directly to his brother, who commanded a troop, and who promised to assist him to the utmost; so it was agreed to muster the men, and set off immediately, and bring Fatima away.

Blue Beard conducted Fatima to a fine seat in a magnificent garden, where refreshments were placed and some of the females were ordered to dance to entertain her; but for all this, she was still melancholy. Blue Beard



told her he must leave her till the evening, giving her at the same time the keys of all the apartments of the Castle, telling her as she was mistress of the plaee to go freely into any of them, exeept that room, the door of whieh was in the Blue Chamber — and of whieh this key, set with diamonds, opens the loek; upon your life don't go into that ehamber; and then with a look that frightened her sadly, left her. As soon as he was gone, Irene eried, I long to see that ehamber in particular. Pray do, let us go over the Castle, I long to have a rummage. It was a long time before Irene eould persuade her sister to go; however, she agreed and away they went.

When at length they arrived at the blue one, this was the grandest of all; it was lined with looking-glasses, ornamented with

fine blue enamelled frames; and though it was ealled Blue Chamber, it might as well have been ealled the Golden one as the floor was lined with it, two glass ehandeliers hung from the eeiling by ehains of gold. In the middle of this ehamber stood the door of that they were forbid to enter. Well, sister Fatima, says Irene, I am quite delighted with this plaee, I should like to see the next ehamber vastly, I dare say it must be finer still; eome, what say you to it, shall we look at it, there is nobody here to see us, and you know we need not tell of ourselves.

Fatima, to please her, took the key all sparking with diamonds, and put it to the loek, when the door flew open in an instant, and diseovered sueh a dismal seene, that Fatima instantly fainted away. The walls were lined with skeletons, and the floor was strewed with the limbs of the dead wives the eruel Blue Beard had already murdered, whieh were swimming in their blood, into whieh when Fatima fainted, she dropt the key. At one end of this dismal room stood the figure

of Death holding a dart, and over him was wrote in eharacters of blood, THE PUNISHMENT OF CURIOSITY.

Come, dear sister, said Irene, let us get away. Where is the key gone, says Fatima. 'Tis not in the door, perhaps it is dropt, says Irene. And so it was sure enough, and what was worse, into the blood; she took it up, loeked the door, and wiped the blood from off her hands, but in spite of all they eould do they could not wipe it from the key. While they were thinking what they should do, a black slave entered to tell them Abomelique had returned, and expeeted them in the grand saloon.

Now as they were going, Fatima says to Irene, my dear sister, yesterday I wrote to Selim; pray do you go to the top of the tower, and if he should be eoming, beekon him with your handkerehief to make haste. Away went Irene; while Fatima went to meet Blue Beard; who, as soon as he saw her, eried out, Well, Madam, how have you entertained yourself? Don't you think there are sights in the Castle worth looking at? Yes, replied Fatima, sighing, there are indeed! — But why sigh, my love! says Blue Beard, I hope you have not broke the order I gave you; eome, give me the keys.

Continued on page 72

STATE EXTENSION DIRECTORS

Consult these men about your garden and farm problems. They know the answers. *Courtesy Ralph M. Fulghum, Assistant Director, Division of Information, U.S. Dept. of Agr., Washington 25, D.C.* *All general correspondence is conducted by the A.D. (Associate Director).

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WHAT IS A SUCCESSFUL FARMER'S WIFE?

Winner of the First Prize in the 1963 OFA Essay Contest

A successful farmer's wife is happy to be what she is — the loving helpmeet of a man who daily covenants with God for the bounty of His earth.

She has faith in her husband's knowledge and ability. She sees his good care of the farm animals . . . sees him turn the sod and sow the seeds . . . sees him reap the harvest.

She takes a farmwife's honest pride in her clean, snug home; in the happy faces of healthy children, whom she rears to accept responsibility and to place dependence upon a Higher Power; in her table, laden with wholesome food provided through her husband's industry, and her pantry shelves, where she has 'put the year up' in jars filled with vegetables and fruit, and jellies glowing brighter than jewels.

Always busy, she nevertheless finds time to solace a stricken neighbor, or to bake a cake for the church sale.

At day's end, whatever the day has brought, she is content, for she *knows* there will be a tomorrow . . . the miracle of spring . . . the promise of rebirth and continuation. And, mindful of a troubled world, she gives a silent prayer of thanks for the blessings that make her — a successful farmer's wife.

Evelyn LaChapelle

1963 ESSAY CONTEST WINNERS AND 1964 ESSAY CONTEST ANNOUNCEMENT

Winners of the Contest announced Page 67, 1963 OFA are: First Prize ($25.00) Evelyn LaChapelle, Allston, Mass. Second Prize ($15.00) Mrs. E. J. Brendza, Tiffin, Ohio. Third Prize ($5.00) Mrs. Roy Schaefer, Payne, Ohio.

For 1964, the money will go (1st, $25.00 — 2nd, $15.00 — 3rd, $5.00) for the best essay on the subject, "The Rewards of Farming," in 200 words or less. **Contest closes June 1, 1964.**

No entries returned; all become property of Yankee, Inc., which reserves all rights in the material submitted. Case of tie, place money lumped and divided. Staff of YANKEE, final judge. Winners announced 1965 OFA.

Address Essay Contest, Yankee, Inc., Dublin, N. H.

ANSWERS TO CHARADES, ETC. ON PAGE 60

(1) Fools only contend against a force that cannot be overcome. (Fools on L Y, C on 10-Dcy-G A in stay, 4 ce-T-hat-can, knot-B over Come. (2) Cartilage. (3) The letter was for I. Underwood, Andover, Mass. (4) "A saying once spoken, a coach and four horses cannot bring it back." (Ace a in G one spoke n a coach and four horses can knot bee ring it back.) (5) Wagon. (6) Thought. (7) A man intent on being over ruled in all his deeds, by principle alone, is placed beyond the reach of fortune. A man in tent on B in G over rule-D in awl HIS deeds BY prince eye PLE ale-on-E is placed beyond the reach of fortune. (8) Paltry. (9) Because it is a great bare (bear) place. (10) Envy is a self-executioner. (11) Think before you speak. Th-ink--Bee 4 u's-peak.

ANSWERS TO OLD-FASHIONED PUZZLES ON PAGE 61

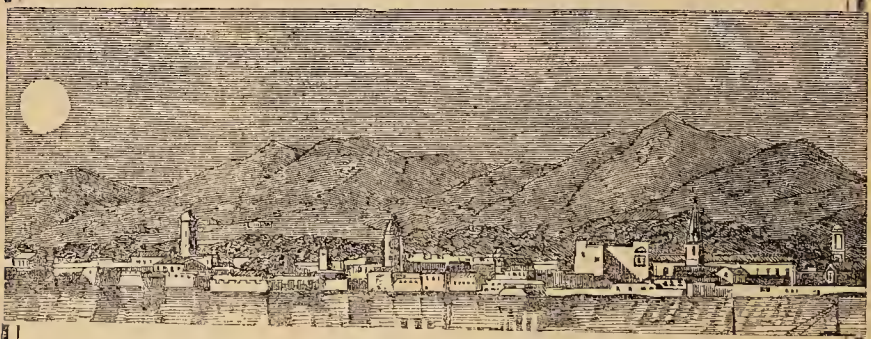
(1) Fill the 3-gallon vessel and pour it into the 5-gallon vessel, refill the 3-gallon vessel and fill up the 5-gallons. Empty the 5-gallon vessel into the keg; pour the gallon which remains in the 3-gallon vessel into the now empty 5-gallon one, draw the 3-gallon one full again and add it

Continued on page 47

WORLD ATMOSPHERIC PHENOMENA

This "Circle of Ulloa" reflected in the air at a seeming distance of seventy feet, as in a mirror, the image of each of seven different observers. It occurred at daybreak at Pambamarca and the image was in the center of three rainbows of different colors.

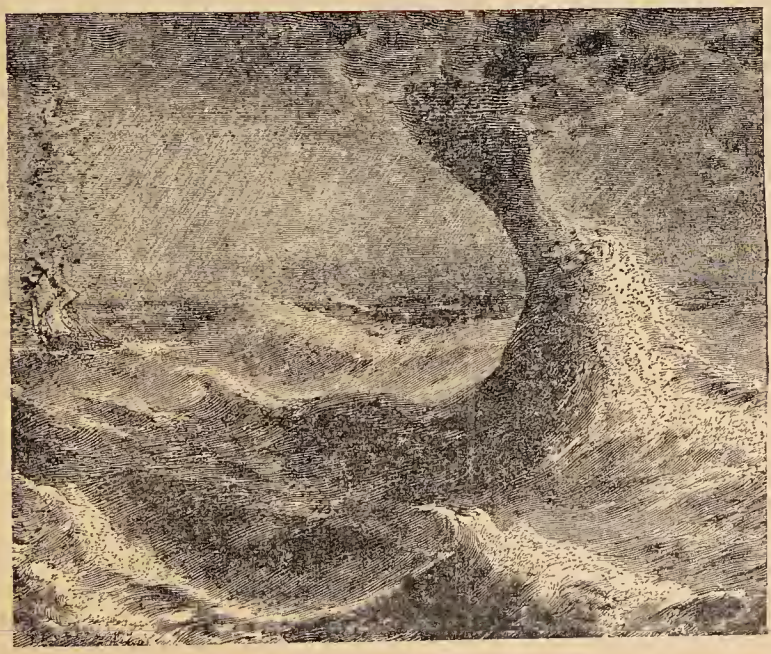
The famous "La Fata Morgana" is a familiar mirage seen on calm mornings near Naples. The mountains and houses are seen to appear, as if created by a fairy, from the sea itself.



The Simoon, or poison wind of the Arabs, blows, for twenty-five days before and after the Equinox, across the desert. In 1805, a caravan of 2,000 persons and 1,800 camels perished in its suffocating clouds of sand. In Persia, a similar wind is called the "Terrible Tebbad" or fever wind. Hardly less terrifying are enormous sand columns raised by whirlwinds over deserts, and the waterspouts raised by similar winds at sea.

The Chinook Wind is the name given in America to the more general "foehn" wind of Europe, which has been given a variety of names in other parts of the world. Here it generally refers to a wind from a westerly direction blowing down the slopes of the north-south ranges, usually the east slope of the Rockies. Spectacular temperature rises may take place as layers of cold air, banked up on the west against the Rocky Mountains, begin to move out and are replaced by warmer air that has moved in from the Pacific on westerly winds. Warmed and dried by compression effects, the result is a rapid change from snow cover to bare ground.

Sand Columns in the Desert



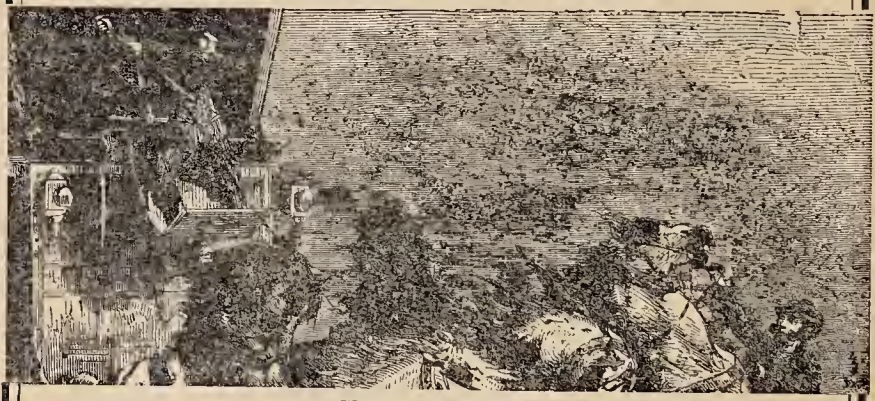
Waterspouts at Sea

Rain of Blood, 1608

Showers of blood have been recorded many times in ancient history. Homer alludes to one, as does Plutarch. Paris in 582, Germany in 1181, recorded such events. The denouement came, however, in 1608 at Provence, France. Despite the insistence of local clergy, a scientist examined the so-called drops of blood. They turned out to be the excrement of butterflies! However, as we all know, showers of locusts, milk, flesh, grain, and fish have been vouched for in recent history.

The freaks of lightning would fill numerous volumes. Of the outstanding cases, one was the death of St. Petersburg's Dr. Richmann, killed August 6, 1753, a little more than a year after Dr. Franklin's famous experiment with the kite.

Another is that at Vic-sur-Aisne, France, in 1838, when three soldiers sought refuge under a tree. Peasants, passing by after the storm, saw them still standing under the tree, apparently unharmed, but motionless. The peasants, approaching and touching the soldiers to evoke some sort of response, saw all three suddenly crumble to fine ashes.



Shower of Beetles

WIND CHILL TABLE

In 1958 the Army issued a Wind Chill Table, which, as a warning against seasonal weather dangers, has been in wide use ever since; viz., Tech. Bull. MED-81. This table reveals how, for example, in a 35-mile-per-hour wind, even with the temperature at 39° Fahrenheit, the cold effect on nose, face, ears, and exposed hands is the equivalent of a windless Arctic 38 below zero. Again, at a temperature of 51° in a 45-mile-per-hour wind exposed parts of the body will be experiencing the equivalent of a quiet 27 below. With the wind blowing, it may be colder than you think.

LAST WINTER'S WEATHER

Continued from page 4

six-month-ahead forecasts for those who would send him ten dollars and the storm record in their localities for the same period of the previous year. After we went to press with this offer, he changed his mind and decided that, although he would make these forecasts, he would not accept the ten dollars. He did about a dozen for various parts of the country. In Riverside, California (the only one heard from to date), he was phenomenally successful. This year, for these special forecasts, Abe asks only the prior year's record of precipitation for the period desired, a report on how his forecast did, but no money.

Once again, we wish to thank George G. Hyland and his foremen of the Massachusetts Turnpike Authority for valuable records—and encouragement.

WEATHER FORECAST 1963-4

Continued from page 5

Apr. (1964): 46°—.3° above normal, 2.7° above ave. Prec. 4" (which is normal)—.79" above ave. Snows 2", or 1.7" below ave.
1–2, fine, warm; 3–5, big storm, rain (1"), snow (2"); 6–10, windy and unsettled; 11–13, fogs; 14–18, nice days; 19–21, rains (1.5"); 22–25, fine; 26–30, serious storm (1.5" rain).

May (1964): 59°—2.3° above normal, 4.9° above ave. Prec. 5.0" —1.42" above normal, 1.92" above ave.
1–2, unsettled, warm; 3–5, fine; 6–10, rains (1.5"); 11–12, thunderstorms (1" rain); 13, nice day; 14–19, cool with showers (1" rain); 20–22, unsettled, warm; 23–25, storm of rain (1.5"); 26–31, warm, windy and changeable.

June (1964): 69°—4.9° above normal, 6° above ave. Prec. 4"—.25" above normal, 1.11" above ave.
1–5, rains (1"); 6–7, clear; 8–13, hard rain storm (1"); 14–19, clear except one good shower (1" prec.); 20–22, fine; 23, rain; 24–25, fine; 26–28, hot, showers (.5"); 29–30, rain (.5").

July (1964): 73°—2° above normal, 3.6° above ave. Prec. 3.5" —.23" above normal, .1" above ave.
1, hot; 2–4, rains (1"); 5–6, unsettled; 7–11, rains (1"); 12–16, clear but hot; 17–20, showers (.5"); 21–22, fine; 23–26, frequent showers (.5"); 27, fine; 28–31, stormy (.5").

Aug. (1964): 70°—.6° above normal, 2.5° above ave. Prec. 3"—1.05" below normal, .62" below ave.
1–5, rain (1"); 6–9, fine; 10–12, rain (.25"); 13–22, fine; 23–25, rains (.5"); 26–29, cooler; 30–31, rains (.25").

Sept. (1964): 64°—1.6° above normal, 3° above ave. Prec. 2.5" (drouth now apparent)—1.45" below normal, .64" below ave.
1–4, fine, cool; 5–7, rains (.75"); 8–11, unsettled; 12–13, clear; 14–16, rains (.75"); 17–21, nice; 22–26 (if a hurr. in '64, this is it), rains 1"; 27–30, cool and fine.

Oct. (1964): 54°—1.3° above normal, 3.2° above ave. Prec. 3.0" —.75" below normal, .15" below ave.
1–4, rains (.5"); 5–11, fine; 12–14, rains (.5"); 15–19, clears to fine; 20–24, rains (1"); 25–28, fine, cool; 29–31, rains (1").

Nov. (1964): 43°—1° above normal, 3° above ave. Prec. 2"—2.53" below normal, 1.33" below ave.
1–2, nice; 3–6, storm of rain (.5"); 7–10, cooler, lowery; 11–16, rains (1") from northeast; 17–20, overcast; 21–24, nice; 25–28, rain, sleet, snow (.5"); 29–30, unsettled.

Dec. (1964): 32°—2° above normal, 2° above ave. Prec. 3"—.96" below normal, .46" below ave.
1–2, rains (.5"); 3–7, clear, then cloudy; 8–12, severe storm, rains 1"; 13–17, nice for season; 18–21, not nice for season; 22–24, rain or snow (1"); 25–27, mild, overcast; 28–31, snow flurries.

CHEMICAL WEATHER

Road supervisors and agents are now thinking in more terms of plowing, sanding, blowing, and shovelling. With more and more automobile traffic — and workers dependent upon such transportation — the road crews are expected to furnish almost immediate relief from glaze, sleet, snow, etc. This they do through the use of salt and other chemicals. Thus, a new weather term is born — "chemical storm" — meaning the kind which requires the use of chemicals on road surfaces.

MEETING EMERGENCIES

Continued from page 56

shelf life," the aim of the food technologists, can thus be attained in Nature's own fashion.

The versatile soybean has many uses, but it needs an introduction to many homemakers. Soygrits can be sprinkled in soup, just before serving time, and add nutlike texture as well as complete protein from a vegetable source. Toasted soybeans are easy to prepare and welcome as a snack or garnish. Soak soybeans overnight in water. Drain and spread them in a shallow pan. Dry them several hours in an oven with low heat, then gently roast them under the broiler until golden brown. They store well and are good nibbles.

Whole dried beans and peas are usually stocked in pantries for use in soups or baked casseroles. Their value can be greatly increased by sprouting them. Choose edible whole beans, peas or seeds (**not** those prepared for planting since they may be treated with poison). Mung beans, familiar as Chinese bean sprouts, or alfalfa and fenugreek seeds, are especially good. Soak a tablespoon of the dried beans or seeds in a glass jar overnight. Drain and rinse. Cover the top of the jar with cheesecloth held securely with a rubberband. Allow the jar to stand inverted in a dish-drying rack. Daily, rinse and invert. Within three to four days the sprouts will be large enough to eat. Add the contents of the jar to a tossed salad, use your favorite dressing, and be prepared for compliments. Sprouts are equivalent to a crisp vegetable freshly picked from a garden. Regardless of where you live, your pantry can give you the pleasure of eating this fresh produce year round.

Hardtack can be made from any freshly ground whole grain flour, moistened and kneaded with water, milk, cream or yoghurt, and rolled to cracker thinness. Thoroughly baked and dried in a slow oven, these emergency crackers are always welcome.

A can of Tahini, which is sesame butter, makes a fine emergency substitute for butter. Tahini is tasty over vegetables, on bread, or mixed with honey and used as a tempting spread. With present interest in oils, many will enjoy Tahini which is high in unsaturates.

BLUE BEARD

Continued from page 65

He no sooner saw the blood on the key of the chamber than he roared out in a voice like thunder, "Ah! wretch, I see what you have been at; you have seen my former wives, who have forfeited their lives by their curiosity, and you shall now go and lay among them."

So saying he seized her by the hair of her head: when, falling on her knees, she besought him to spare her life. When she found he was determined to kill her, she begged him to grant her a little time to say her prayers.

Getting up into her chamber she called for her sister, and asked her if she saw anything. No, dear sister, said Irene. Are you most done? said Blue Beard; yes, cried Fatima. Are you not a coming? said Blue Beard, in a surlier voice than before; yes directly, said Fatima. I see, cried Irene, a number of horsemen riding full speed towards the Castle: wave your handkerchief, dear sister, that they may make more haste, or I fear it will be all over with me.

At this instant entered Blue Beard, and seizing her hair, began dragging her towards the Blue Chamber, while her shrieks were enough to pierce the heart of stone.

Selim (who had forced his way into the Castle), following the cries of Fatima, rushed into the room, with his sword in his hand. Villain, said Blue Beard, drawing his seymater, what dost thou here? Tyrant, cried Selim, to punish such a monster as thou art. — They said no more, but at it they went. At length Selim prevailed; for running Blue Beard through the body, he laid him breathless on the floor.

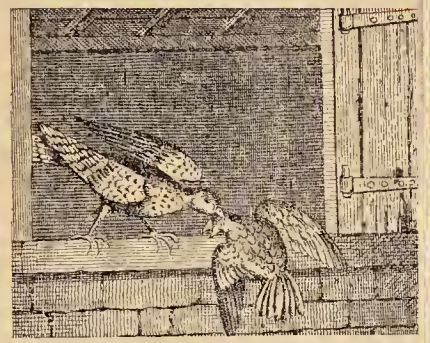
He now went to Fatima, who was fainting, and taking her in his arms, carried her to the window, to give her air.

Selim took possession of the Castle, gave the slaves their liberty, and married Fatima. Selim's brother fell in love with and married Irene, and they all four lived together happily.

THE TRIAL AND EXECUTION OF THE SPARROW FOR KILLING COCK ROBIN.

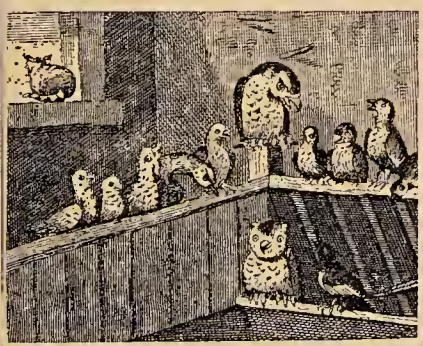
(Reprinted from a 1750 pamphlet of the same title by W. Daxton. For Cock Robin's Death and Burial, see the OFA for 1963.)

1. They laid COCK ROBIN in
his grave,
And after that they sung a stave,
And then they sent to fetch the
sparrow
Who kill'd him with the bow and
arrow.
Says JUSTICE HAWK
I do assure ye,
We'll try the rogue,
By Judge and Jury.

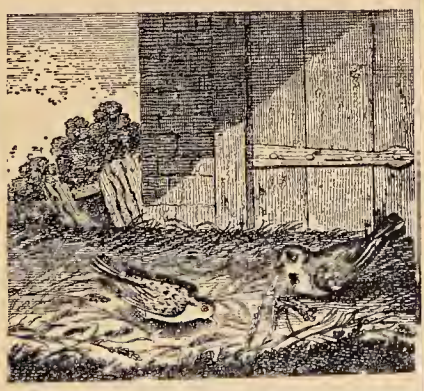


3. The CUCKOO came in
And began for to hollow
As he dragg'd the poor Sparrow,
In fast by the collar;

When I found him, my Lord,
He was robbing a barn;
He must live by thieving,
Since nothing he'll earn.

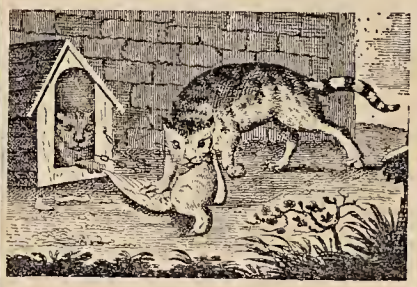


2. The JUDGE and JURY being
met,
And plac'd in order down they
set,
Or else they stood upon their feet,
Because I think they'd ne'er a
seat.
Says the Judge to the Jury,
I'd have you take care,
When a bird's life's at stake,
Its a serious affair.



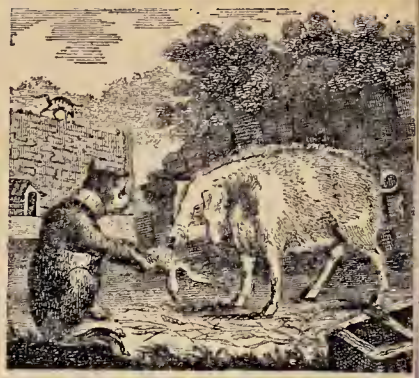
4. Says the SPARROW its false,
Both me and my wife,
Are as honest as ever
You was in your life.
A few grains of wheat
Lay at the barn door,
We pick'd them all up,
And did nothing more.

5. Says MAG that has nothing
To do with the matter,
I saw when you shot,
And began for to chatter.
I call'd DOCTOR PUSS
To examine the wound,
He knows what he saw,
And he'll tell, I'll be bound.



6. Says PUSS I'm a doctor,
So mind what I say,
I happen'd to pass on
The very same day.
I saw the poor Robin,
The Sparrow had shot,
He was quite dead and Cold,
So was not very hot.

7. Says the DOG I ran out
From my kennel adjacent,
Or I believe Doctor Puss
Would have eaten his patient.
However Cock Robin,
Was dead, I believe,
And that is the reason
That all of you grieve.

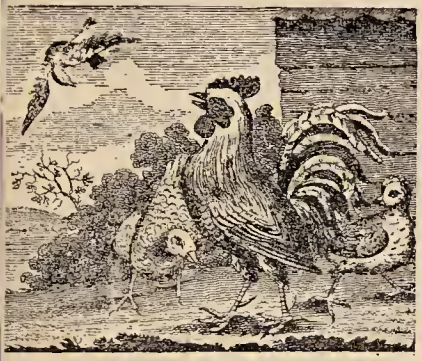


8. Says the PIG I was hastily
call'd from my stye,
But just too late to see poor
Robin die;
I was ask'd by the Dog if I
thought he was dead,
Ah! both dead and cold was the
answer I made.

9. Says the ASS I was
Coroner in this affair,
We found Robin wounded,
But could not tell where.
We put on our spectacles,
Those who had got 'em,
And found that his wound
Lay just in his bottom.

10. Says the SWAN I was driving
Along with the stream,
Between sleep and awake,
In a sort of a dream.
I saw the sharp arrow
Fly from the bow;
I'm sure that I saw it,
Or else I dream't so.

11. Says the DRAKE I was swimming
Along with my Duck,
The Sparrow sat on a tree
Just by the brook.
He took up his arrow,
And likewise his bow,
And he shot, I believe,
But I'm sure I don't know.



12. Says the COCK I was standing,
And thinking no harm,
When I saw Robin fall,
I gave the alarm.
I gave the alarm
With such a loud crow,
If he'd been but asleep,
I'd have wak'd him I know.

13. The TURKEY was suddenly rous'd by a noise,
Which he knew to be Mr. Chanticlear's voice;
When the Bat he beheld in pursuit of the Sparrow,
But never saw either his bow or his arrow.

14. Says the BAT I was constable,
Sir, of the night,
Though my candle was out,
I've a pretty good sight.
I pursu'd the murderer
To the barn door,
He was took by the Cuckoo,
I know nothing more.

15. Says the APE I saw the Sparrow take flight
The Cock gave the alarm and my beast he took fright,
And good reason I have to remember it well,
For upon the hard ground on my bottom I fell!

16. Says JUDGE HAWKE you are
Such a murdering elf,
I think I shall kill you,
And eat you myself.
So he eat up the sparrow,
The rest got away,
They thought it not safe
Near such Justice to stay.

THE MOON, OCTOBER 7, 1836

Considerable controversy is to be found over the years as to just what the moon's surface is like. As we go to press, two NASA scientists are saying this surface is from four inches to three feet of dust. Others believe the surface to be a porous cobweb-like structure which will crumble under foot like a fairy castle.

The drawings herewith, taken from L'Aeronautica Italiana Nell'

SPOON ON THE MOON

Immagine, 1487–1875, would, however, seem to belie any such dust or cobweb theories. The scenes depicted obviously are those made at the time of the First General Assembly on the Moon of the International Union of Geodesy and Geophysics, October 7, 1836. Some of the delegates may be seen (opposite page) viewing nearby planets. Others (far left) are enjoying the Fall quail season. Still others, possibly sufferers from height, seem to have found way(s) to overcome that.

You will note that some of the v.i.p.'s attended in their own private craft which were left moored on either side of the ascent and descent basket used by most of the members. Sets of wings were furnished free of charge, evidently, to convention members (see above). But one member (there always is one) apparently put these to use for not exactly scientific purposes, got caught by a moon photographer, and thereby gave credence to the slogan "Come Spoon on the Moon" used by various moon chambers of commerce ever since.

Below are seen more normal convention activities of that day and year; viz. crap-shooting, baseball, and playing Mama and Papa Bear. Delegates were housed in the Tower Motel just to the rear of the ball field.

Postal Laws

Corrected as of April 26, 1963.

First Class Matter may be forwarded from one Postoffice to another without additional postage but other matter must have new postage.

LETTERS AND POSTAL CARDS. — FIRST CLASS.

Letters and Written and Sealed Matter, 5 cents for each ounce, local and non-local except that drop letters are subject to 4 cents for each ounce when deposited for local delivery at offices not having letter-carrier service, provided they are not collected or delivered by rural or star-route carriers.

Postcards and Private Mailing Cards (max. 3⅛" by 5⅛"; min. 3" x 4 ¼")..... .04

Government Postal Cards, each..... .04

Stamped 5 cent Envelopes No. 10—$28.20, 500—$56.40, 1000.

Business Reply Cards 6 cents, Business Reply I oz. letters 7 cents.

NEWSPAPERS AND PERIODICALS. — SECOND CLASS.

Entire Newspapers or Magazines containing notice of second class entry when mailed by public unsealed, 4 cents for 1st two ounces, 1 cent each added 1 oz. Fourth Class Rate applies when it is lower than Second Class.

MERCHANDISE AND MISCELLANEOUS. — THIRD CLASS.

(Limit of weight up to but not including 16 ounces)

Merchandise, incomplete copies of newspapers, printed and other mailable matter unsealed, 4 cents for first two ounces, 2 cents each add'l ounce-limit 16.

Identical pieces of third-class matter may be mailed under permit in bulk lots of not less than either 50 pounds or 200 pieces, at the rate of 18 cents a pound, or fraction thereof. In case of circulars, miscellaneous printed matter, and merchandise, 12 cents a pound, or fraction thereof, in the case of books or catalogs having 24 pages or more, seeds, plants, etc., with a minimum charge of 2½ (2¾c after 1/1/64) cents a piece in either case. Apply to postmaster for permit. The bulk mailing fee is $30 per calendar year.

Books, catalogs mailed in packages (must be of 24 or more pages and substantially bound, with at least 22 pages printed, seeds, cuttings, bulbs, roots. sclons and plants, 2 ounces or fraction 4 cents, each added ounce 2 cents.)

Circulars and other miscellaneous printed matter, also merchandise, 4 cents for the first 2 ounces and 2 cents for each additional oz.

PARCEL POST. — FOURTH CLASS.

(10 oz. or over, incl. books, ptd. matter, except 1st class and second class papers mailed by publishers)

Catalogs and Similar Printed Advertising Matter, in bound form having 24 or more pages, weighing 16 ounces but not exceeding 10 pounds.

ZONES, Wgt. 1 lb.	Local	1st & 2nd	3rd	4th	5th	6th	7th	8th
And not over 1.5 lbs.	14c	16c	18c	20c	22c	24c	26c	28c
And not over 10 lbs.	28c	41c	47c	55c	65c	78c	92c	1.08

Exception: 1st or 2nd zone, where shortest regular mail route is 300 miles or more, third zone rate applies.

Books: 9 ½ (10c after 1/1/64) cents for the first pound or fraction thereof and 5 cents for each additional pound or fraction thereof—24 or more pages permanently bound, not to exceed 70 pounds in weight. Also includes sound recordings. Also incl. when marked "Educational Materials"; ptd. music, 16 mm. films and catalogs (Exc. to commercial theatres), objective test material, sound recordings and mss. for books. periodical articles and music. (Do not seal.)

Library Books: 4 cents for the first pound or fraction thereof and 1 cent for each additional pound or fraction thereof—limit of weight 70 pounds—when sent by public libraries, organizations, or associations not organized for profit.

Weight Limits: 70 lbs. and 100 inches combined length and girth—except between 1st Class postoffices (Postmaster has list) where limits are: In zones 1 and 2, 40 lbs. with 72 inch combined length and girth, other zones 20 lbs. and 72 inch combined length and girth. Parcels over 84 but under 100 inches combined length and girth charged as 10 pounds.

Wt. 1 lb. but not over	LOCAL	1-2 Up to 150 miles	3 150 to 300 miles	4 300 to 600 miles	5 600 to 1000 miles	6 1000 to 1400 miles	7 1400 to 1800 miles	8 Over 1800 miles
2	$0.24	$0.33	$0.35	$0.39	$0.45	$0.51	$0.58	$0.64
3	.26	.38	.41	.47	.55	.64	.74	.83
4	.28	.43	.47	.55	.65	.77	.90	1.02
5	.30	.48	.53	.63	.75	.90	1.06	1.21
6	.32	.53	.59	.70	.85	1.03	1.22	1.40
7	.34	.58	.65	.77	.95	1.16	1.38	1.59
8	.36	.63	.71	.84	1.05	1.29	1.54	1.78
9	.38	.68	.77	.91	1.15	1.42	1.70	1.97
10	.40	.73	.83	.98	1.25	1.55	1.86	2.16
11	.42	.77	.89	1.05	1.35	1.67	2.02	2.34
12	.44	.81	.95	1.12	1.45	1.79	2.18	2.52
13	.46	.85	1.01	1.19	1.55	1.91	2.34	2.70
14	.48	.89	1.07	1.26	1.65	2.03	2.50	2.88
15	.50	.93	1.13	1.33	1.75	2.15	2.66	3.06
16	.52	.97	1.18	1.40	1.85	2.27	2.81	3.24
17	.54	1.01	1.23	1.47	1.95	2.39	2.96	3.42
18	.56	1.05	1.28	1.54	2.05	2.51	3.11	3.60
19	.58	1.09	1.33	1.61	2.15	2.63	3.26	3.78
20	.60	1.13	1.38	1.68	2.25	2.75	3.41	3.96
51	1.22	2.37	2.93	3.84	5.03	6.26	7.84	9.22

SPECIAL CLASSES. — DOMESTIC MAIL.

Special Delivery: First Class Mail: Each piece under 2 lbs.—30c, over 2 up to 10—45c, over 10 lbs.—60c. Same for air, incl. air p.p.
Parcel Post: Up to 2 lbs.—55c; over 2 up to 10—65c; over 10 lbs.—80c.

Special Handling: Parcel Post only: Up to 2 lbs.—25c; over 2 lbs. up to 10—35c, over 10 lbs.—50c.
(This service expedites mail but does not include special delivery.)

Registered Mail: Up to $10.00 indemnity—60c; over $10.00 up to $100.00—75c; over $100.00 up to $200.00—$1.00; over $200.00 up to $400.00—$1.25; over $800.00 up to $1000.00—$2.00. There aro special surcharges when declared values exceed indemnities —see local Postmaster about these.

Insured Mail: Third and Fourth Class Only: Indemnity up to $10.00—10c; over $10.00 up to $50.00—20c; over $50.00 up to $100.00—30c; over $100.00 up to $200.00 —40c.

C.O.D.: Indemnities up to $5.00, Registered 80c; Not reg. 30c, over $5.00 up to $10.00—Registered 80c, Non Reg. 40c; over $10.00 up to $25.00—Reg. $1.10, Non Reg. 60c; over $25.00 up to $50.00—Reg. $1.10, Non Reg. 70c; over $50.00 up to $100.00—Reg. $1.20, Non Reg. 80c. (These rates may have changed—query Postmaster.)

Money Orders: Limit for each is One Hundred Dollars. If amount of money order is from 1c to $5.00 the fee is 20c, from $5.01 to $10.00 the fee is 30c, from $10.01 to $100.00 the fee is 35c.

Certified Mail: First class only having no value, add 20c to postage plus (a) 10c for ret. receipt showing to whom and when del'd; (b) 35c for whom, when, and address where del'd. Inquiry fee 25c. Obtain blank coupons from Postmaster.

POSTAL RATES: International

SURFACE RATES

Letters: To Canada and Mexico ,5c per oz., to all other countries, 11c for the first oz. and 7c each additional oz.

Postcards: To Canada and Mexico, 4c each; 8c reply-paid. To all other countries, 7c each, 14c reply-paid. Maximum size 6 x 4 ¼ inches, minimum size 4 ¼ x 3 inches.

Printed Matter: In general, to Canada and Mexico, 4c first 2 oz. 2c each additional oz.; all other, 5c first 2 oz. 3c each additional 2 oz. Books and sheet music, to countries of the Postal Union of the Americas and Spain, exc. Spain and Spanish possessions, 2c first 2 oz.; 1c each additional 2 oz.; all other (inc. Spain and poss.) 3c first 2 oz.; 1 ½c each additional 2 oz. Publishers' second class, P.U.A.S. countries, 2c first 2 oz., 1c each additional 2 oz., all other, 3c first 2 oz.; 1 ½c each additional 2 oz.

Commercial Papers: To all countries, 5c first 2 oz.; 3c each additional 2 oz. Minimum charge 12c.

Samples of Merchandise: To Canada and Mexico, 4c first 2 oz.; 2c each additional oz. Minimum charge 10c. All other, 5c first 2 oz.; 3c each additional 2 oz. Minimum charge 12c.

Matter for the Blind: All countries, domestic rates apply with certain exceptions.

Small Packets: All countries, 5c each 2 oz. Minimum charge, 25c.

8-oz. Merchandise Packages: To Canada, 4c first 2 oz.; 2c each additional oz. Minimum charge, 10c. All other, 25c each (flat rate).

Registration, Insurance, Return Receipts: For detailed information concerning these services, consult your local Postmaster.

SURFACE PARCEL POST RATES

Zone **1:** N. America, C America, Caribbean Is. — 80c first 2 lbs., 30c each additional lb.

Zone **2:** All other countries — 90c first 2 lbs.; 35c each additional lb.

AIR MAIL RATES

Three-zone rate structure as follows: *Zone A:* N. America, C. America, Caribbean Is.; *Zone B:* S. America, Europe (exc. USSR), Mediterranean Africa; *Zone C;* USSR, Asia, the Pacific, Africa other than Mediterrancan.

Air Mail Letters: Canada and Mexico, 8c per oz.; *Zone A*, 13c per half oz.; *Zone B*, 15c per half oz.; *Zone C*, 25c per half oz.

"Other Articles": Canada, 8c per oz.; *Zone A*, 30c first 2 oz.; 10c each additional 2 oz.; *Zone B*, 40c first 2 oz.; 20c each additional 2 oz.; *Zone C*, 50c first 2 oz.; 30c each additional 2 oz.

Post Cards and Aerogrammes (air letter sheets): Cards, Canada and Mexico, 6c each (single). All other, 11c each (single). Letter sheets, 11c each.

Air Parcel Post: For detailed information, consult your local Postmaster.

WEATHER TABLE,

For foretelling the Weather through all the lunations of each year, forever.

This table, and the accompanying remarks, are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the sun and moon, in their several positions respecting the earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the moon into any of its quarters, and that so near the truth as to be seldom or never found to fail.

This weather table will answer very well for anywhere in the United States. It is taken from the 1849 issue of The Old Farmer's Almanac and was widely used before the advent of the Weather Bureau.

The weather forecast as given on page 5 and on the right hand pages of the Farm Calendars, 11 through 33 is strictly for Boston and East of the Hudson River. These forecasts contain elements which rise in the proximity of this region to the sea and to the paths of tropical storms. The application of these forecasts to middle western, western, and southern regions will not bring any reasonable degree of accuracy. However, for a rough rule of thumb if you insist on using the forecast on pages 5, 11–33, you may subtract one day for each time zone West of the Hudson to compensate for the Easterly path of continental storms. For every hundred miles north or south of 42 degrees latitude, add a five degree temperature (colder if north, warmer if south) differential and for every 1000 feet above sea level consider your locality as 3.3 degrees cooler than the weather as given.

WEATHER TABLE FOR ANYWHERE

Moon	Time of Change	In Summer	In Winter
If the new moon, 1st quarter, full moon, or last quarter happens.	From Midnight to 2 A.M.	Fair	Hard frost, unless wind be S. or W.
	From 2 A.M. to 4 A.M.	Cold, with frequent showers	Snow and stormy
	From 4 A.M. to 6 A.M.	Rain	Rain
	From 6 A.M. to 8 A.M.	Wind and Rain	Stormy
	From 8 A.M. to 10 A.M.	Changeable	Cold Rain if wind be W.; Snow if E.
	From 10 A.M. to Noon	Frequent Showers	Cold & high wind.
	From Noon to 2 P.M.	Very rainy	Snow or rain.
	From 2 P.M. to 4 P.M.	Changeable	Fair & mild.
	From 4 P.M. to 6 P.M.	Fair	Fair.
	From 6 P.M. to 8 P.M.	Fair — if wind N.W. Rain — if S. or S.W.	Fair & frosty if wind N. or N.E.: Rain or snow if wind S. or S.W.
	From 8 P.M. to 10 P.M.	Same as from 6 P.M. to 8 P.M.	
	From 10 P.M. to Midnight	Fair	Fair & frosty.

Observations. — 1. The nearer the moon's changes, first quarter, full, and last quarter are to *midnight*, the fairer will it be during the next seven days.

2. The space for this calculation occupies from ten at night till two next morning.

3. The nearer to *midday*, or *noon*, the phases of the moon happen, the more foul or wet weather may be expected during the next seven days.

4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to the summer, though they affect spring and autumn nearly in the same ratio.

5. The moon's change, first quarter, full and last quarter, happening during six of the afternoon hours, i.e., from four to ten, may be followed by fair weather; but this is mostly dependent on the *wind*, as is noted in the table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter, and the beginning of spring, yet, in the main, the above observations will apply to those periods also.

7. To prognosticate correctly, especially in those cases where the *wind* is concerned, the observer should be within sight of a good *vane*, where the four cardinal points of the heavens are correctly placed.

The above table was originally formed by Dr. Herschell, and is now published with some alterations founded on the experience of Dr. Adam Clarke.

TO THE WEATHER-WISE

M. Toalda of Padua (circa 1720) asserted that the weather changes most often (85.8% of the time) when the new moon comes in; 83.4% with the full, and 66.7% with the other two phase changes. Recent studies by scientists with the U.S.W.B. and N.Y.U. show heaviest rainfall comes 3 to 5 days after the new and the full moons.

USE THIS ALMANAC ANYWHERE IN THE U.S.A.

The times given on the left hand calendar pages (10 to 32) are calculated (every astronomer must have some starting place) exactly for the latitude (42 deg. 22 min. north) and longitude of Boston and in EASTERN STANDARD TIME which is the time of the 75th meridian West of Greenwich, England.

To overcome the difficulties of presenting one almanac which shall be useful not only for the spot where the astronomer is standing but also for other places, we present herewith a copyrighted system of our own whereby the times as given may be corrected for wherever you happen to live.

Opposite the times given on the left hand calendar pages (10–32) for each day in the year for the Rising and Setting of the Sun, Moon and Planets you will find a capitalized key letter of the alphabet. Having the key letter for the day in question, turn to page 84 where you will find columns for each of these key letters. For your specific city, then turn to page 85 and determine the two code symbols on that page [(1)-(17)] and [a-j] as well as the constant which applies to your city. Then turn to page 84 and read in the proper key letter column opposite the two code symbols the two correction figures in minutes which apply. The total correction for your city will be these two correction figures, plus the constant figure already obtained on page 85.

For example, the code symbols for Pittsburgh are (5) and "e" and the constant is +36. The permanent values of the corrections are found as follows:

From p. 84–5	A m	B m	C m	D m	E m	F m	G m	H m	I m	J m	K m	L m	M m	N m	O m	P m	Q m
Line (5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Line "e"	+10	+ 9	+ 7	+ 6	+ 5	+ 3	+ 2	+ 1	0	− 1	− 2	− 4	− 5	− 7	− 8	−10	−11
Constant	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36	+36
Correction	+46	+46	+43	+42	+41	+39	+38	+37	+36	+35	+34	+32	+31	+29	+28	+26	+25

For cities listed on page 85, interpolate between those two nearest in latitude, respectively North and South of the desired city. No inquiries will be answered unless accompanied by postage paid return envelope.

HOW TIMES ARE CONVERTED FOR YOUR TOWN

Sunrise and Sunset. The times of sunrise and sunset at Boston on April 10 are read directly from columns 4 and 6 on page 16. The key letters adjacent to these times, in columns 5 and 7, are indices to the table on pages 84–5 whereby the times of sunrise and sunset at Boston are converted into those for other key cities, to wit:—

BOSTON		PITTSBURGH, PA.	
Sunrise	5.11 A.M., E.S.T.	Sunrise (Boston)	5.11 A.M., E.S.T.
Key Letter	G	Correction (Column G, page 84–5)	+:38
		Sunrise (Pittsburgh)	5.49 A.M., E.S.T.
Sunset	6.21 P.M., E.S.T.	Sunset (Boston)	6.21 P.M., E.S.T.
Key Letter	K	Correction (Column K, page 84–5)	+:34
		Sunset (Pittsburgh)	6.55 P.M., E.S.T.

Sun Fast. The column headed "Sun Fast" is of primary use to sundial enthusiasts. The figures therein tell how fast on each day the time indicated by a *properly adjusted and graduated* sundial will be of the time indicated by a clock. On April 10 sun time in Boston will be 15 minutes Fast of Eastern Standard Time. The time indicated by a sundial located elsewhere than in Boston is converted to clock time by applying two corrections, the "Sun Fast" correction for Boston and that for the city (using that city's two code symbols) — page 85 — under capitalized key letter I, page 84.

Length of Day. The figures in the column headed "Length of Day" give directly the length of time the Sun will be above the horizon at Boston. The length of day in other localities is found by subtracting the time of sunrise from that of sunset for each locality. (See *Sunrise and Sunset* above.)

BOSTON		PITTSBURGH, PA.	
Length of day (From calendar page 16, April 10.)	13h 10m	Sunset (Pittsburgh)	6.55 P.M.
		Sunrise (Pittsburgh)	5.51 A.M.
		Length of Day	13h 04 m

Moonrise and Moonset. The procedure for finding the times of moonrise and moonset follows that for finding those of sunrise and sunset except that the constant additional correction shown below must be applied.

Full	BOSTON		PITTSBURGH, PA.	
Moonrise	4.37 A.M., E.S.T.		Moonrise (Boston)	4.37 A.M.
Key Letter	K		Correction (Column K)	+:34
April 10			Correction below	+:01
Page 16				
Moonset	4.12 P.M., E.S.T.		Moonrise (Pittsburgh)	5.12 A.M., E.S.T.
Key Letter	H			
			Moonset (Pittsburgh)	4.50 P.M., E.S.T.

Longitude:	58°–77°	77°–90°	90°–103°	103°–116°	116°–128°	128°–142°	142°–155°
	m	m	m	m	m	m	m
☽	0	+1	+2	+3	+4	+5	+6

The other information concerning the Moon contained on the left hand Almanac pages applies without correction throughout the United States.

Moon Souths. It will be noted that this year this Almanac again has omitted the usual "Moon Souths" column in favor of including full continuous columns (pages (10–32) on both "Moonrise" and "Moonset". The "Moon Souths" column seemed to serve but little purpose except that of an astrological nature; to wit, at what time the moon is in the astrological sign indicated in the next to last column pages 10–32. On the other hand, the extra moonrise and moonset information would seem to be in some demand—especially among fishermen.

Risings and Settings of the Planets. The times of the rising and setting of the naked eye Planets with the exception of Mercury are given for Boston in the table on page 34. The procedure for converting these times to those of other localities follows that for converting the times of sunrise and sunset given on page 81.

Dawn and Dark. The approximate times dawn will break and dark descend are found by applying the length of twilight taken from the table below to the times of sunrise and sunset given on the calendar pages. The latitude of the locality determines the column of the table from which the length of twilight is to be selected.

BOSTON (Latitude 42° 22′ N.)		April 10	PITTSBURGH, PA. (Latitude 40° 26′ N.)	
Sunrise	5.11 A.M.		Sunrise (see pg 81)	5.49 A.M.
Subtract length of twilight (Column 3 of table)	1.33		Subtract length of twilight (Column 3 of table)	1.33
Dawn breaks	3.38 A.M., E.S.T.		Dawn breaks	4.16 A.M., E.S.T.
Sunset	6.21 P.M.		Sunset (see pg 81)	6.55 P.M.
Add length of twilight	1.33		Add length of twilight	1.33
Dark descends	7.54 P.M., E.S.T.		Dark descends	8.28 P.M., E.S.T.

LENGTH OF TWILIGHT

Subtract from time of sunrise for dawn.
Add to time of sunset for dark.

Latitude	25°N to 30°N	31°N to 36°N	37°N to 42°N	43°N to 47°N	48°N to 49°N
	h m	h m	h m	h m	h m
Jan. 1 to Apr. 11	1 20	1 26	1 33	1 42	1 50
Apr. 11 to May 3	1 23	1 28	1 39	1 51	2 04
May 3 to May 15	1 26	1 34	1 47	2 02	2 22
May 15 to May 26	1 29	1 38	1 52	2 13	2 42
May 26 to July 23	1 32	1 43	1 59	2 27	—
July 23 to Aug. 4	1 29	1 38	1 52	2 13	2 42
Aug. 4 to Aug. 15	1 26	1 34	1 47	2 02	2 22
Aug. 15 to Sept. 6	1 23	1 28	1 39	1 51	2 04
Sept. 6 to Dec. 31	1 20	1 26	1 33	1 42	1 50

TIDE CORRECTIONS

To obtain the time and height of high water at any place, apply the differences below as they appear on pages 10–33 to the daily predictions for Boston (Commonwealth Pier). Where a value in the "height difference" column is preceded by an *, height at Boston should be multiplied by this ratio. The daily *times* of high tide at Boston are in the "Full Sea" column, pages 10–32. Daily heights are on pages 11–33.

	Time Difference h.m.	*Height Difference Ft.*
MAINE		
Augusta	+3 50	*0.4
Bangor	−0 05	+3.6
Bar Harbor	−0 33	+1.1
Boothbay Harbor	−0 20	−0.8
Eastport	−0 28	*1.9
Old Orchard	−0 10	−0.7
Portland	−0 10	−0.6
Stonington	−0 30	+0.2
NEW HAMPSHIRE		
Hampton	+0 15	−1.2
MASSACHUSETTS		
Fall River	−3 16	*0.5
Falmouth	−0 40	*1.1
Hyannisport	+0 45	*0.3
Lynn	+0 05	−0.2
Marblehead	−0 05	−0.3
Marion	−3 16	*0.4
Monument Beach	−3 06	*0.4
Nantasket	+0 10	+0.1
Nantucket	+0 50	*0.3
New Bedford	−3 21	*0.4
Oak Bluffs	+0 05	*0.2
Onset	−3 06	*0.5
Plymouth	0 00	+0.1
Provincetown	+0 15	−0.3
Scituate	−0 05	−0.5
Wellfleet	+0 20	+0.6
Woods Hole	−3 01	*0.2
RHODE ISLAND		
Block Island	−3 21	*0.3
Narragansett Pier	−3 31	*0.4
Newport	−3 31	*0.4
Providence	−3 11	*0.5
Watch Hill	−2 06	*0.3
CONNECTICUT		
Long Island Sound	−0 02	*0.7
New London	−1 47	*0.3
NEW YORK		
Coney Island	−3 00	*0.5
Long Beach	−3 57	*0.5
Long Island Sound	+0 08	*0.7
New York City	−2 50	*0.5
Ocean Beach	−3 57	*0.4
Southampton	−3 22	*0.3
NEW JERSEY		
Atlantic City	−3 57	*0.5
Bayside	−0 24	*0.6
Cape May	−3 37	*0.5
Ocean City	−3 17	*0.4
Seabright to Seaside Park	−3 44	*0.5
PENNSYLVANIA		
Philadelphia	+2 29	*0.5
DELAWARE		
Rehoboth	−3 37	*0.4
MARYLAND		
Baltimore	−4 25	*0.1
Ocean City	−3 57	*0.4
DISTRICT OF COLUMBIA		
Washington	−3 08	*0.3
VIRGINIA		
Norfolk	−1 54	*0.3
Virginia Beach	−3 14	*0.3
NORTH CAROLINA		
Beaufort	−2 59	*0.3
Carolina Beach	−3 30	*0.4
SOUTH CAROLINA		
Myrtle Beach	−3 45	*0.5
Charleston	−3 15	*0.5
GEORGIA		
St. Simon's Island	−2 51	*0.7
Savannah	−2 40	*0.8
Tybee Beach	−3 26	*0.8
FLORIDA		
Daytona	−3 20	*0.4
Fort Lauderdale	−2 15	*0.3
Jacksonville	−0 40	*0.1
Miami	−3 00	*0.3
Palm Beach	−3 20	*0.3
Port Everglades	−2 15	*0.3
St. Augustine	−2 20	*0.5
St. Petersburg	+3 58	*0.2
WASHINGTON		
Ilwaco	+1 44	−3.5
Port Townsend	+5 04	*0.5
Seattle	+5 37	−2.0
OREGON		
Astoria	+1 37	−3.3
Cape Arago	+1 19	−4.8
Yaquina Head	+1 12	−3.7
CALIFORNIA		
Catalina Island	−1 33	−5.9
Crescent City	+0 56	−5.0
Eureka	+1 20	−5.0
Long Beach	−1 37	−5.5
Monterey	−0 03	*0.4
Point Mendocino	+0 24	*0.4
San Diego	−1 35	−5.9
San Francisco	+0 59	*0.4
Santa Barbara	−1 19	−6.0
Santa Cruz	+0 08	*0.4

Example: The figures for Full Sea in Columns 10 and 11 of the left hand Almanac pages 10–32 are the times of high tide at Commonwealth Pier in Boston Harbor. The heights of these tides are given on the right hand pages 11–33. The heights are reckoned from Mean Low Water: each day has a set of figures—upper for the morning—and lower for the evening. The conversion of the times of the tides at Boston to those of Miami is given by way of illustration.

Example: Apr. 18. See page 16, column 11, for time; page 17 for height.

BOSTON		MIAMI	
High Tide (from page 16)	4.15 P.M.E.S.T.	High tide (Boston)	4.15 P.M.
April 18		Correction above	−3.00
		High tide (Miami)	1.15 P.M..E.S.T.
Height (from page 17)	9.0 feet	Height (Miami) (9.0 x 0.3)	2.7 feet

ALMANAC DATA — ALL POINTS IN U.S.A.

TABLE FOR FINDING TIMES OF SUNRISE, SUNSET, MOONRISE, MOONSET, AND RISING AND SETTING OF PLANETS TO WITHIN 5 MIN. ACCURACY ANYWHERE IN U. S. A.

(See explanation on page 81. Column key letters refer to pages 10-32, 34.)

Key Letter from pages 10–32, 34 Minutes	A m	B m	C m	D m	E m	F m	G m	H m	I m	J m	K m	L m	M m	N m	O m	P m	Q m
Code Symbols from page 85	For cities not listed Page 85, interpolate between nearest two in your time zone																
(1)	+ 78	+ 71	+ 62	+ 51	+ 41	+ 30	+ 20	+ 9	− 2	− 12	− 23	− 34	− 44	− 54	− 63	− 72	− 81
(2)	+ 59	+ 53	+ 46	+ 38	+ 30	+ 22	+ 15	+ 6	− 1	− 9	− 17	− 25	− 33	− 40	− 47	− 54	− 61
(3)	+ 39	+ 35	+ 31	+ 25	+ 20	+ 15	+ 10	+ 4	− 1	− 6	− 11	− 17	− 22	− 27	− 31	− 36	− 41
(4)	+ 20	+ 18	+ 15	+ 13	+ 10	+ 7	+ 5	+ 2	0	− 3	− 6	− 8	− 11	− 13	− 16	− 18	− 21
(5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(6)	− 20	− 18	− 15	− 12	− 10	− 7	− 4	− 2	0	+ 3	+ 6	+ 8	+ 11	+ 13	+ 16	+ 18	+ 21
(7)	− 41	− 36	− 30	− 25	− 19	− 14	− 9	− 4	+ 1	+ 6	+ 11	+ 16	+ 21	+ 26	+ 32	+ 37	+ 44
(8)	− 62	− 54	− 45	− 37	− 28	− 21	− 13	− 6	+ 1	+ 9	+ 16	+ 24	+ 32	+ 40	+ 47	+ 56	+ 67
(9)	− 84	− 73	− 61	− 48	− 37	− 27	− 17	− 7	+ 2	+ 11	+ 21	+ 31	+ 42	+ 52	+ 63	+ 76	+ 92
(10)	−108	− 92	− 76	− 60	− 46	− 33	− 21	− 9	+ 2	+ 14	+ 26	+ 38	+ 51	+ 65	+ 80	+ 97	+120
(11)	−134	−112	− 90	− 71	− 54	− 39	− 24	− 10	+ 2	+ 16	+ 30	+ 45	+ 61	+ 78	+ 96	+119	+151
(12)	−164	−132	−105	− 82	− 62	− 44	− 27	− 12	+ 3	+ 18	+ 35	+ 51	+ 70	+ 89	+112	+143	+184
(13)	−215	−155	−120	− 92	− 69	− 49	− 30	− 13	+ 3	+ 20	+ 39	+ 57	+ 78	+101	+129	+170	
(14)		−180	−134	−102	− 76	− 53	− 33	− 14	+ 4	+ 22	+ 42	+ 63	+ 86	+112	+145	+210	
(15)	No risings or settings	−214	−149	−111	− 81	− 57	− 36	− 15	+ 4	+ 24	+ 45	+ 68	+ 93	+123	+163	No risings or settings	No risings or settings
16)		No risings or settings	−162	−119	− 87	− 62	− 38	− 16	+ 4	+ 25	+ 48	+ 72	+100	+133	+181		
(17)			−175	−126	− 92	− 65	− 40	− 17	+ 5	+ 26	+ 51	+ 76	+106	+142	+200		
a	+ 2	+ 2	+ 2	+ 1	+ 1	+ 1	0	0	0	0	− 1	− 1	− 1	− 2	− 2	− 2	− 2
b	+ 4	+ 4	+ 3	+ 2	+ 2	+ 1	+ 1	0	0	− 1	− 1	− 2	− 2	− 3	− 3	− 4	− 4
c	+ 6	+ 5	+ 4	+ 4	+ 3	+ 2	+ 1	+ 1	0	− 1	− 1	− 2	− 3	− 4	− 5	− 6	− 7
d	+ 8	+ 7	+ 6	+ 5	+ 4	+ 2	+ 2	+ 1	0	− 1	− 2	− 3	− 4	− 5	− 6	− 8	− 9
e	+ 10	+ 9	+ 7	+ 6	+ 5	+ 3	+ 2	+ 1	0	− 1	− 2	− 4	− 5	− 7	− 8	− 10	− 11
f	+ 13	+ 11	+ 9	+ 7	+ 5	+ 4	+ 2	+ 1	0	− 2	− 3	− 5	− 6	− 8	− 10	− 11	− 13
g	+ 15	+ 13	+ 11	+ 8	+ 6	+ 4	+ 3	+ 1	0	− 2	− 3	− 6	− 7	− 9	− 11	− 13	− 15
h	+ 17	+ 14	+ 12	+ 10	+ 7	+ 5	+ 3	+ 2	0	− 2	− 4	− 6	− 8	− 10	− 13	− 15	− 18
i	+ 19	+ 16	+ 13	+ 11	+ 8	+ 5	+ 4	+ 2	0	− 3	− 4	− 7	− 9	− 12	− 14	− 17	− 20
j	+ 21	+ 18	+ 15	+ 12	+ 9	+ 6	+ 4	+ 2	0	− 3	− 5	− 8	− 10	− 13	− 16	− 19	− 22

CODE SYMBOLS AND CONSTANTS — SPECIFIC CITIES — for Adjusting Almanac to All Points in U.S.A. See Page 81

City	Time used	Code symbols		Constant
Akron, O.	EST	(5)	c	+42
Albany, N. Y.	EST	(6)	i	+11
Albuquerque, N. M.	MST	(4)	e	+22
Allentown, Pa.	EST	(5)	e	+18
Amarillo, Texas	CST	(4)	e	+63
Anchorage, Alaska	150°	(13)	c	+14
Arlington, Va.	See Washington			
Asheville, N. C.	EST	(4)	e	+46
Atlanta, Ga.	EST	(4)	h	+53
Augusta, Ga.	EST	(4)	h	+44
Austin, Texas	CST	(3)	c	+47
Baltimore, Md.	EST	(5)	g	+22
Bangor, Me.	EST	(6)	e	− 9
Beaumont, Texas	CST	(3)	c	+32
Bethlehem, Pa.	EST	(5)	e	+17
Binghamton, N. Y.	EST	(5)	a	+19
Birmingham, Ala.	CST	(4)	i	+ 3
Bismarck, N. D.	CST	(7)	i	+59
Boise, Idaho	MST	(6)	g	+61
Bridgeport, Conn.	EST	(5)	c	+ 8
Buffalo, N. Y.	EST	(6)	i	+31
Butte, Mont.	MST	(6)	a	+46
Camden, N. J.	EST	(5)	e	+16
Canton, Ohio	EST	(5)	d	+41
Cedar Rapids, Ia.	CST	(5)	a	+22
Charleston, S. C.	EST	(4)	i	+35
Charleston, W. Va.	EST	(5)	i	+42
Chattanooga, Tenn.	EST	(4)	e	+57
Chester, Pa.	EST	(5)	e	+17
Cheyenne, Wyo.	MST	(5)	c	+15
Chicago, Ill.	CST	(5)	a	+ 6
Cincinnati, Ohio	EST	(5)	h	+54
Cleveland, Ohio	EST	(5)	b	+43
Columbia, S. C.	EST	(4)	g	+40
Columbus, Ga.	EST	(4)	j	+56
Columbus, Ohio	EST	(5)	f	+48
Corpus Christi, Tex.	CST	(3)	g	+45
Covington, Ky.	See Cincinnati			
Dallas, Tex.	CST	(4)	i	+43
Dearborn, Mich.	EST	(5)	−	+49
Decatur, Ill.	CST	(5)	f	+12
Denver, Colo.	MST	(5)	f	+16
Des Moines, Ia.	CST	(5)	b	+30
Detroit, Mich.	EST	(5)	−	+48
Duluth, Minn.	CST	(7)	i	+24
Durham, N. C.	EST	(4)	d	+31
E. Orange, N. J.	EST	(5)	d	+13
E. St. Louis, Ill.	See St. Louis			
El Paso, Tex.	MST	(3)	a	+22
Erie, Pa.	EST	(5)	a	+36
Evansville, Ind.	CST	(5)	j	+ 6
Fairbanks, Alaska	150°	(17)	−	+ 6
Fall River, Mass.	EST	(5)	b	0
Fresno, Cal.	PST	(4)	b	+14
Galveston, Texas	CST	(3)	e	+35
Gary, Ind.	CST	(5)	b	+ 5
Grand Rapids, Mich.	EST	(6)	i	+58
Greensboro, N. C.	EST	(4)	c	+35
Hamilton, Ohio	EST	(5)	f	+54
Hammond, Ind.	CST	(5)	b	+ 5
Hamtramck, Mich.	See Detroit			
Harrisburg, Pa.	EST	(5)	e	+23
Hartford, Conn.	EST	(5)	a	+ 6
Holyoke, Mass.	EST	(5)	a	+ 6
Honolulu, Hawaii	150°	(2)	f	+47
Houston, Texas	CST	(3)	d	+37
Huntington, W. Va.	EST	(5)	i	+46
Indianapolis, Ind.	CST	(5)	f	0
Irvington, N. J.	EST	(5)	e	+13
Jackson, Mich.	EST	(5)	−	+53
Jackson, Miss.	CST	(4)	j	+16
Jacksonville, Fla.	EST	(3)	c	+42
Johnstown, Pa.	EST	(5)	e	+31
Juneau, Alaska	135°	(11)	c	+13
Kalamazoo, Mich.	EST	(5)	-	+58
Kansas City, Mo.	CST	(5)	h	+34
Lakewood, Ohio	EST	(5)	b	+43
Lancaster, Pa.	EST	(5)	e	+21
Lansing, Mich.	EST	(6)	i	+54
Lawrence, Mass.	EST	(6)	i	0
Lewiston, Me.	EST	(6)	f	− 3
Lexington, Ky.	EST	(5)	j	+54
Lincoln, Neb.	CST	(5)	d	+45
Little Rock, Ark.	CST	(4)	f	+25
Los Angeles, Cal.	PST	(4)	g	+ 9
Macon, Ga.	EST	(4)	g	+50
Manchester, N. H.	EST	(6)	i	+ 2
McKeesport, Pa.	EST	(5)	e	+35
Medford, Mass.	Same as Boston			
Memphis, Tenn.	CST	(4)	e	+16
Miami, Fla.	EST	(3)	i	+37
Milwaukee, Wis.	CST	(6)	i	+ 7
Minneapolis, Minn.	CST	(6)	d	+29
Mobile, Ala.	CST	(3)	b	+ 8
Montgomery, Ala.	CST	(4)	j	+ 1
Montreal, Que.	EST	(6)	b	+10
Muncie, Ind.	CST	(5)	e	− 3
Nashville, Tenn.	CST	(4)	d	+ 3
New Bedford, Mass.	EST	(5)	b	− 1
New Haven, Conn.	EST	(5)	c	+ 7
New Orleans, La.	CST	(3)	d	+16
New York, N. Y.	EST	(5)	d	+12
Newark, N. J.	EST	(5)	d	+12
Norfolk, Va.	EST	(4)	b	+21
Oakland, Cal.	PST	(5)	j	+25
Oak Park, Ill.	CST	(5)	a	+ 7
Oklahoma City, Okla.	CST	(4)	e	+46
Omaha, Neb.	CST	(5)	c	+39
Ottawa, Ont.	EST	(6)	b	+18
Pasadena, Cal.	PST	(4)	g	+ 8
Paterson, N. J.	EST	(5)	c	+12
Peoria, Ill.	CST	(5)	d	+14
Philadelphia, Pa.	EST	(5)	e	+16
Phoenix, Ari.	MST	(4)	i	+44
Pittsburgh, Pa.	EST	(5)	e	+36
Pittsfield, Mass.	EST	(5)	−	+ 9
Pontiac, Mich.	EST	(6)	i	+49
Portland, Me.	EST	(6)	c	− 3
Providence, R. I.	EST	(5)	a	+ 1
Pueblo, Colo.	MST	(5)	i	+14
Quincy, Mass.	Same as Boston			
Racine, Wis.	CST	(6)	i	+ 7
Raleigh, N. C.	EST	(4)	d	+30
Reading, Pa.	EST	(5)	e	+19
Reno, Nev.	PST	(5)	f	+15
Richmond, Va.	EST	(4)	a	+25
Roanoke, Va.	EST	(4)	a	+36
Rochester, N. Y.	EST	(6)	h	+26
Rockford, Ill.	CST	(5)	a	+12
Sacramento, Cal.	PST	(5)	i	+22
Saginaw, Mich.	EST	(6)	h	+52
Saint Joseph, Mo.	CST	(5)	f	+35
Saint Louis, Mo.	CST	(5)	i	+17
St. Petersburg, Fla.	EST	(3)	g	+46
Salt Lake City, Utah	MST	(5)	d	+43
San Antonio, Texas	CST	(3)	e	+50
San Diego, Cal.	PST	(4)	i	+ 4
San Francisco, Cal.	PST	(4)	−	+25
San Jose, Cal.	PST	(4)	a	+23
Santa Monica, Cal.	PST	(4)	g	+ 8
Savannah, Ga.	EST	(3)	-	+40
Scranton, Pa.	EST	(5)	b	+18
Seattle, Wash.	PST	(7)	d	+25
Shreveport, La.	CST	(4)	j	+31
Sioux City, Iowa	CST	(6)	j	+41
Sioux Falls, S. D.	CST	(6)	c	+43
So. Bend, Ind.	CST	(5)	b	+ 1
Spokane, Wash.	PST	(7)	i	+ 5
Springfield, Ill.	CST	(5)	i	+14
Springfield, Mass.	EST	(5)	a	+ 6
Springfield, Mo.	CST	(4)	a	+29
Springfield, Ohio	EST	(5)	e	+51
Stamford, Conn.	EST	(5)	c	+10
Stockton, Cal.	PST	(5)	j	+21
Syracuse, N. Y.	EST	(6)	i	+20
Tacoma, Wash.	PST	(7)	h	+25
Tampa, Fla.	EST	(3)	f	+45
Terre Haute, Ind.	CST	(5)	f	+ 5
Toledo, Ohio	EST	(5)	b	+50
Topeka, Kans.	CST	(5)	h	+38
Trenton, N. J.	EST	(5)	e	+15
Washington, D. C.	EST	(5)	h	+24
Waterloo, Iowa	CST	(6)	j	+25
W. Palm Beach, Fla.	EST	(3)	h	+36
Wheeling, W. Va.	EST	(5)	e	+39
Wichita, Kans.	CST	(4)	−	+45
Wilmington, Del.	EST	(5)	f	+18
Winnipeg, Man.	CST	(7)	−	+44
Worcester, Mass.	EST	(5)	a	+ 3
Youngstown, Ohio	EST	(5)	c	+38

Mr. Samuel Butler

SAMUEL BUTLER, 1612*–80

wrote a three-part poem — "*Hudibras*" — 10,000 lines long. With a sting in every couplet, it is still regarded as the greatest satire ever written on the "Puritans" who

"Compound for Sins, they are inclin'd to,
By damning those they have no mind to."

There follow illustrations* of parts of this poem by William Hogarth, the greatest satirical artist of all time. . . . as well as quotes from "*Hudibras*" which apply to the Hogarth drawings.

**Taken herewith from Thos. Chatterton's personal copy, 1720, London.*

SIR HUDIBRAS, RALPHO & THE FIDLER

"So Justice, while she winks at Crimes
Stumbles on innocence sometimes."

Butler at first simulates Don Quixote and Sancho Panza in having the Knight Hudibras and his Ralpho encounter a Fidler and his bear. Hudibras is shown here being pummeled with the Fidler's wooden leg — and saved by Ralpho. The Fidler is overcome, but through "exorcise" escapes, and a poor innocent bystander, one Crowdero, is placed in the dungeon intended for the Fidler.

TRULLA LAID HIM FLAT

Poor Hudibras, after incarcerating the innocent Crowdero, is set upon by the latter's friend, Trulla. She annoys Hudibras into hitting at her so hard with his sword that he falls off his horse and the victory is hers. She makes him and Ralpho agree to take Crowdero's place in the jail. His reply:

"I am not now in Fortune's Power,
He that is down can fall no lower."

FAME FREES HUDIBRAS FROM THE PRISON

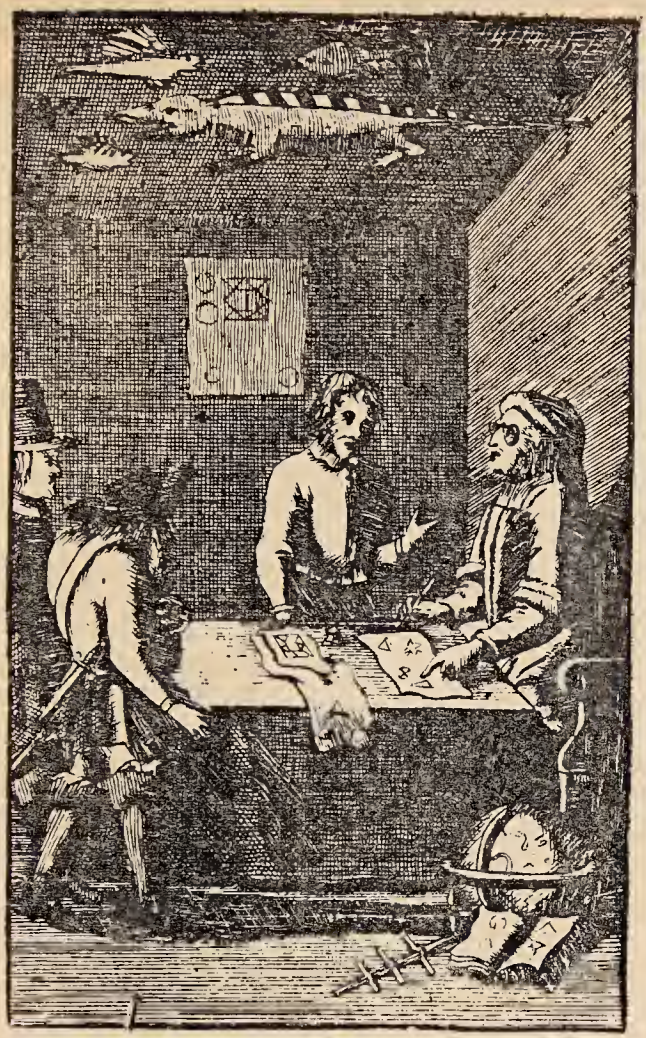
After great arguments about love, a witch named Fame agrees to free Hudibras if he will consent to submit to a whipping and then marry her. He agrees, but tells her:

"What Fate can lay a greater Curse
Than you upon your self would force?
For Wedlock without Love, some say,
Is but a Lock without a Key."

HUDIBRAS & RALPHO BREAK THEIR OATHS

Hudibras and Ralpho, freed from jail, go to the whipping post to be whipped, by each other as they had promised. But they decide to abandon the whole idea and their oaths to the witch on the grounds of,

"No Faith is to the Wicked due;
For Truth is Precious and Divine,
Too rich a Pearl for Carnal Swine."



HUDIBRAS VISITS A ROSY-CRUCIAN

Hudibras, having broken his vow to Fame, now seeks advice from Sidrophel on how to win Fame's love. Sidrophel says he can do even better for him as astrologers can tell much about the heavens, especially the moon. Hudibras replies:

"But what, alas! is it to us,
Whether i' th' Moon Men thus or thus
Do eat their Porridge, cut their Corns,
Or whether they have Tails or Horns?
What Trade from thence can you advance,
But what we nearer have from France?"

The argument ends in a brawl — this time Hudibras is the victor.

HUDIBRAS AGAIN SEEKS OUT FAME

The witch Fame betrays him, however, and he is set upon by Sidrophel and some Elves from Hades. They ask him why he made love to Fame just for her money. He replies:

"What makes all Doctrines plain and clear?
About two Hundred Pounds a Year.
And that which was prov'd true before,
Prove false again? — Two Hundred more."

HUDIBRAS IN REAL TROUBLE

Fame is now seen with the devil's tail — and, the rise of the Puritans is making it hard for the old "Presbyters", one of whom, poverty stricken, is now with Hudibras.

"The Good Old Cause, which some believe
To be the Dev'l that tempted Eve
With Knowledge, and does still invite
The World to Mischief with New Light,
Had store of Mony in her Purse,
When he took her for bett'r or worse;
But now was grown Deform'd and Poor,
And fit to be turn'd out of Door."

HUDIBRAS AND THE "PURITAN" RABBLE

A Battle of the Saints near Mistress Fame's house becomes Hudibras' chance to observe first-hand how the Puritans are disturbing the old order. Above, the Puritan "rabble" is destroying all the "good" people and things — "aided and abetted by the Church."

"For all Religions flock together,
Like Tame and Wild Fowl of a Feather;
To nab the Itches of their Sects,
As Jades do one another's Necks."

DESPERATE, HUDIBRAS CONSULTS A LAWYER

The lawyer's advice prompts Hudibras to stay out of court and to try now to win his Lady by his pen (he, in writing her, refers to his unfulfillment of his whipping oath to Fame.)

"For he that for his Lady's sake
Lays down his Life or Limbs at stake,
Does not so much deserve her Favour,
As he that pawns his Soul to have her."

On his later grounds that she should marry him because she is of the weaker sex, she turns him down,

"For nothing can go off so well,
Nor bears that Price, as what we sell.
We rule in ev'ry Publick Meeting,
And make Men do what we judge fitting."

FAMILY EMERGENCY PAGE

Courtesy: National Safety Council

AUTO ACCIDENTS: Come mostly from speed. Remember . . . it takes, at 25 m.p.h., sixty feet for a complete stop; at 40 m.p.h., 125 feet; at 60 m.p.h., 272 feet. These figures include the necessary mental reaction time it takes to start braking, which is from one-half to one-quarter of the distances given. At scene of an accident, do nothing but turn off ignition.

BLEEDING: Place cleanest available material (sterile gauze if possible) over wound with firm pressure until bandage can be applied. Use finger pressure on some point between wound and heart. Tourniquet should be used only by those familiar with its dangers.

BOATING: If capsized, stick to the boat. Don't try to rescue another — throw him something that will float him, or a rope or stick to pull him in with.

BURNS: Plunge burned skin into ice water — don't use greasy ointment.

CHOKING: Turn child upside down and slap between shoulder blades. Never try to remove object or induce vomiting.

DOG BITE: Wash wound with soap and water to remove dog saliva. Capture dog alive. If you shoot it, do not injure its brain.

ELECTRICAL SHOCK: Don't touch victim until you have shut off current . . . or use dry, unpainted pole (or a rope) to pull wire away. To prevent: repair all frayed cords, ground all large appliances.

EYES: Wash particle from eye with eye-dropper only. If acid, etc., pour cupful after cupful into inner corner of eye for five minutes. Use only water.

FIRE: Get out of the building. Put out, if wood, cloth or paper, with water. If oil, don't use water but smother with rug or sand. Never open warm door upon smell of smoke. Jump from window only as last resort. DON'T GO BACK IN.

FROSTBITE: Keep victim warm, give warm drink. Don't rub frozen parts or apply extreme heat. To avoid: dress warmly, keep exercising, avoid alcohol.

GAS: Move victim into fresh air — open all doors and windows. Give artificial respiration at once. Shut off source. Don't light any matches.

GUN SHOT: Cover wound as in BLEEDING above. Keep victim warm, not sweating. Don't move. Allay fears, and keep lying down.

HEAT EXHAUSTION: Put victim to bed. Give half glass water with half teaspoon salt every fifteen minutes. Sponge with water or alcohol.

ICE FALL-THROUGH: Same as BOATING, but when extending pole or rope, lie down and inch forward with it to spread your weight.

LIGHTNING: Indoors, go to cellar and keep away from piping and wires — but outdoors, get in a car (but not under a tree).

POISON: Victim should be made to drink water (two cups for children under five; a quart for older). Should be made to vomit *unless* there are burns around the mouth, or victim is unconscious. Keep warm. **IMPORTANT: Keep all poisonous substances clearly marked and completely out of reach of children.**

STAINS: From *meats*, sponge with cold water; *chewing gum*, rub with ice; *cocoa or chocolate*, rinse up and down in hot water; *coffee or tea*, pour boiling water from two feet up; *cream or ice cream*, soak in cold water; *eggs*, sponge with cold water; *fruit*, same as coffee; *grease or oil*, sponge with carbon tetrachloride; *ink*, if tests as soluble, soak out . . . if not, sponge with solvent; *lipstick*, rub with lard or vaseline, wash in hot detergent; *rust*, use lemon juice and salt, dry in sun.

EXCEPTIONS: Above are for white cottons and linens. For other fabrics (or colored fabrics) — *chocolate*, gets lukewarm detergent; *coffee*, warm water sponge; *fruit*, cold water sponge; *lipstick*, solvent sponge; *liquor*, sponge with cold water or clear alcohol.

IN ALL CASES, CALL THE EXPERTS (DOCTOR, HOSPITAL, POLICE, FIREMEN, ETC.) AT ONCE. YOUR OWN IDEA OF HELP WILL MOST LIKELY BE WRONG.

Science Reveals New Facts about Liniment Benefits

One of man's best known treatments for tired, aching muscles receives new confirmation of effectiveness from modern medical research

PROBABLY the first treatments for sore, stiff muscles caused by overexertion was massage. Through the ages, man tried various combinations of tinctures, unguents and oils to improve the effectiveness of massage.

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While medical science has always known the beneficial effects of liniment massage, only recently, through the miracle of electronic research, have scientists actually been able to measure many benefits of the special Absorbine Jr. formula.

A leader in bio-medical electronics, using scientific procedures, proved that Absorbine Jr. brings back fatigued muscles twice as fast as nature can. Even without massage, the application of Absorbine Jr. doubled the speed of recovery of fatigued muscles.

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Now science confirms the beneficial effects of Absorbine Jr. No longer is it necessary to "just sit and ache." The new Pres-O-Matic applicator makes it easy to use. Just rub on clean, refreshing liquid Absorbine Jr. and see how much faster you feel better.

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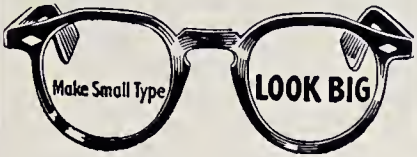

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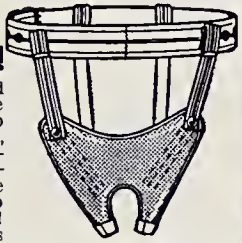

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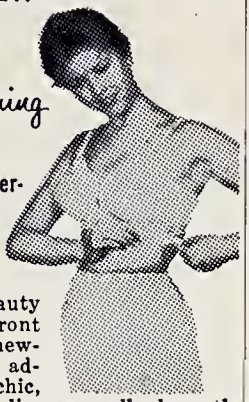

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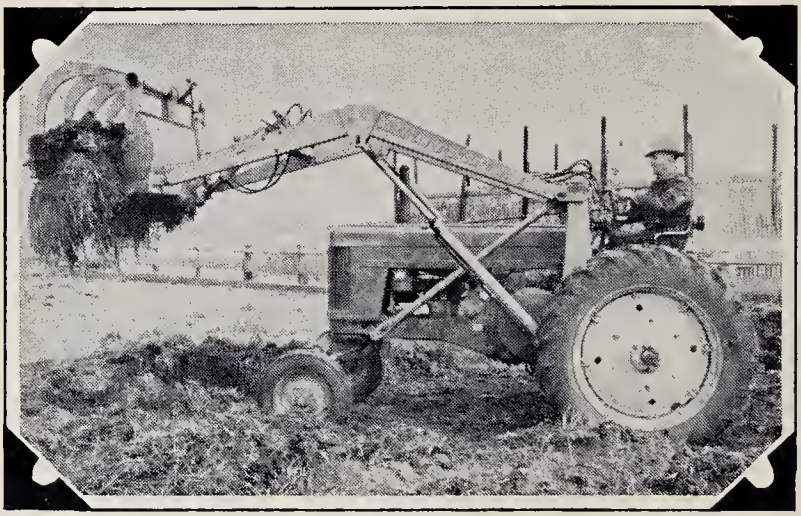

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