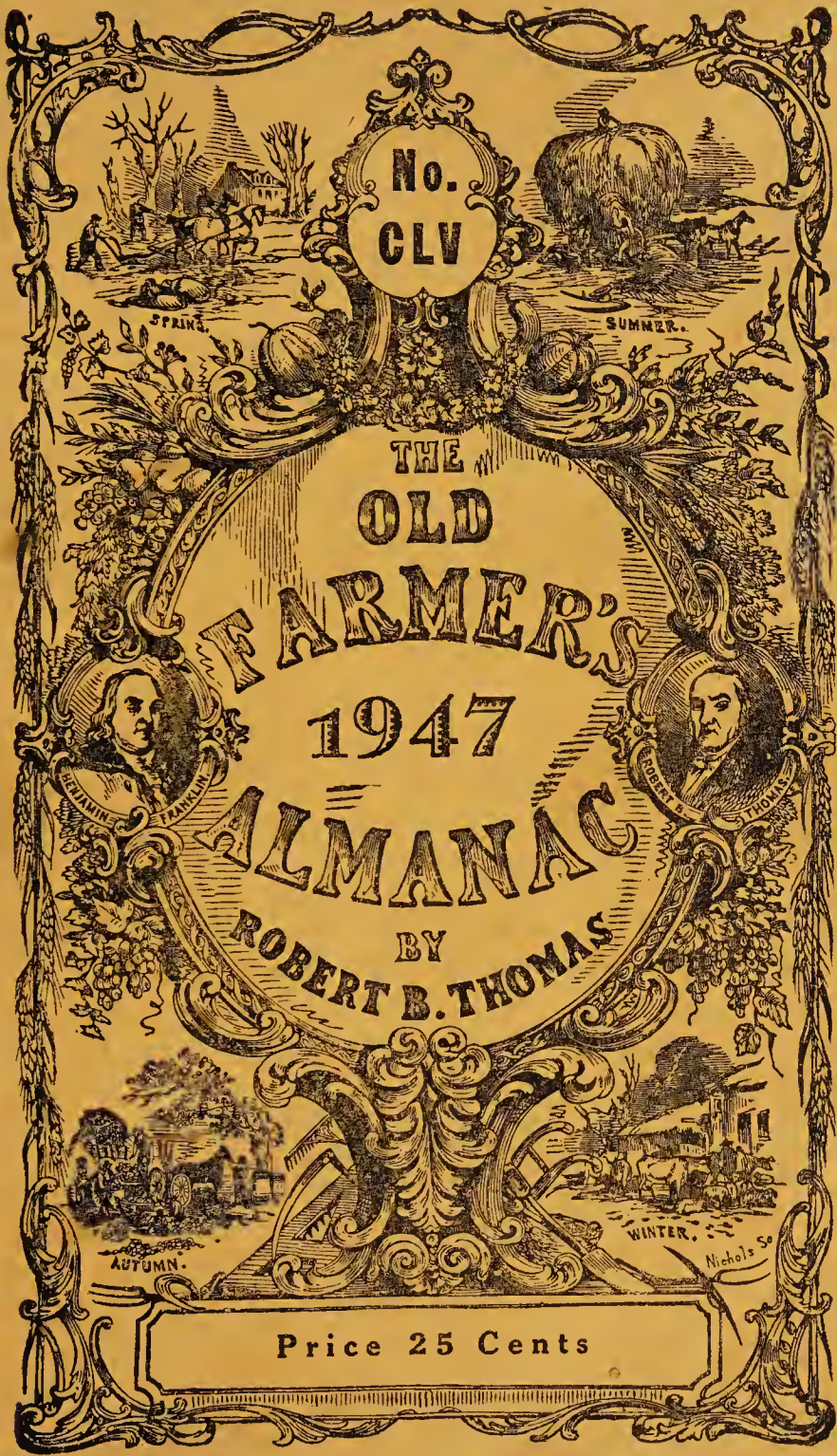
The 155th Continuous Year of Publication



Fish and Game — Postal Laws, Holy Days and Holidays, Etc.

Good Fishing Days, When to Cut Brush, Frosts, Hints, Recipes, Etc.

Weather, Tide, Sun, Planet, Moon Predictions

On a farm the best day is TODAY

A REAL FARMER knows that the best time to do things is the day they should be done. Planting is something that can't be put off. It has to be done in season. So it is with haying, too, or the picking of berries or apples. And milking can't be put off until tomorrow or the day after.

That's the way it is with life insurance. The best day to make sure that the future is provided for is today. The best day to make sure that the home will be free and clear if something happens to you is today. If these things have not been cared for we suggest that you get in touch with a John Hancock agent today.

John Hancock
MUTUAL
LIFE INSURANCE COMPANY
OF BOSTON, MASSACHUSETTS

GUY W. COX, Chairman of the Board
PAUL F. CLARK, President

THE

(OLD)

FARMER'S ALMANACK,

CALCULATED ON A NEW AND IMPROVED PLAN
FOR THE YEAR OF OUR LORD

1947

Being 3rd after BISSEXTILE or LEAP YEAR, and (until July 4)
171st year of American Independence.

FITTED FOR BOSTON, AND THE NEW ENGLAND STATES, WITH SPECIAL CORRECTIONS AND CALCULATIONS TO ANSWER FOR ALL THE UNITED STATES.

Containing, besides the large number of Astronomical Calculations and the Farmer's Calendar for every month in the year, a variety of

NEW, USEFUL, AND ENTERTAINING MATTER.

ESTABLISHED IN 1792

BY ROBERT B. THOMAS.

Be gracious, Heaven! and when laborious man
Has done his part, ye fostering breezes, blow!
Ye softening dews, ye tender showers, descend!
And temper all, then world-reviving sun,
Into the perfect year. — *Thomson.*

(*From The Old Farmer's Almanack, 1847*)

Publishers:
YANKEE, INC.
DUBLIN, N. H.

Sold By:
THE AMERICAN NEWS CO.
AND BRANCHES

TO PATRONS AND CORRESPONDENTS

The 1847 edition of *The Old Farmer's Almanac(k)* noted the passing of Robert B. Thomas, founder, during the Spring of 1846. The new publishers stated that every effort would be made to maintain the *Almanac* in the spirit, format, and general style which Mr. Thomas had so long and successfully pursued in each edition since that of 1793. The names of the editors who have, through these past hundred years, dedicated anew each and every edition to this maintenance of the founder's example, are:

John H. Jenks	1847-1860
Charles L. Flint	1861-1869
John B. Tileston	1870-1871
Loomis J. Campbell	1872-1876
Horace E. Ware } Robert Ware }	1877-1918
Frank B. Newton	1919-1932
Carroll J. Swan	1933-1935
Roger Scaife	1936-1940
Robb Sagendorph	1941-

Probably no nicer bouquet could have been placed beside the many others on the founder's grave this Spring than that from the Grolier Club of New York City in their mention of *The Old Farmer's Almanac(k)* as one of One Hundred American Books, printed before 1900, remarkable for their influence upon American life and culture. Among others mentioned were The Declaration of Independence, Webster's Dictionary, Montgomery Ward's Mail Order Catalog, Mary Baker Eddy's *Science & Health*, the Monroe Doctrine, and Hawthorne's *Twice Told Tales.*

This edition, published in Atomic Year 2, finds a world and an America in the throes of post war adjustment. There is occasion for alarm in the slow progress of the United Nations peace organization, in the faulty distribution of food, in the high temperatures of inflation, and in other things. However, in this first year of real peace much good has been accomplished and basic forces are at work which, given time, point to the possibilities, at least, of greater individual happiness and progress than the world has ever before witnessed.

This year David Morton of Amherst, Massachusetts, has again contributed the Calendar page poetry; B. M. Rice of Peterborough, New Hampshire, the Farm Calendars, Anecdotes, and Pleasantries; Loring B. Andrews of Scituate, Massachusetts, the Astronomical Data; Joseph Chase Allen, the humorous predictions on page 39; Robert Foote added other valuable material. We are indebted greatly to various government agencies for their assistance and contributions as well as to Mr. Weatherwise for his somewhat more lengthy than usual weather contributions and prognostics for the coming year (see page 6).

Our 1945 edition, we regret to say, carried one or two minor errors on pages 44 and 58 which must have been apparent to all readers. On Page 62, Joseph Goodale should have been qualified as having pro-created a daughter who was to become Robert B. Thomas' mother. Also there was a difference in Length of Days, Sunset and Sunrise times between this Almanac and the times computed by certain others—occasioned by the "refinement of our formula in the year following Leap Year, at which time sidereal time and mundane time start off on another of their 'quadrennial' honeymoons." As the 1946 edition revealed no such variations, we take it that Mr. Astronomer found no need, after 1945, of accounting for anything but continued cordial and harmonious relations between sky and earth.

We can conclude only with an expression of gratitude once more to the readers who have for so many years supported us and given us the confidence to carry on. It is to be hoped the years to come will continue to merit that confidence. Man, however, in these great things, can only propose. God is the true disposer. In this then it is by our works, and not by our words that 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,

July 4, 1946

Robt. B. Thomas.

Biggest and Best GARDEN BOOK IN BRECK'S 129 YEARS

- **FAMOUS FLOWER DISCOVERIES**
- **PRIZE "BIG CROP" VEGETABLES**
- **ALL SUPPLIES, NEW GADGETS**

Every fascinating page in full color! Shows newest flower creations, more abundant ond flavorful vegetables, rare bulbs, roses, fruits, ond all supplies. Gives the down-to-earth know-how every modern gardener wants.

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- **Century of Progress Pansies** Exhibition giants! Thick and velvety, with fontasticolly woved and frilled petols.
- **Midget Corn! Midget Watermelon!** Exciting Tom Thumb versions of mouthwotering succulence.

. . . and scores of other rore Breck's exclusives.

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BRECK'S

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EXPLANATIONS AND SIGNS

In accord with long time usage the left and right hand calendar pages beginning respectively on pages 14 and 15 will be seen to contain numerous symbols (known as signs) and abbreviations which denote the many happenings in the heavens and on the earth which the OFA purports to set forth. On this page and on pages 76 and 77 we include a brief summary of these hieroglyphics — the careful study of which will reward you with not only greater appreciation of this almanac but also stimulation with regard to further study of the wonders of the universe.

Names and Characters of the Principal Planets.

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

Names and Characters of the Aspects.

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

Names and Characters of the Signs of the Zodiac.

1. ♈ Aries, head.
2. ♉ Taurus, neck.
3. ♊ Gemini, arms.
4. ♋ Cancer, breast.
5. ♌ Leo, heart.
6. ♍ Virgo, belly.
7. ♎ Libra, reins.
8. ♏ Scorpio, secrets.
9. ♐ Sagittarius, thighs.
10. ♑ Capricornus, knees.
11. ♒ Aquarius, legs.
12. ♓ Pisces, feet.

Chronological Cycles for 1947.

Golden Number	10	Solar Cycle	24	Roman Indiction	15
Epact	8	Dominical Letter	E	Year of Julian Period	6660

Movable Feasts and Fasts for 1947.

SeptuagesimaSun	Feb. 2	Good Friday	Apr. 4	Whitsunday	May 25
Shrove Sunday	Feb. 16	Easter Sunday	Apr. 6	Trinity Sunday	June 1
Ash Wednesday	Feb. 19	Low Sunday	Apr. 13	Corpus Christi	June 5
1st Sun. in Lent	Feb. 23	Rogation Sunday	May 11	1st Sunday in Advent	Nov. 30
Palm Sunday	Mar. 30	Ascension Day	May 15		

THE SEASONS, 1947

Eastern Standard Time

Winter Solstice (Winter 1946), December 22, 5:54 A.M. — Sun enters Capricornus, ♑
Vernal Equinox (Spring, 1947), March 21, 6:13 A.M. — " " Aries, ♈
Summer Solstice (Summer), June 22, 1:19 A.M. — " " Cancer, ♋
Autumnal Equinox (Autumn), September 23, 4:29 P.M. — " " Libra, ♎
Winter Solstice (Winter), December 22, 11:43 A.M. — " " Capricornus, ♑

CALCULATIONS AND CORRECTIONS

(For Outside New England, see Pages 10, 11, 12)

While the predictions of the Calendar pages are made for the latitude and longitude of Boston and are in *Eastern Standard Time*, the time of the 75th meridian west of Greenwich, they may be used throughout the United States by applying the corrections given here and in the tables on pages 7 and 12.

The Table given below contains corrections in minutes of time for a number of important places in New England, and any other place in New England can use the correction of the place in the Table which is nearest in longitude to itself.

For the Rising and Setting of the Sun, Moon and Planets add tabular quantity if longitude from Boston is West, but subtract it if East; and this will give the value when the place is in or near the same latitude as Boston. When the latitude of the place differs considerably from that of Boston, the correction will also be right when the celestial body is on or near the Equator; but when it is remote from the Equator so much accuracy cannot be expected.

	East.		*West.*		*West.*
Eastport, Me.	16 min.	Concord, N.H.	2 min.	Springfield, Mass.	6 min.
Bangor, Me.	9 "	Nashua, N.H.	2 "	Williamstown, Mass.	9 "
Augusta, Me.	5 "	Plymouth, N.H.	3 "	Newport, R.I.	1 "
Lewiston, Me.	4 "	Keene, N.H.	5 "	Providence, R.I.	1 "
Portland, Me.	3 "	Montpelier, Vt.	6 "	Woonsocket, R.I.	2 "
Biddeford, Me.	2 "	Brattleboro, Vt.	6 "	New London, Conn.	4 "
Portsmouth, N.H.	1 "	Rutland, Vt.	8 "	Willimantic, Conn.	5 "
Provincetown, Mass.	4 "	Burlington, Vt.	9 "	Hartford, Conn.	6 "
Gloucester, Mass.	2 "	Lowell, Mass.	1 "	New Haven, Conn.	7 "
Plymouth, Mass.	2 "	Worcester, Mass.	3 "	Bridgeport, Conn.	9 "

EARTH IN PERIHELION AND APHELION, 1947

The Earth will be in Perihelion on January 3, 9 P.M., distant from the Sun 91,934,000 miles. The Earth will be in Aphelion on July 5, 5 A.M., distant from the Sun 95,063,000 miles.

1947

JANUARY.

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WORLD CALENDAR

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The *World Calendar* does not change. It is the same each year. Dec. 31 is Year End Day—World Holiday. In Leap Years June 31, another World Holiday is added.

1948

JANUARY.

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DECEMBER.

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WEATHER REPORT BY MR. WEATHERWISE, MISCELLANY, & OTHER 1947 PREDICTIONS

Last Winter's Weather

Compared with other winters, Mr. Weatherwise stated about one year ago that the winter months of 1945-46, would have "more storms of rain and snow." The weekly Weather & Crop Bulletin issued by the United States Weather Bureau for March 12, 1946 revealed that "the percentage of normal precipitation for the winter of 1945-6 (December, January, February) for the New England states was 104." A "wetter than usual" winter was experienced everywhere in the United States except from Indiana to New York and New Jersey, in the southern Rocky Mountains and in the far Southwest. December in New England was exceptionally moist—being some 130% of normal. New Englanders will not soon forget the three northeasters of the week of December 8th.

Come the middle of February, Maine had its worst storm in seven years but Mr. Weatherwise had warned Maine readers of the Almanac about this many months before—just as he had forewarned the residents of West Stewartstown, New Hampshire of their cold spell during the week of February 4th—and all of New England with regard to the cold during the week preceding.

Spring came earlier than usual again with resultant losses to maple syrup tappers and apple growers.

Next Winter's Weather

Having successfully predicted the past three winters as, respectively, "mild," "turbulent," and "wet," Mr. Weatherwise reports the forthcoming winter months will bring a "real old fashioned winter with plenty of snow and cold weather—the kind that Grandpa knew when he was a boy." This will be a winter, he concludes, during which we shall have to look out for the birds and wild animals more carefully than usual as the snow cover will last well into March in many places—and crusty conditions will rule much of the time.

Vacation Weather

The forecasts of Mr. Weatherwise are prepared more with an eye to farm crop weather than to vacationist's requirements. *The Old Farmer's Almanac* has many calls during the year from vacationists to supplement these forecasts. "Good crop weather," we are told, is not very enlightening for a tennis fan. We suggest therefore that vacationists heed the studies made by Stephen S. Visher with regard to the New England climate: Maine, New Hampshire and Vermont get their heaviest rain and snowfalls between January 1 and 14. The driest periods for Maine and New Hampshire fall between June 18 and July 2; for Vermont between July 3 and 16, and for Cape Cod between July 17 and 30. Rainy days in the summer are frequent in New Hampshire, in Vermont the last two weeks in August—and, for New Hampshire, the last week of September.

Atomic Weather

"If atomic energy is ever used to control the weather," writes the *Barnstable Patriot*, "it will naturally be under government control. And won't that be something . . . Senator Slushbelly of the South will filibuster for year round magnolia blossoms and Congressman Chucklehead of Maine will want to earmark funds to divert the Gulf Stream to Penobscot Bay." The *Patriot* concludes that its own representative, perennial Charles Gifford, won't have to do anything because "Cape Cod already has the finest weather in the country." Men stationed at Camp Edwards on the Cape during the war worked up what they considered a reliable all year forecast for this admirable weather—which would do for any week or month . . . namely, "Colder . . . with rain or snow."

Best Fishing Days

The Old Farmer's Almanac has never lent itself to astrology of any kind. There are those, however, who do pay their money and waste their time basking under the astrological sun—when they should be tending to more important business. To please these people, we beg to state that the best fishing days are when the fish are biting—which, in turn, depends largely on your bait and how you spit on it . . . and has very little to do with the Last Quarter and New Moon periods (see Almanac calendar, pages 14-36) as being more favorable or when the Moon happens to be on good terms with Uranus, Neptune or Venus. Jan. 5, 12, 17; Feb. 1, 9, 16, 28; Mar. 18; Apr. 18, 24; May 2,

Continued on page 38

TIDE CORRECTIONS

To obtain the time and height of high water at any place, apply the differences in accordance with the sign given to the daily predictions for Boston (Commonwealth Pier). Where a value in the "height difference" column is preceded by an*, the height at Boston should be multiplied by this ratio.

	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 11 and 12 of the left hand Almanac pages 14–36 are the times of high tide at Commonwealth Pier in Boston Harbor. The heights of these tides are given on the right hand pages 15–37. The heights are reckoned from Mean Low Water: each day has a set of figures—upper for the morning—and lower for the evening. Since Gulf ports are not beset with the tidal problems of ports on the open ocean, the conversion of the times of the tides at Boston to those of Miami is given by way of illustration.

See page 20—April 12.

BOSTON		MIAMI	
High Tide	3.45 A.M.E.W.T.	High tide (Boston)	3.45 A.M.
		Correction above	−3.00
		High tide (Miami)	12.45 A.M.E.S.T.
Height	8.9 feet	Height (Miami) (8.9 x 0.3)	2.7 feet

ECLIPSES FOR THE YEAR 1947

In the year 1947 there will be three eclipses, two of the Sun and one of the Moon.

I. *A Total Eclipse of the Sun*, May 20, 1947, invisible in the United States. The Sun will be totally eclipsed for observers within a path approximately 120 miles wide that starts just off the west coast of Chile, sweeps diagonally across South America from Santiago, Chile, to Bahia, Brazil, crosses the South Atlantic to embrace the Gold Coast of Africa and traverse the northern Congo to terminate in southern Kenya. As a partial eclipse it will be visible from all points in South America except the extreme northwest, the South Atlantic Ocean, Africa, and western Saudi Arabia. The eclipse's maximum duration will occur at a point off the west coast of Africa where the total phase will last 5 m. 14 s.

II. A Partial Eclipse of the Moon, June 3, 1947, invisible in the United States. The beginning will be visible generally in Europe except the northwestern part, Africa, the eastern part of the South Atlantic Ocean, Asia except the northern and northeastern parts, the Indian Ocean, Antarctica, the western and southwestern parts of the Pacific Ocean, and Australia. The ending will be visible generally in Europe except the extreme northwestern part, Africa, the South Atlantic Ocean, Asia except the northern and northeastern parts, the Indian Ocean, Antarctica, the western and southwestern parts of the Pacific Ocean, and Australia.

III. *An Annular Eclipse of the Sun*, November 12, 1947. The annular phase traverses the eastern Pacific Ocean from a point south of the Aleutians to the coast of South America at Cape Pariño, Peru, whence it cuts inland across the Andes to terminate near the headwaters of the Amazon. The partial phases of the eclipse will be generally visible throughout the United States, but as a partial eclipse of any magnitude only from points in the west and southwest states. Particulars of the eclipse for selected places in the United States are given in the table below. The particulars for intermediate points can be approximated from those for the nearest point listed.

Place	Eclipse begins	Maximum eclipse	Eclipse ends	Fraction solar diameter covered
Albuquerque, N.M.	11.42 A.M.	12.44 P.M.	1.47 P.M.	0.20
Austin, Texas	1.11 P.M.	2.16 P.M.	3.18 P.M.	0.20
Boise, Idaho	11.16 A.M.	12.14 P.M.	1.15 P.M.	0.22
Boston, Mass.	3.37 P.M.	3.48 P.M.	3.59 P.M.	0.01
Carson City, Nev.	10.00 A.M.	11.09 A.M.	12.22 P.M.	0.33
Cheyenne, Wyo.	11.53 A.M.	12.41 P.M.	1.29 P.M.	0.12
Columbus, Ohio	2.16 P.M.	2.35 P.M.	2.53 P.M.	0.02
Denver, Colo.	11.51 A.M.	12.42 P.M.	1.34 P.M.	0.14
Helena, Mont.	11.34 A.M.	12.22 P.M.	1.10 P.M.	0.14
Jackson, Miss.	1.42 P.M.	2.33 P.M.	3.21 P.M.	0.13
Little Rock, Ark.	1.37 P.M.	2.24 P.M.	3.07 P.M.	0.11
Los Angeles, Cal.	10.00 A.M.	11.15 A.M.	12.36 P.M.	0.39
Minneapolis-St. Paul, Minn.	1.59 P.M.	2.04 P.M.	2.09 P.M.	Negligible
Montgomery, Ala.	1.55 P.M.	2.43 P.M.	3.27 P.M.	0.12
Nashville, Tenn.	1.58 P.M.	2.34 P.M.	3.09 P.M.	0.07
New Orleans, La.	1.41 P.M.	2.38 P.M.	3.31 P.M.	0.17
New York, N.Y.	3.31 P.M.	3.48 P.M.	4.05 P.M.	0.02
Oklahoma City, Okla.	2.15 P.M.	2.40 P.M.	3.06 P.M.	0.04
Omaha, Neb.	1.32 P.M.	2.03 P.M.	2.34 P.M.	0.05
Phoenix, Ariz.	11.17 A.M.	12.30 P.M.	1.46 P.M.	0.31
Raleigh, N.C.	3.16 P.M.	3.51 P.M.	4.24 P.M.	0.08
St. Louis, Mo.	1.51 P.M.	2.22 P.M.	2.52 P.M.	0.05
Salt Lake City, Utah	11.26 A.M.	12.25 P.M.	1.25 P.M.	0.21
San Francisco, Cal.	9.52 A.M.	11.02 A.M.	12.23 P.M.	0.39
Tallahassee, Fla.	2.59 P.M.	3.54 P.M.	4.38 P.M.	0.16

OCCULTATIONS OF ALDEBARAN, 1947

No occultations of the bright star Aldebaran (Alpha Tauri) will be visible to observers in the United States during 1947.

VENUS, MARS, JUPITER AND SATURN, 1947.

Below are given the times of the rising or setting of the Planets named, on the first, eleventh and twenty-first days 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 4 and 10 — especially if you live outside New England.

1947	VENUS h. m.	Key	MARS h. m.	Key	JUPITER h. m.	Key	SATURN h. m.	Key
JANUARY 1st	rises 3 40A.M.	M	sets 4 22P.M.	B	rises 3 17A.M.	N	rises 6 28P.M.	C
" 11th	" 3 39A.M.	N	rises 7 14A.M.	P	" 2 47A.M.	N	" 5 41P.M.	C
" 21st	" 3 44A.M.	N	" 7 02A.M.	O	" 2 15A.M.	N	" 4 57P.M.	C
FEBRUARY 1st	rises 3 53A.M.	O	rises 6 47A.M.	O	rises 1 39A.M.	N	sets 7 50A.M.	O
" 11th	" 4 02A.M.	O	" 6 30A.M.	N	" 1 05A.M.	N	" 6 09A.M.	O
" 21st	" 4 09A.M.	O	" 6 13A.M.	M	" 12 29A.M.	N	" 5 27A.M.	O
MARCH 1st	rises 4 12A.M.	N	rises 5 57A.M.	L	rises 11 56P.M.	N	sets 4 54A.M.	O
" 11th	" 4 13A.M.	N	" 5 37A.M.	L	" 11 18P.M.	N	" 4 13A.M.	O
" 21st	" 4 10A.M.	M	" 5 16A.M.	K	" 10 38P.M.	N	" 3 33A.M.	O
APRIL 1st	rises 4 03A.M.	L	rises 4 52A.M.	J	rises 9 53P.M.	N	sets 2 49A.M.	O
" 11th	" 3 54A.M.	K	" 4 30A.M.	I	" 9 10P.M.	N	" 2 10A.M.	O
" 21st	" 3 44A.M.	J	" 4 07A.M.	H	" 8 25P.M.	N	" 1 32A.M.	O
MAY 1st	rises 3 32A.M.	I	rises 3 45A.M.	H	rises 7 40P.M.	N	sets 12 54A.M.	O
" 11th	" 3 20A.M.	G	" 3 23A.M.	G	" 6 55P.M.	N	" 12 16A.M.	O
" 21st	" 3 10A.M.	F	" 3 01A.M.	F	sets 4 09A.M.	D	" 11 35A.M.	O
JUNE 1st	rises 3 00A.M.	E	rises 2 38A.M.	E	sets 3 22A.M.	E	sets 10 55A.M.	O
" 11th	" 2 55A.M.	D	" 2 18A.M.	D	" 2 39A.M.	E	" 10 19A.M.	O
" 21st	" 2 54A.M.	B	" 1 59A.M.	D	" 1 57A.M.	E	" 9 43P.M.	O
JULY 1st	rises 2 59A.M.	B	rises 1 42A.M.	C	sets 1 16A.M.	E	sets 9 07P.M.	O
" 11th	" 3 09A.M.	A	" 1 25A.M.	B	" 12 36A.M.	E	" 8 31P.M.	O
" 21st	" 3 25A.M.	B	" 1 10A.M.	B	" 11 52P.M.	E	" 7 55P.M.	N
AUGUST 1st	rises 3 48A.M.	B	rises 12 55A.M.	B	sets 11 10P.M.	E	sets 7 16P.M.	N
" 11th	" 4 11A.M.	D	" 12 43A.M.	A	" 10 32P.M.	E	rises 4 21A.M.	D
" 21st	" 4 36A.M.	E	" 12 32A.M.	A	" 9 55P.M.	D	" 4 48A.M.	D
SEPTEMBER 1st	rises 5 04A.M.	F	rises 12 21A.M.	A	sets 9 16P.M.	D	rises 3 12A.M.	D
" 11th	sets 6 13P.M.	J	" 12 11A.M.	B	" 8 40P.M.	D	" 2 39A.M.	D
" 21st	" 6 01P.M.	I	" 12 01A.M.	B	" 8 06P.M.	D	" 2 05A.M.	D
OCTOBER 1st	sets 5 49P.M.	H	rises 11 50P.M.	B	sets 7 31P.M.	D	rises 1 31A.M.	D
" 11th	" 5 37P.M.	G	" 11 40P.M.	C	" 6 53P.M.	D	" 12 57A.M.	E
" 21st	" 5 28P.M.	E	" 11 28P.M.	C	" 6 25P.M.	D	" 12 22A.M.	E
NOVEMBER 1st	sets 5 21P.M.	D	rises 11 14P.M.	D	sets 5 49P.M.	C	rises 11 39P.M.	E
" 11th	" 5 20P.M.	C	" 10 59P.M.	D	" 5 17P.M.	C	" 11 02P.M.	E
" 21st	" 5 25P.M.	B	" 10 42P.M.	E	sets 4 45P.M.	C	" 10 24P.M.	E
DECEMBER 1st	sets 5 37P.M.	B	rises 10 22P.M.	E	rises 6 52A.M.	O	rises 9 46P.M.	E
" 11th	" 5 54P.M.	B	" 9 59P.M.	E	" 6 24A.M.	O	" 9 06P.M.	E
" 21st	" 6 16P.M.	B	" 9 31P.M.	F	" 5 55A.M.	O	" 8 25P.M.	E
" 31st	sets 6 41P.M.	C	rises 8 59P.M.	F	rises 5 26A.M.	O	rises 7 44P.M.	E

MORNING AND EVENING STARS, 1947

(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.)

Mercury will be favorably situated for being seen as an Evening Star when near its greatest eastern elongations, about February 20, June 17, and October 13. On these dates it will set 1h. 30m., 1h. 42m., and 0h. 46m., respectively, after sunset. It will be seen as a Morning Star when near its greatest western elongations, about April 5, August 3, and November 22, on which dates it will rise 0h. 53m., 1h. 29m., and 1h. 45m., respectively, before sunrise.

Venus will be a Morning Star until September 3, then an Evening Star for the remainder of the year. It will be at its brightest for the year during the first week of January.

Mars will be an Evening Star until January 6 when it reaches conjunction, then a Morning Star for the remainder of the year. The planet's brightness will increase steadily through the year as it moves to opposition to the sun early in 1948.

Jupiter will be a Morning Star until May 14, on which date it reaches opposition. It will be an Evening Star from May 14 to December 1, the date of conjunction, and then a Morning Star again to the year's end.

Saturn starts the year as a Morning Star, but becomes an Evening Star on January 26, when it reaches opposition. It remains an Evening Star from January 26 to August 5, when it reaches conjunction, and then becomes a Morning Star again for the rest of the year.

CALCULATIONS AND CORRECTIONS

IF YOU LIVE OUTSIDE NEW ENGLAND

(*For New England — See Page Four*)

Times obtained for a place other than Boston by the conversions described below will in every case be in the Standard Time of the time zone in which the place lies. Some States by State ordinance do not observe Standard Time during the whole or part of the year. To obtain the time in everyday use in those States during the period such State ordinances are in effect one hour should be added to the time derived by conversion. The times used herein are Eastern Standard Time. To compensate for Daylight Saving Time in those States or Cities which continue it by local ordinance, add one hour.

A direct reading of the figures on the Almanac pages gives information that applies precisely and solely to Boston. The examples which follow interpret the significance of this information and illustrate the way to get the same information for a place outside New England, such as Dallas. The date, April 12, used for the purpose of the illustrations, has been chosen at random.

Sunrise and Sunset. The times of sunrise and sunset at Boston on April 12 are read directly from columns 4 and 6 on page 20. The key letters adjacent to these times, in columns 5 and 7, are indices to the table on page 12 whereby the times of sunrise and sunset at Boston are converted into those for other key cities, to wit:—

BOSTON			DALLAS	
Sunrise	5:09	A.M.E.S.T.	Sunrise (Boston)	5:09 A.M.E.S.T.
Key Letter		G	Correction (Column G, page 12)	+:52
			Sunrise (Dallas)	6:01 A.M.C.S.T.
Sunset	6:22	P.M.E.S.T.	Sunset (Boston)	6:22 P.M.E.S.T.
Key letter		K	Correction (Column K, page 12)	+:35
			Sunset (Dallas)	6:57 P.M.C.S.T.

Dawn and Dark. The approximate times dawn will break and dark descend are found by applying the length of twilight taken from the table on page 77 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.)		DALLAS (Latitude 32° 48′ N.)	
Sunrise	5:09 A.M.	Sunrise	6:01 A.M.
Subtract length of twilight (Column 4 of table)	1:39	Subtract length of twilight (Column 4 of table)	1:28
Dawn breaks	3:30 A.M.E.S.T.	Dawn breaks	4:33 A.M.C.S.T.
Sunset	6:22 P.M.	Sunset	6:57 P.M.
Add length of twilight	1:39	Add length of twilight	1:28
Dark descends	8:01 P.M.E.S.T.	Dark descends	8:25 P.M.C.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 12 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 locality given in Column I of the table on page 12.

BOSTON		DALLAS	
Sundial time	2:34 P.M.	Sundial time	9:17 A.M.
Sun fast	−:15	Sun fast	−:15
		Correction (Column I, page 12)	+:43
Eastern Standard Time	2:19 P.M.	Central Standard Time	9:45 A.M.

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		DALLAS	
Length of day (From calendar pages)	13h 13m	Sunset	6:57 P.M.
		Sunrise	6:01 A.M.
		Length of Day	12h 56m

Moonrise and Moonset. The procedure for finding the times of moonrise and moonset follows that for finding those of sunrise and sunset except that, for localities outside New England, the constant additional correction taken from Column ☽ on page 12 must be applied.

BOSTON		DALLAS	
Moonrise	12:42 A.M.E.S.T.	Moonrise (Boston)	12:42 A.M.
Key letter	Q	Correction (Column Q, page 12)	+:12
		Correction (Column ☽, page 12)	+:04
		Moonrise (Dallas)	12:58 A.M.C.S.T.

Moon Souths. The time the moon souths in Boston is converted to the time it is due south in a locality other than Boston by applying the appropriate corrections from Columns I and ☽ on page 12.

BOSTON		DALLAS	
Moon souths	5:05 A.M.E.S.T.	Moon souths (Boston)	5:05 A.M.
		Correction (Column I, page 12)	+:43
		Correction (Column ☽, page 12)	+:04
			5:52 A.M.C.S.T.

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

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 9. The procedure for converting these times to those of other localities follows that for converting the times of sunrise and sunset given above.

Planetary Aspects. The planetary aspects indicated by the symbols and abbreviations on the right hand Almanac pages 15–37, are explained on pages 4, 76 and 77.

WEATHER OUTSIDE NEW ENGLAND

Barring Easterlies and Tropical Storms it may be said that readers of the Almanac living outside of New England and West of the Hudson will experience much the same changes in the weather as those indicated herein . . . provided one day is subtracted for each Time Zone (see page 67) West of Boston.

ALMANAC DATA — OUTSIDE NEW ENGLAND

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 preceding pages 10 and 11.)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	☽
	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
Your town (interpolate between nearest two). SUBTRACT OR ADD these MINUTES to Almanac times given.																		Moon
Atlanta, Ga.	+22	+18	+15	+11	+ 8	+ 5	+ 1	− 2	− 6	−11	−14	−18	−21	−25	−28	−31	−35	+2
Butte, Mont.	+31	+33	+35	+37	+39	+41	+42	+44	+46	+48	+50	+52	+54	+56	+58	+60	+62	+6
Charleston, W. Va.	+57	+55	+53	+51	+50	+48	+46	+45	+42	+40	+39	+37	+35	+33	+32	+30	+28	+2
Chicago, Ill.	+ 8	+ 8	+ 8	+ 7	+ 7	+ 7	+ 6	+ 6	+ 6	+ 6	+ 5	+ 5	+ 5	+ 5	+ 4	+ 4	+ 4	+2
Cincinnati, O.	+66	+64	+63	+61	+60	+59	+57	+56	+54	+52	+51	+49	+48	+46	+45	+44	+42	+2
Dallas, Tex.	+74	+70	+66	+63	+59	+56	+52	+48	+43	+38	+35	+31	+27	+23	+19	+16	+12	+4
Denver, Colo.	+26	+24	+23	+22	+21	+20	+19	+17	+16	+14	+13	+12	+11	+ 9	+ 8	+ 7	+ 6	+5
Des Moines, Ia.	+34	+33	+33	+33	+32	+32	+32	+31	+31	+30	+30	+29	+29	+29	+28	+28	+28	+3
Detroit, Mich.	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+48	+2
Indianapolis, Ind.	+10	+ 9	+ 8	+ 6	+ 5	+ 4	+ 3	+ 2	+ 1	− 1	− 2	− 3	− 4	− 5	− 6	− 7	− 8	+2
Jacksonville, Fla.	+80	+76	+71	+67	+62	+58	+53	+48	+43	+37	+32	+27	+23	+18	+14	+ 9	+ 5	+2
Los Angeles, Cal.	+36	+33	+29	+26	+23	+20	+16	+13	+ 9	+ 5	+ 1	− 2	− 5	− 9	−12	−15	−19	+7
Louisville, Ky.	+13	+11	+10	+ 8	+ 6	+ 5	+ 3	+ 1	− 1	− 3	− 5	− 7	− 8	−10	−12	−14	−16	+2
Miami, Fla.	+86	+80	+74	+69	+63	+57	+51	+44	+37	+30	+23	+17	+11	+ 5	− 1	− 7	−12	+1
Minneapolis-St. Paul, Minn.	+18	+19	+21	+22	+23	+25	+26	+27	+29	+30	+32	+33	+34	+36	+37	+38	+39	+3
New Orleans, La.	+57	+53	+48	+43	+38	+33	+28	+22	+16	+10	+ 5	− 1	− 6	− 9	−15	−20	−25	+3
New York, N. Y.	+17	+17	+16	+15	+15	+14	+13	+13	+12	+11	+10	+10	+ 9	+ 8	+ 8	+ 7	+ 6	0
Omaha, Neb.	+44	+43	+43	+42	+42	+41	+41	+40	+40	+39	+39	+38	+38	+37	+37	+36	+35	+4
Philadelphia, Pa.	+25	+24	+23	+22	+21	+20	+19	+18	+17	+15	+14	+13	+12	+11	+10	+ 9	+ 8	+1
Pittsburgh, Pa.	+43	+42	+41	+41	+40	+39	+38	+37	+36	+35	+34	+33	+32	+31	+31	+30	+29	+1
Raleigh, N. C.	+53	+50	+47	+45	+42	+40	+37	+34	+31	+27	+24	+22	+19	+16	+14	+11	+ 8	+1
Richmond, Va.	+42	+40	+38	+36	+34	+32	+30	+28	+26	+23	+21	+19	+17	+15	+13	+11	+ 9	+1
Rochester, N. Y.	+23	+24	+24	+25	+25	+25	+26	+26	+26	+27	+27	+28	+28	+28	+28	+29	+29	+1
St. Louis, Mo.	+30	+28	+27	+25	+24	+22	+20	+19	+17	+15	+13	+11	+10	+ 8	+ 7	+ 5	+ 3	+3
Seattle, Wash.	+ 4	+ 7	+ 9	+12	+14	+17	+20	+23	+25	+28	+31	+34	+37	+39	+42	+45	+48	+8
Topeka, Kans.	+51	+49	+48	+46	+45	+44	+42	+41	+39	+37	+36	+34	+33	+31	+30	+29	+27	+4

PRINCIPAL HOLIDAYS, ETC. IN 1947

America has no nationwide holidays. Each state determines its own. In the table that follows (*) indicates these quite generally observed by all states; (**) indicates those for only certain states; and (***) indicates days usually observed in some localities though probably not observed as holidays. Only continental United States is covered here.

Jan. 1 (*) New Year's Day
Jan. 8 (**) Battle of New Orleans
Jan. 19 (**) Robert E. Lee's Birthday
Jan. 26 (**) MacArthur Day (Ark.)
Jan. 29 (**) McKinley's Birthday
Feb. 8 (**) Arbor Day (Ariz.)
Feb. 12 (**) Abraham Lincoln's Birthday
Feb. 14 (**) Admission Day (Arizona)
Feb. 14 (***) Valentine's Day
Feb. 15 (***) Susan B. Anthony Day
Feb. 18 (**) Mardi Gras
Feb. 22 (*) George Washington's Birthday
Mar. 1 (**) State Day (Nebraska)
Mar. 2 (**) Texas Independence Day
Mar. 7 (**) Burbank Day (Cal.)
Mar. 15 (**) Jackson Day (Tennessee)
Mar. 17 (**) St. Patrick's or Evacuation Day
Mar. 25 (**) Maryland Day
Apr. 1 (**) State Election (Michigan)
Apr. 4 (**) Good Friday (Conn., Del., Fla., La., Md., Minn., N. J., Penn. & Tenn.)
Apr. 6 (**) Army Day
Apr. 7 (**) Easter Monday (N. C.)
Apr. 10 (***) Arbor Day (Neb.) 1872
Apr. 12 (**) Halifax Day (N. Car.)
Apr. 13 (**) Jefferson Day (Mo., Okla., Va.)
Apr. 14 (***) Pan American Day
Apr. 19 (**) Patriots' Day (Me., Mass.)
Apr. 21 (**) San Jacinto Day (Texas)
Apr. 24 (**) Arbor & Bird Day (Mass.)
Apr. 24 (**) Fast Day (N. H.)
Apr. 26 (**) Memorial Day (Fla., Ga., Miss.)
May 4 (**) R. I. Independence Day
May 10 (**) Memorial Day (N. C. & S. C.)
May 11 (***) Mother's Day
May 20 (**) Mecklenburg Day (N. C.)
May 22 (***) Nat'l Marine Day
May 30 (*) Decoration or Memorial Day
June 3 (**) Jefferson Davis Day (Ala., Ark., Fla., Ga., La., Miss., S. C., Tenn., Tex. & Va.)
June 14 (**) Flag Day (Mo. & Pa.)
June 15 (**) Pioneer Day (Idaho)
June 15 (***) Father's Day
June 17 (**) Bunker Hill Day (Suffolk County, Mass.)
June 20 (**) West Virginia Day
July 4 (*) Independence Day
July 13 (**) Forrest's Day (Tenn.)
July 24 (**) Pioneer Day (Utah)
Aug. 1 (**) Colorado Day
Aug. 4 (***) Coast Guard Day
Aug. 16 (**) Bennington, Vt. Battle Day
Aug. 19 (***) National Aviation Day
Aug. 30 (**) Huey Long Day (La.)
Sept. 1 (*) Labor Day
Sept. 8 (**) Election Day (Me.)
Sept. 9 (**) Admission Day (Cal.)
Sept. 12 (**) Defender's Day (Md.)
Sept. 17 (***) Constitution Day
Sept. 26 (***) Am. Indian Day
Oct. 6 (**) Missouri Day
Oct. 12 (*) Columbus Day
Oct. 27 (***) Navy Day
Oct. 31 (**) Nevada Day
Nov. 1 (**) All Saints' Day (La.)
Nov. 4 (*) Election Day
Nov. 11 (**) Armistice Day
Nov. 23 (**) Repudiation Day (Md.)
Nov. 27 (*) Thanksgiving Day
Dec. 7 (**) Delaware Day
Dec. 21 (***) Forefather's Day
Dec. 25 (*) Christmas Day

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	°	′	Days.	°	′	Days.	°	′	Days.	°	′	Days.	°	′
	1	23S.	02	7	22	25	13	21	32	19	20	25	25	19	03
	2	22	57	8	22	17	14	21	22	20	20	12	26	18	48
	3	22	52	9	22	09	15	21	11	21	19	59	27	18	33
	4	22	46	10	22	01	16	21	00	22	19	45	28	18	17
	5	22	39	11	21	52	17	20	49	23	19	32	29	18	01
	6	22	32	12	21	42	18	20	37	24	19	17	30	17	45

○ Full Moon, 6th day, 11 h. 47 m., evening, E.
☾ Last Quarter, 13th day, 7 h. 56 m., evening, E.
● New Moon, 22nd day, 3 hr. 34 m., evening, E.
☽ First Quarter, 29th day, 7 h. 7 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
1	1	W.	7 13	P	4 23	B	9 09	12	5¼	5¾	12A M 32	J	6P M 55	Ari	9
2	2	Th.	7 13	P	4 23	B	9 10	12	6¼	6¾	1 44	L	7 46	Tau	10
3	3	Fr.	7 13	P	4 24	B	9 11	11	7¼	7¾	2 58	M	8 41	Tau	12
4	4	Sa.	7 13	P	4 25	B	9 12	11	8	8¾	4 16	O	9 41	G'm	13
5	5	S.	7 13	P	4 26	B	9 13	10	9	9¾	5A M 35	Q	10 46	G'm	14
6	6	M.	7 13	P	4 27	B	9 14	10	10	10¾	rises	–	11P M 52	Cnc	15
7	7	Tu.	7 13	P	4 28	B	9 15	10	10¾	11½	5P M 01	A	—	—	
8	8	W.	7 13	O	4 29	C	9 16	9	11¾	—	6 17	B	12A M 57	Leo	16
9	9	Th.	7 13	O	4 30	C	9 17	9	0¼	0¾	7 34	D	1 58	Leo	17
10	10	Fr.	7 12	O	4 31	C	9 19	8	1¼	1½	8 48	F	2 54	Vir	18
11	11	Sa.	7 12	O	4 32	C	9 20	8	2¼	2½	9 59	G	3 44	Vir	19
12	12	S.	7 12	O	4 33	C	9 22	7	3	3¼	11P M 06	I	4 31	Lib	20
13	13	M.	7 12	O	4 35	C	9 23	7	4	4¼	—	–	5 15	Lib	21
14	14	Tu.	7 11	O	4 36	C	9 24	7	4¾	5¼	12A M 10	J	5 58	Lib	22
15	15	W.	7 11	O	4 37	C	9 26	6	5¾	6¼	1 14	L	6 41	Sco	23
16	16	Th.	7 10	O	4 38	C	9 28	6	6¾	7¼	2 16	M	7 25	Sco	24
17	17	Fr.	7 10	O	4 39	C	9 29	6	7½	8	3 18	O	8 10	Sag	25
18	18	Sa.	7 09	O	4 40	C	9 31	5	8½	9	4 19	P	8 58	Sag	26
19	19	S.	7 09	O	4 42	C	9 33	5	9	9¾	5 17	P	9 46	Sag	27
20	20	M.	7 08	O	4 43	C	9 35	5	9¾	10½	6 10	Q	10 37	Cap	28
21	21	Tu.	7 07	O	4 44	C	9 37	4	10½	11	6A M 58	P	11A M 27	Cap	29
22	22	W.	7 07	O	4 45	C	9 38	4	11¼	11¾	sets	–	12P M 17	Aqr	30
23	23	Th.	7 06	N	4 47	D	9 40	4	11¾	—	6P M 01	D	1 05	Aqr	1
24	24	Fr.	7 05	N	4 48	D	9 42	4	0¼	0½	7 06	E	1 52	Psc	2
25	25	Sa.	7 05	N	4 49	D	9 45	3	1	1¼	8 11	G	2 37	Psc	3
26	26	S.	7 04	N	4 50	D	9 47	3	1¾	1¾	9 17	H	3 21	Psc	4
27	27	M.	7 03	N	4 52	D	9 49	3	2¼	2½	10 23	J	4 06	Ari	5
28	28	Tu.	7 02	N	4 53	D	9 51	3	3	3½	11P M 31	K	4 51	Ari	6
29	29	W.	7 01	N	4 54	D	9 53	3	3¾	4¼	—	–	5 39	Tau	7
30	30	Th.	7 00	N	4 55	D	9 55	2	4¾	5¼	12A M 42	M	6 30	Tau	8
31	31	Fr.	6 59	N	4 57	D	9 58	2	5¼	6¼	1A M 56	O	7P M 26	G'm	9

JANUARY hath 31 days. 1947

Now, in this hushing silence that is snow,
The ear, left empty of the assaulting din,
Listens for other voices that may grow
Audible, here, from chancelleries, within,—
Saying the good were evermore the strong,
Saying the gentle bear the cross of merit,
Saying man's wisest word is still the song,—
And this the generations will inherit.

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	W.	Circumcision. ☐ ♁ ☉. {9.2 8.8	*Stormy*
2	Th.	Fast of Teveth. Tides {9.6 8.9	*with*
3	Fr.	☿ in Perl. ⊕ in Peri. Tides {10.1 9.0	*raw*
4	Sa.	Take down greens tomorrow Tides {10.6 9.2	*winds.*
5	E	2nd a. Christmas. ♂ ♁ ☾. {11.1 9.5	
6	M.	Epiph. ♂♂ ☉. ☾ in Peri. ☾ Runs high. {11.5 9.7	
7	Tu.	☿ in Aph. Tides {11.7 9.9	*Slippery*
8	W.	Dr. Thos. Barbour d. 1946 ♂ ♄ ☾. Hol. La. {11.6 —	
9	Th.	Tides {9.9 11.4	*going.*
10	Fr.	Moon contacted by radar 1946 Tides {9.8 10.9	*Fair*
11	Sa.	F. Scott Key b. 1844 Tides {9.7 10.3	*and*
12	E	1st S. af. Epi. ♂ Ψ ☾. ☾ on Eq. {9.5 9.7	
13	M.	Margaret Deland d. 1944 ☿ Stat. in R.A. {9.3 9.0	*colder.*
14	Tu.	St. Hilary. Coldest in year Tides {9.1 8.5	
15	W.	Chimney fires now Tides {9.0 8.1	*Rain,*
16	Th.	♂ ♅ ☾. Tides {9.0 7.8	*snow,*
17	Fr.	Benj. Franklin Bapt. 1706 ♂ ♀ ☾. Tides {9.0 7.7	*fog.*
18	Sa.	Magna Carta ret'd to G. B. 1946 ♂ ☿ ♂. {9.1 7.8	*and*
19	E	2d S. a. Ep. ☾ in Apo. Hol. South {9.3 7.9	
20	M.	☾ rides low. Tides {9.4 8.0	*sleet.*
21	Tu.	Steel strike, 1946 ♂ ♂ ☾. Feed the birds now Tides {9.6 8.2	
22	W.	♂ ☿ ☾. Tides {9.7 8.4	*Look*
23	Th.	Burma Road opened 1945 ♂ ☿ ☉ Sup. Tides {9.8 —	*for*
24	Fr.	Whitney Warren d. 1943 Tides {8.6 9.8	*a*
25	Sa.	Conv. of St. Paul. ♀ Gr. Hel. Lat. N. {8.7 9.7	*thaw.*
26	E	3rd S. a. Epi. ♂ ♄ ☉. Tides {8.9 9.6	
27	M.	☿ Gr. Hel. Lat. S. ♀ Gr. El. W. ☾ on Eq. Tides {9.1 9.4	
28	Tu.	Nantucket isolated 1945 Tides {9.3 9.2	*Blustery*
29	W.	Harry L. Hopkins d. 1946 Tides {9.4 8.9	*and*
30	Th.	Chas. I beheaded 1649 F.D.R. born 1882 Tides {9.6 8.7	
31	Fr.	Louisiana Purchase 1803 Tides {9.8 8.6	*rough.*

So you are thinking of good resolutions? That reminds us of a certain old lady reputed to be the greatest jam maker in the county. She has shelf on shelf of every kind of jam — peach, beach plum, raspberry, wild strawberry, cherry, etc., — they are there, the whole mouth-watering list. But no one ever gets to taste "Auntie's" masterpieces. She just keeps them on the shelf to be looked at. Well, those jams of hers seem to us like most of the resolutions you and I make. They're mighty pretty things, but we just keep them on the shelf.

Something more about good resolutions. If they're really good, they not only have to be used but they aren't made with loopholes you can wriggle through now and then. Which brings up by way of example the story of the old soak who swore off drinking the morning of January first, with the solemn vow, "I shall drink no more." In a few hours, however, he was again in his cups, and on being asked if that was what he meant by drinking "no more," replied, "It sure is,—no more than I used to."

Every farm should have its own shop and this is one month of the year when you can really put it to use. As you will want such a shop stove-heated in these bitter months best have it in a separate building pretty well away from your hay barns.

Trim up your young stand of pines by cutting all branches back close to the trunk.

1947] FEBRUARY, Second Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	17s. 12	7	15 25	13	13 28	19	11 24	25	9 13
2	16 55	8	15 06	14	13 08	20	11 03	26	8 51
3	16 37	9	14 47	15	12 48	21	10 41	27	8 28
4	16 20	10	14 28	16	12 27	22	10 19	28	8 06
5	16 02	11	14 08	17	12 06	23	9 57		
6	15 43	12	13 48	18	11 45	24	9 35		

○ Full Moon, 5th day, 10 h. 50 m., morning, W.
☾ Last Quarter, 12th day, 4 h. 58 m., morning, E.
● New Moon, 20th day, 9 h. 00 m., evening, W.
☽ First Quarter, 28th day, 4 h. 12 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
32	1	Sa.	6 58	N	4 58	D	10 00	2	6¾	7¼	3AM12	P	8PM26	G'm	10
33	2	S.	6 57	N	4 59	D	10 02	2	7¾	8½	4 26	Q	9 30	Cnc	11
34	3	M.	6 56	M	5 01	E	10 05	2	8¾	9½	5 33	Q	10 34	Cnc	12
35	4	Tu.	6 55	M	5 02	E	10 07	2	9¾	10¼	6AM33	Q	11PM37	Leo	13
36	5	W.	6 54	M	5 03	E	10 09	2	10¾	11¼	rises	–	—	—	—
37	6	Th.	6 53	M	5 05	E	10 12	2	11½	—	6PM22	E	12AM36	Leo	14
38	7	Fr.	6 52	M	5 06	E	10 15	2	0	0½	7 36	G	1 30	Vir	15
39	8	Sa.	6 50	M	5 07	E	10 18	1	1	1¼	8 48	H	2 20	Vir	16
40	9	S.	6 49	M	5 09	E	10 19	1	1¾	2	9 55	J	3 07	Lib	17
41	10	M.	6 48	M	5 10	E	10 22	1	2½	3	11PM00	K	3 52	Lib	19
42	11	Tu.	6 47	M	5 11	E	10 25	1	3¼	3¾	—	–	4 36	Sco	20
43	12	W.	6 45	M	5 12	F	10 27	1	4¼	4½	12AM05	M	5 20	Sco	21
44	13	Th.	6 44	L	5 14	F	10 30	1	5	5½	1 08	N	6 05	Sco	22
45	14	Fr.	6 43	L	5 15	F	10 32	1	6	6½	2 10	O	6 52	Sag	23
46	15	Sa.	6 41	L	5 16	F	10 35	1	6¾	7½	3 10	P	7 41	Sag	24
47	16	S.	6 40	L	5 18	F	10 38	2	7¾	8½	4 05	Q	8 30	Cap	25
48	17	M.	6 39	L	5 19	F	10 40	2	8½	9¼	4 55	Q	9 21	Cap	26
49	18	Tu.	6 37	L	5 20	F	10 43	2	9¼	10	5 38	P	10 11	Aqr	27
50	19	W.	6 36	L	5 21	F	10 46	2	10	10½	6AM16	O	11 00	Aqr	28
51	20	Th.	6 34	L	5 23	F	10 48	2	10¾	11¼	sets	–	11AM48	Aqr	29
52	21	Fr.	6 33	L	5 24	F	10 51	2	11½	11¾	6PM02	F	12PM34	Psc	1
53	22	Sa.	6 31	K	5 25	G	10 54	2	0	—	7 08	H	1 19	Psc	2
54	23	S.	6 30	K	5 26	G	10 57	2	0½	0¾	8 15	I	2 04	Ari	3
55	24	M.	6 28	K	5 28	G	10 59	2	1	1½	9 24	K	2 49	Ari	4
56	25	Tu.	6 27	K	5 29	G	11 02	2	1¾	2¼	10 34	L	3 36	Tau	5
57	26	W.	6 25	K	5 30	G	11 05	3	2½	3	11PM46	N	4 26	Tau	6
58	27	Th.	6 24	K	5 31	G	11 08	3	3¼	4	—	–	5 19	G'm	7
59	28	Fr.	6 22	K	5 33	G	11 10	3	4¼	5	1AM00	P	6PM16	G'm	8

FEBRUARY hath 28 days. [1947

The eye, enamored as it is,
And all but lost in love, and slow,
Lingers, expectant, waiting, now . . .
And the heart, no less would ask to know
If these prophetic, cloudy forms
Are flowers to come or flowers that grow
From some lost spring, remembered so.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Sa.	St. Bridget. ☌♄☾. 37° below 1851 Tides {10.1 8.7	This is the month when the farmer may take a bit of ease. But a good warm fire to sit by and the deep rocker to do the sitting in should not set a man to napping all the day. Let him catch up now on that stack of farm magazines, seed catalogues, and literature from the county agent and the Department of Agriculture that's been gathering on the top of his desk. Better look to the seed catalogues and get your order in. Everyone else has the same idea.
2	E	Septuagesima S. Pur. Ground-hog Day M. {10.5 9.0	
3	M.	☾ in Perl. ☾ runs high Tides {10.9 9.3 *Falling*	
4	Tu.	Cyrus Alger d. 1894 ☌♄☾. {11.2 9.6 *weather.*	
5	W.	Tides {11.4 10.0 *Windy*	
6	Th.	St. Dorothea. Tides {11.4 — *and*	
7	Fr.	J. H. Manley d. 1905 Tides {10.1 11.2 *shivery.*	
8	Sa.	Boy Scouts (Am.) Fd. 1910 Hol. Ariz. Tides {10.1 10.8	
9	E	Serag. S. ☌☿☾. ☾ on Eq. {10.0 10.2 *Slush*	How about doing a little experimenting this year to find out for yourself some of the things you've just taken, so far, on some other fellow's say-so? Instead of spraying all your orchard with the same kind of spray you have used year after year, try that new kind you've heard so much about on half of it. In planting a garden why not put some of it in this new "synthetic soil" they claim takes the place of all fertilizers, does away with natural diseases, and completely discourages attacking beetles and bugs. There are so many new things coming out this year and so many extravagant claims for most of them, a man has to prove many to himself.
10	M.	Normandie capsized 1942 Tides {9.8 9.5 *under-*	
11	Tu.	Fuel crisis N.Y.C. 1946 Tides {9.5 8.8 *foot.*	
12	W.	Lincoln's Birthday ☌♅☾. Tides {9.2 8.2	
13	Th.	W. A. Nellson d. 1946 {8.9 7.7 *Moderates*	
14	Fr.	St. Valentine's Day Hol. Ariz. {8.7 7.4 *but still*	
15	Sa.	☿ in ♌. □♅☉. ☾ in Apo. 18° below 1817 {8.6 7.4	
16	E	Quinqua. S. (Shrove S.) ☌♀☾. ☾ rides low.	
17	M.	Pultey landslide 1571 {8.9 7.8 [16th {8.7 7.8 *wintry.*	
18	Tu.	Shrove Tue. Mardi Gras Michelangelo b. 1564 {9.2 8.1	
19	W.	Ash Wed. ☌♂☾. {9.4 8.4 *More*	
20	Th.	Auld Deer "Worst in year" ☿ in Peri. ☿ Gr. El. E. {9.7 8.7	
21	Fr.	Set hens now to 28th. Tides {9.9 9.0 *comfortable*	
22	Sa.	Washington's Birthday ☌☿☾. {— 10.0 *indoors.*	
23	E	1st S. in L. Quadrag. ☾ on Eq. {9.3 9.9	
24	M.	St. Matthias ☉ Stat. in R.A. Highest tides ever 1723 {9.6 9.8	
25	Tu.	Colt's six-shooter patented 1836 Tides {9.8 9.6	
26	W.	Alex. James d. 1946 ☿ Stat. in R.A. Ember Day *Rain or*	
27	Th.	Rockport, Mass. incorporated 1840 Tides {9.9 8.9 *snow.*	
28	Fr.	Lincoln toured N. E. 1848 ☌☉☾. Ember Day also Sat. {9.9 8.6	

The birds are arriving at the Vineyard just about now. Early crows may also be seen.

It always pays to raise what the other fellow doesn't, particularly for small cash crops. How about new raspberry bushes and more strawberry plants? Ever try raising squab? A sure market there with the summer people.

1947] MARCH, Third Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	7S. 43	7	5 25	13	3 04	19	0 42	25	1 40
2	7 20	8	5 02	14	2 40	20	0S. 18	26	2 04
3	6 57	9	4 38	15	2 17	21	0N. 06	27	2 27
4	6 34	10	4 15	16	1 53	22	0 29	28	2 51
5	6 11	11	3 51	17	1 29	23	0 53	29	3 14
6	5 48	12	3 28	18	1 06	24	1 17	30	3 38

○ Full Moon, 6th day, 10 h. 15 m., evening, W.

☾ Last Quarter, 14th day, 1 h. 28 m., evening, W.

● New Moon, 22nd day, 11 h. 34 m., morning, E.

☽ First Quarter, 29th day, 11 h. 15 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
60	1	Sa.	6 21	K	5 34	G	11 13	3	5¼	6	2A M13	Q	7P M17	Cnc	9
61	2	S.	6 19	K	5 35	G	11 16	3	6½	7	3 21	Q	8 20	Cnc	10
62	3	M.	6 17	K	5 36	G	11 19	4	7½	8¼	4 20	Q	9 21	Leo	12
63	4	Tu.	6 16	K	5 37	H	11 22	4	8½	9¼	5 10	P	10 20	Leo	13
64	5	W.	6 14	J	5 39	H	11 25	4	9½	10	5A M50	O	11P M16	Vir	14
65	6	Th.	6 12	J	5 40	H	11 28	4	10½	11	rises	–	—	—	—
66	7	Fr.	6 11	J	5 41	H	11 30	4	11¼	11¾	6P M24	H	12A M07	Vir	15
67	8	Sa.	6 09	J	5 42	H	11 33	5	0	—	7 34	I	12 55	Lib	16
68	9	S.	6 07	J	5 43	H	11 36	5	0½	0¾	8 42	K	1 42	Lib	17
69	10	M.	6 06	J	5 45	H	11 39	5	1¼	1½	9 48	L	2 27	Lib	18
70	11	Tu.	6 04	J	5 46	H	11 42	6	2	2¼	10 54	N	3 12	Sco	19
71	12	W.	6 02	J	5 47	H	11 45	6	2¾	3¼	11P M58	O	3 58	Sco	20
72	13	Th.	6 01	J	5 48	H	11 48	6	3½	4	—	–	4 45	Sag	21
73	14	Fr.	5 59	J	5 49	H	11 50	6	4¼	5	12A M59	P	5 33	Sag	22
74	15	Sa.	5 57	I	5 50	I	11 53	7	5¼	6	1 57	Q	6 23	Cap	23
75	16	S.	5 55	I	5 52	I	11 56	7	6¼	7	2 49	Q	7 13	Cap	24
76	17	M.	5 54	I	5 53	I	11 59	7	7¼	7¾	3 35	P	8 03	Cap	25
77	18	Tu.	5 52	I	5 54	I	12 02	7	8	8¾	4 15	P	8 53	Aqr	26
78	19	W.	5 50	I	5 55	I	12 05	8	8¾	9½	4 48	O	9 41	Aqr	27
79	20	Th.	5 48	I	5 56	I	12 08	8	9½	10	5 17	M	10 28	Psc	28
80	21	Fr.	5 47	I	5 57	I	12 11	8	10¼	11¼	5A M43	L	11 14	Psc	29
81	22	Sa.	5 45	I	5 59	I	12 14	9	11	11¾	sets	–	11A M59	Ari	0
82	23	S.	5 43	I	6 00	I	12 16	9	11¾	—	7P M12	J	12P M45	Ari	1
83	24	M.	5 41	I	6 01	I	12 19	9	0	0¼	8 23	L	1 32	Ari	2
84	25	Tu.	5 40	I	6 02	J	12 21	10	0¾	1	9 37	N	2 22	Tau	3
85	26	W.	5 38	H	6 03	J	12 24	10	1¼	1¾	10P M51	O	3 15	Tau	4
86	27	Th.	5 36	H	6 04	J	12 28	10	2¼	2¾	—	–	4 12	G'm	5
87	28	Fr.	5 35	H	6 05	J	12 31	10	3	3½	12A M05	Q	5 11	G'm	6
88	29	Sa.	5 33	H	6 06	J	12 34	11	4	4¾	1 15	Q	6 13	Cnc	7
89	30	S.	5 31	H	6 08	J	12 37	11	5	5¾	2 16	Q	7 14	Cnc	8
90	31	M.	5 29	H	6 09	J	12 38	11	6¼	7	3A M08	Q	8P M12	Leo	9

MARCH hath 31 days. [1947

Now the old tree, with vague ambiguous hands,
Gesticulates on the unaging sky,
Spelling the thing that no sky understands,
Spelling the same to ignorant passers-by:
To a man, staring, to the unheeding boy,
To lovers, hand in hand, too fond to see:
"The old are laughers, having won to joy
Through winds that are time passing," spells the tree.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Sa.	St. David. C. J. Swan d. 1935 Hol. Neb. {9.9 8.4 *Stormy*	High time now to get your feet out of the oven. Those stale drifts in the corners are going fast, and it's just a step from snow to mud to grass. Things are piling up. Take that manure outside the cowbarn. Better mend that broken wheel on the spreader now. Mend everything, for that matter, that isn't junk. And save the junk if there are spare parts in it. Town Meeting is a kind of deadline. After that you "go."
2	E	2nd S. in L. ☌ Gr. Hel. Lat. S. ☿ Gr. Hel. Lat. N. {10.0 8.5	
3	M.	♂ ♄ ☾. ☾ in Peri. {10.2 8.9 [2nd ☾ runs high. Hol. Tex.	
4	Tu.	Mass. Bay Colony chartered 1628 Tides {10.5 9.3 *now.*	
5	W.	Feast of Esther. Ice Patrol starts out Tides {10.8 9.8	
6	Th.	Purim. W. H. Wells d. 1946 Tides {11.0 10.2 *High*	You should have a thought to the labor you will need this year. Don't hire a man for work that you can best do yourself, and be sure that the handling of your machines is by those who understand them. If this means hours of slow teaching, it will be many times repaid. Sound machines carefully looked after are your chief asset. Wages are high, and help generally inexperienced (what has become of the good old hired-man?). Hire no more men than you can keep an eye on, even if this means cutting down on crops. Before a man goes on your payroll, let him know how long you are hiring him for and what you expect of him. Stick to the letter of your understanding as to wages and hours and holidays.
7	Fr.	The Ides begin Beware of Old Colind Calf. Hol. {11.0 10.4 *winds.*	
8	Sa.	♂ Ψ ☾. ♂ ☿ ☉ Inf. ☾ on Eq. Tides {— 10.8	
9	E	3rd S. in Lent. □ ♋ ☉. {10.4 10.4 *Alto-*	
10	M.	Jos. C. Lincoln d. 1944 Tides {10.3 9.9 *gether*	
11	Tu.	J. Appleseed d. 1847 Great storms in 1888, 1924, 1939 {10.0 9.3 *un-*	
12	W.	St. Gregory. ♂ ♃ ☾. {9.6 8.6 *pleasant.*	
13	Th.	Edwin F. Edgett d. 1946 Emirian 1944 Tides {9.2 8.0	
14	Fr.	♃ Stat. in R. A. Tides {8.8 7.6 *Storms*	
15	Sa.	Caesar ass. BC. 44 ☾ in Apo. ☾ rides low. {8.5 7.4 *again*	
16	E	4th S. in L. ♂ ☿ ♂. Tides {8.4 7.3 *but*	
17	M.	St. Patrick Evac. Day W. J. Noonan d. 1946 {8.5 7.6 *clears*	
18	Tu.	Vesuvius erupt. 1944 ♂ ♀ ☾. {8.7 7.9 *nicely.*	
19	W.	St. Joseph's Swallows arr. San Capistrano Tides {9.0 8.4	
20	Th.	"Give Me Liberty", 1775 ♂ ☿ ☾. ♂ ♂ ☾. {9.3 8.8 *More*	
21	Fr.	St. Benedict. ☿ Stat. in R.A. Spring begins. ☉ enters ♈.	
22	Sa.	Maple sap is running now ♀ in ♉ {9.9 9.7 [21st {9.6 9.2 *wind*	
23	E	Passion S. (5th in L.) ☾ on Eq. {10.0 10.1 *and*	
24	M.	Longfellow d. 1882 Tides {— 10.0 *cold.*	
25	Tu.	Ann. or Lady Day. Hol. Md. Tides {10.8 9.9 *A few*	If the barnyard has washed out considerably this winter, put a good coating of hard pan with plenty of gravel over it. See if your town road agent can't tar your driveway. There is nothing harder on floors, linoleum and rugs than the constant tracking of dirt and gravel.
26	W.	Walt. Whitman d. 1892 ☿ in ♉. {10.4 9.6 *mild*	
27	Th.	Florida disc. 1518 ♂ in Peri. Tides {10.4 9.2 *days*	
28	Fr.	Seven Sor. Vir. Mary. ♂ ☉ ☾. The Irish were starving, 1847 {10.2 8.8	
29	Sa.	German Army whipped 1945 ☾ in Peri. ☾ runs high. {10.0 8.8 *may*	
30	E	Palm S. (6th in L.) ♂ Ψ ☉. {9.8 8.4 *be ex-*	
31	M.	Goold Brown d. 1857 ♂ ♄ ☾. Tides {9.8 8.6 *pected*	

ASTRONOMICAL CALCULATIONS.

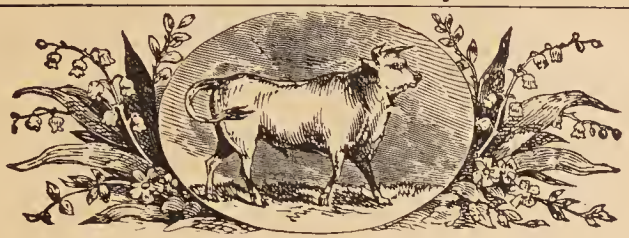
☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	4N. 24	7	6 41	13	8 55	19	11 03	25	13 04		
	2	4 47	8	7 04	14	9 16	20	11 23	26	13 24		
	3	5 10	9	7 26	15	9 38	21	11 44	27	13 43		
	4	5 33	10	7 49	16	9 59	22	12 04	28	14 02		
	5	5 56	11	8 11	17	10 21	23	12 24	29	14 21		
	6	6 19	12	8 33	18	10 42	24	12 44	30	14 40		

○ Full Moon, 5th day, 10 h. 28 m., morning, W.
☾ Last Quarter, 13th day, 9 h. 23 m., morning, W.
● New Moon, 20th day, 11 h. 19 m., evening, W.
☽ First Quarter, 27th day, 5 h. 18 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
91	1	Tu.	5 28	H	6 10	J	12 42	12	7¼	8	3 A M 49	O	9 P M 07	Leo	10
92	2	W.	5 27	H	6 11	J	12 44	12	8¼	9	4 23	N	9 59	Vir	11
93	3	Th.	5 24	H	6 12	J	12 48	12	9¼	9¾	4 52	L	10 47	Vir	12
94	4	Fr.	5 22	H	6 13	K	12 51	13	10¼	10½	5 A M 16	J	11 P M 33	Lib	13
95	5	Sa.	5 21	G	6 14	K	12 54	13	11	11¼	rises	–	—	—	—
96	6	S.	5 19	G	6 15	K	12 56	13	11¾	—	7 P M 31	K	12 A M 18	Lib	15
97	7	M.	5 17	G	6 17	K	12 59	13	0	0½	8 37	M	1 03	Sco	16
98	8	Tu.	5 16	G	6 18	K	13 02	14	0¾	1¼	9 43	N	1 49	Sco	17
99	9	W.	5 14	G	6 19	K	13 05	14	1¼	1¾	10 47	P	2 36	Sgr	18
100	10	Th.	5 12	G	6 20	K	13 08	14	2	2½	11 P M 47	P	3 24	Sgr	19
101	11	Fr.	5 11	G	6 21	K	13 10	15	2¾	3½	—	–	4 14	Sgr	20
102	12	Sa.	5 09	G	6 22	K	13 13	15	3¾	4¼	12 A M 42	Q	5 05	Cap	21
103	13	S.	5 07	G	6 23	K	13 16	15	4½	5¼	1 31	P	5 55	Cap	22
104	14	M.	5 06	G	6 24	L	13 19	15	5½	6¼	2 13	P	6 45	Aqr	23
105	15	Tu.	5 04	F	6 26	L	13 22	16	6½	7¼	2 48	O	7 33	Aqr	24
106	16	W.	5 02	F	6 27	L	13 24	16	7¼	8	3 18	N	8 20	Aqr	25
107	17	Th.	5 01	F	6 28	L	13 27	16	8¼	8¾	3 45	L	9 06	Psc	26
108	18	Fr.	4 59	F	6 29	L	13 30	16	9	9½	4 09	K	9 51	Psc	27
109	19	Sa.	4 58	F	6 30	L	13 32	17	9¾	10	4 A M 32	I	10 37	Ari	28
110	20	S.	4 56	F	6 31	L	13 35	17	10½	10¾	sets	–	11 A M 24	Ari	29
111	21	M.	4 55	F	6 32	L	13 38	17	11¼	11½	7 P M 19	M	12 P M 13	Tau	1
112	22	Tu.	4 53	F	6 34	L	13 41	17	—	0	8 36	O	1 06	Tau	2
113	23	W.	4 51	F	6 35	L	13 43	17	0¼	0¾	9 53	P	2 03	G'm	3
114	24	Th.	4 50	F	6 36	M	13 46	18	1	1½	11 P M 07	Q	3 04	G'm	4
115	25	Fr.	4 49	E	6 37	M	13 48	18	1¾	2½	—	–	4 06	Cnc	5
116	26	Sa.	4 47	E	6 38	M	13 51	18	2¾	3½	12 A M 12	Q	5 08	Cnc	6
117	27	S.	4 46	E	6 39	M	13 54	18	3¼	4½	1 07	Q	6 08	Leo	7
118	28	M.	4 44	E	6 40	M	13 56	18	4¾	5½	1 51	P	7 04	Leo	8
119	29	Tu.	4 43	E	6 41	M	13 59	18	6	6¾	2 27	N	7 55	Vir	9
120	30	W.	4 41	E	6 43	M	14 01	18	7	7¾	2 A M 56	L	8 P M 43	Vir	10

APRIL hath 30 days. [1947



The shapeliness of trees,
Of flower . . . of leaf . . . is such
That the mind's way with these
Is less like thought than touch,
And the eye's way in this,
Less like a look than a kiss.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, Etc.	Farmer's Calendar.
1	Tu.	Only fools observe this day — Pacific tidal wave 1946 — Hol. Mich. {9.8 9.0	
2	W.	U. S. Mint est. 1792 — Hol. Ariz. — Tides {10.1 9.5 — *Pleasant*	
3	Th.	Maundy Thurs. — Brahms d.1897 — ♄ Stat. in R. A. {10.3 10.0 — *then*	
4	Fr.	Good Fri. ☌♆☾. — Snowed 12 in. N.H. 1898 — {10.5 10.3	
5	Sa.	Passover — ☿ Gr. El. ☿ W. — ☿ in Aph. ☾ on Eq. — Tides {10.4 10.5	
6	E	Easter S. — Army Day — Tides {10.3 10.5 — *changes*	
7	M.	Easter Monday — Hol. N.C. — Tides {— 9.9 — *to lowery*	
8	Tu.	G. C. Benedict d. 1907 — ☌♃☾. — {10.4 9.4 — *and*	
9	W.	March into Egypt — Tides {10.1 8.9 — *dank.*	
10	Th.	N. Y. Herald Tribune founded 1844 — Hol. Neb. — Tides {9.7 8.4	
11	Fr.	Wind blew 231 mph. Mt. Wash., 1934 — Tides {9.3 8.0 — *Cold*	
12	Sa.	F. D. Roosevelt d. 1945 — ☾ in Apo. — ☾ rides low. Hol. S.C. {8.9 7.7	
13	E	Low S. 1st af. E. — Hol.—Md., W. Va., Va. {8.5 7.5	
14	M.	Earliest opening date Rangeley Lake, Me. {8.4 7.5 — *easterly*	
15	Tu.	Taxes! — Tides {8.4 7.8 — *storm with*	
16	W.	Average date last killing frost — Tides {8.6 8.3 — *snow.*	
17	Th.	Magellan K. 1521 — Tides {8.9 8.8 — *Drizzles.*	
18	Fr.	Ernie Pyle d. 1945 — ☌☿☾. — League of Nat. aban. 1946 {9.2 9.3	
19	Sa.	Patriots' D. ☌☿☾. ☌♂☾. ☌☿♂. ☾ on Eq.	
20	E	2nd S. af. E. — {9.9 10.4 — [19th {9.6 9.9	
21	M.	S. L. Clemens d. 1910 — Hol. Texas — {10.0 10.7 — *Changeable.*	
22	Tu.	Mississippi R. bridged 1856 — Tides {— 10.0 — *Milder.*	
23	W.	St. George. □♄☉. — Shakespeare b. 1552 {11.0 9.9	
24	Th.	Fast Day (N. H.) — ☌ ♁ ☾. ☾ in Peri. {11.0 9.6 — *Cold*	
25	Fr.	St. Mark. — Robigalia — ☿ Gr. Lat. — Hel. S. ♀ in Aph. ☾ Runs high.	
26	Sa.	Hol. Fla., Ga., Miss. {10.5 8.9 — [25th {10.8 9.2 — *for*	
27	E	3rd S. a. E. ☌♄☾. — D.S.T. begins in some places {10.1 8.6	
28	M.	Capt. Bob Bartlett d. 1946 — Mars conceived {9.7 8.6 — *now.*	
29	Tu.	Tawawa R. ice loosening — Tides {9.5 8.8 — *Warmer.*	
30	W.	Hitler—a suicide? 1945 — Hudson shad running — Tides {9.5 9.2	

Any plant growing in the wrong place is a "weed"

Honey is a good cash crop to any farmer, but bees themselves are a pure necessity to the fruit grower as they are the chief means of pollinating. The blossom period is just around the corner and your order for swarms from commercial handlers should be in now at latest. A hive to every acre of orchard is more than ample, far less should do. Indeed many fruit growers depend solely on wild honey bees and bumble bees, though this is a poor practice as the activity and numbers of these vary greatly from year to year.

Unfortunately, as New England fruit growers learned only too well in the spring of 1945, honey bees will not work at temperatures below 55° Fahrenheit (bumble bees a bit lower). In the long drawn out cold and rainy spell of the 1945 blossom period the temperatures were seldom above 50°. The result was the slimmest apple crop in New England history.

The resourceful fruit grower should consider this old-fashioned method of helping out the bees; cut blossom sprays of good pollinizers for your McIntosh trees, for instance, from Gravensteins and Cortlands and place them in the boughs of the "Macs." This will help as it will make the most of the activities of even a very few bees.

The practice of dusting gathered pollen through orchards is not yet general, but may well be in a few years. Without examining the cost of such an operation, it would seem a certain answer.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	14N. 58	7	16 43	13	18 17	19	19 41	25	20 53
2	15 16	8	16 59	14	18 32	20	19 54	26	21 04
3	15 34	9	17 15	15	18 47	21	20 07	27	21 14
4	15 51	10	17 31	16	19 01	22	20 19	28	21 24
5	16 09	11	17 47	17	19 15	23	20 31	29	21 34
6	16 26	12	18 02	18	19 28	24	20 42	30	21 43

○ Full Moon, 4th day, 11 h. 53 m., evening, E.

☾ Last Quarter, 13th day, 3 h. 08 m., morning, E.

● New Moon, 20th day, 8 h. 44 m., morning, E.

☽ First Quarter, 26th day, 11 h. 35 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
121	1	Th.	4 40	E	6 44	M	14 04	19	8	8½	3 A.M. 21	K	9 P.M. 29	Lib	11
122	2	Fr.	4 39	E	6 45	M	14 06	19	9	9½	3 44	I	10 14	Lib	12
123	3	Sa.	4 37	E	6 46	M	14 09	19	9¾	10¼	4 P.M. 07	H	10 58	Sco	13
124	4	☽	4 36	D	6 47	N	14 11	19	10¾	11	rises	—	11 P.M. 43	Sco	14
125	5	M.	4 35	D	6 48	N	14 13	19	11¼	11½	7 P.M. 29	N	—	—	—
126	6	Tu.	4 33	D	6 49	N	14 16	19	—	0	8 34	O	12 A.M. 29	Sco	15
127	7	W.	4 32	D	6 50	N	14 18	19	0¼	0¾	9 36	P	1 17	Sgr	16
128	8	Th.	4 31	D	6 51	N	14 20	19	0¾	1½	10 34	Q	2 06	Sgr	17
129	9	Fr.	4 30	D	6 52	N	14 23	19	1½	2	11 P.M. 25	Q	2 57	Cap	18
130	10	Sa.	4 28	D	6 53	N	14 25	19	2¼	3	—	—	3 47	Cap	19
131	11	☽	4 27	D	6 54	N	14 27	19	3	3¾	12 A.M. 10	P	4 37	Cap	20
132	12	M.	4 26	D	6 56	N	14 29	19	4	4½	12 47	P	5 26	Aqr	21
133	13	Tu.	4 25	D	6 57	N	14 32	19	4¾	5½	1 19	N	6 13	Aqr	22
134	14	W.	4 24	C	6 58	O	14 34	20	5¾	6½	1 46	M	6 58	Psc	23
135	15	Th.	4 23	C	6 59	O	14 36	20	6¾	7¼	2 11	K	7 42	Psc	24
136	16	Fr.	4 22	C	7 00	O	14 38	19	7½	8	2 34	J	8 27	Ari	25
137	17	Sa.	4 21	C	7 01	O	14 40	19	8½	8¾	2 56	I	9 13	Ari	26
138	18	☽	4 20	C	7 02	O	14 42	19	9¼	9½	3 21	G	10 01	Tau	27
139	19	M.	4 19	C	7 03	O	14 44	19	10	10¼	3 A.M. 48	E	10 52	Tau	28
140	20	Tu.	4 18	C	7 04	O	14 46	19	10¾	11	sets	—	11 A.M. 48	G'm	0
141	21	W.	4 17	C	7 05	O	14 48	19	11¾	11¾	8 P.M. 48	Q	12 P.M. 49	G'm	1
142	22	Th.	4 16	C	7 06	O	14 49	19	—	0½	10 00	Q	1 53	Cnc	2
143	23	Fr.	4 16	C	7 07	O	14 51	19	0¾	1¼	11 01	Q	2 58	Cnc	3
144	24	Sa.	4 15	C	7 08	O	14 53	19	1½	2¼	11 P.M. 50	P	4 00	Leo	4
145	25	☽	4 14	C	7 09	P	14 55	19	2½	3¼	—	—	4 59	Leo	5
146	26	M.	4 13	B	7 09	P	14 56	19	3½	4¼	12 A.M. 29	O	5 53	Vir	6
147	27	Tu.	4 13	B	7 10	P	14 58	19	4½	5¼	1 00	M	6 42	Vir	7
148	28	W.	4 12	B	7 11	P	14 59	19	5¾	6¼	1 26	K	7 28	Vir	8
149	29	Th.	4 11	B	7 12	P	15 01	19	6¾	7¼	1 50	J	8 12	Lib	9
150	30	Fr.	4 11	B	7 13	P	15 02	18	7¾	8¼	2 12	H	8 56	Lib	11
151	31	Sa.	4 10	B	7 14	P	15 04	18	8¾	9	2 A.M. 34	G	9 P.M. 40	Sco	12

MAY hath 31 days. [1947

Look how the witty grass,
With a green, quick mind,
Is still for two who pass
In love—and blind . . .
A couch the grass will spread
For lover and lover,—
And never a word be said
Of a green cover.

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Th.	St. Philip & St. James. {9.6 9.7 *Mackerel*	To the casual eye the green leaf, the tender shoots, the eager buds ready to burst are nature just about as usual this time of year, mighty pleasing to contemplate, relaxing and inspiring. Not so to the farmer. He is the poor devil on the "inside" of all this. And yet not really on the inside either, for Nature feeds him with her half truths only, her false promises, her juggling oracles. He knows it, and so, while hoping for the best, he plans for the worst, and expects, maybe, something about half-way between.
2	Fr.	☌☿. ☾ on Eq. Hol. Calif. Tides {9.8 10.1 *skies*	
3	Sa.	Invention of 'Frisco Fire the Cross 1851 Tides {9.8 10.3 *may*	
4	E	4th S.a.E. Jenny Lind London 1847 {9.7 10.5 *hold*	
5	M.	Am. Medical Ass. org. 1847 ☌♃☾. {9.6 10.5 *rain.*	
6	Tu.	Bret Harte d. 1902 Tides {— 9.3	
7	W.	Official VE Day 1945 Tides {10.3 9.0 *Windy*	
8	Th.	Lag B'Omer Tides {10.1 8.7 *and disa-*	
9	Fr.	☾rides low. Tides {9.8 8.3 *greeable.*	
10	Sa.	Red Sox won 15 Straight 1946 ☾ in Apo. Hol. N. & S. Car. {9.4 8.1	
11	E	5th S.a.E. Rogation Sunday Mother's Day {9.0 7.9	
12	M.	Langdon (N H.) decl. V.P. 1812. Minor Tides {8.7 7.8	
13	Tu.	Pius IX b. 1792 Rogation {8.5 8.0 *Cold.*	
14	W.	♂♃☉.☿ in ♌. Days Tides {8.5 8.2	
15	Th.	Ascen. D. ☌☿☉ Sup. {8.6 8.7 *Wet.*	
16	Fr.	S.S. Poland lost 1840 ☾ on Eq. Tides {8.8 9.3 *Change-*	
17	Sa.	☌☿♂ {9.1 9.8 18th ☌♂☾. ☌☿☾. ♀ Gr. Hel. Lat. S.	
18	E	S.a.As. Minor Rogation Am. Day {9.5 10.4 *able,*	
19	M.	Booth Tarkington d. 1946 ☿ in ☿ Peri. Hol. Ore {9.8 11.0 *may*	
20	Tu.	Columbus d. 1506 ☉ Tot. Ecl. ☌☿☾. {9.9 11.8 *shower.*	
21	W.	E. Poole, fdr. Taunton, Mass. d. 1664 ☌☉☾. {10.0 11.5	
22	Th.	Nat'l Marine Day Chief Justice Stone d. 1946 ☾ in Peri. {— 9.9	
23	Fr.	Churchill res. 1945 ☾ runs high Tides {11.4 9.7	
24	Sa.	Rail Strike 1946 ☌♄☾. Tides {11.1 9.4 *Warm*	
25	E	Whit S. Pente- cost Shev- uoth {10.7 9.1 *for*	
26	M.	Civil War ended 1865 Tides {10.2 9.0	
27	Tu.	St. Bede. Pied Piper 1254 Tides {9.7 9.0 *now.*	
28	W.	Noah Webster d. 1843 Ember Day ☌☿ ☉. Tides {9.4 9.2	
29	Th.	☌♆☾. ☿ Gr. Hel. Lat. N. ☾ on Eq. {9.2 9.4 *Rainy*	
30	Fr.	Memor- ial Day Tides {9.1 9.7 *days.*	
31	Sa.	Johnstown Flood 1889 Snowed in Mid- west 1946 {9.1 10.0	

But he has commonsense and the ability to cut his cloth to fit the pattern. If it's been too wet to get the field corn planted in time to mature, he figures on planting oats instead.

But he can forget all his worries with his fishing pole—for a couple of evening hours—that's the nerve tonic for him. And a good mess of hornpout fried crisp will heat the sleekest trout or salmon.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	22N.00	7	22 43	13	23 12	19	23 25	25	23 24
	2	22 08	8	22 49	14	23 15	20	23 26	26	23 23
	3	22 16	9	22 54	15	23 18	21	23 27	27	23 21
	4	22 24	10	22 59	16	23 20	22	23 27	28	23 18
	5	22 29	11	23 04	17	23 23	23	23 26	29	23 15
	6	22 37	12	23 08	18	23 24	24	23 26	30	23 12

○ Full Moon, 3rd day, 2 h. 27 m., evening, E.
☾ Last Quarter, 11th day, 5 h. 58 m., evening, W.
● New Moon, 18th day, 4 h. 26 m., evening, W.
☽ First Quarter, 25th day, 7 h. 25 m., morning, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
152	1	S.	4 10	B	7 15	P	15 05	18	9½	9¾	2A M58	F	10P M25	Sco	13
153	2	M.	4 09	B	7 15	P	15 06	18	10¼	10½	3A M24	D	11P M12	Sgr	14
154	3	Tu.	4 09	B	7 16	P	15 07	18	11	11	rises	–	—	—	—
155	4	W.	4 08	B	7 17	P	15 09	18	11½	11¾	8P M25	P	12A M01	Sgr	15
156	5	Th.	4 08	B	7 18	P	15 10	18	—	0¼	9 20	Q	12 51	Sgr	16
157	6	Fr.	4 07	B	7 18	P	15 11	17	0¼	1	10 07	P	1 41	Cap	17
158	7	Sa.	4 07	B	7 19	P	15 12	17	1	1¾	10 46	P	2 32	Cap	18
159	8	S.	4 07	B	7 19	P	15 13	17	1¾	2½	11 20	O	3 21	Aqr	19
160	9	M.	4 07	B	7 20	P	15 13	17	2½	3¼	11P M48	N	4 08	Aqr	20
161	10	Tu.	4 06	B	7 21	P	15 14	17	3¼	4	—	–	4 53	Psc	21
162	11	W.	4 06	B	7 21	P	15 15	16	4¼	4¾	12A M13	L	5 37	Psc	22
163	12	Th.	4 06	B	7 22	P	15 16	16	5	5¾	12 36	K	6 20	Psc	23
164	13	Fr.	4 06	B	7 22	P	15 16	16	6	6½	12 58	I	7 04	Ari	24
165	14	Sa.	4 06	B	7 23	P	15 17	16	7	7¼	1 21	H	7 49	Ari	25
166	15	S.	4 06	A	7 23	Q	15 17	16	7¾	8¼	1 46	F	8 38	Tau	26
167	16	M.	4 06	A	7 24	Q	15 18	15	8¾	9	2 14	D	9 31	Tau	27
168	17	Tu.	4 06	A	7 24	Q	15 18	15	9½	9¾	2A M50	B	10 29	G'm	28
169	18	W.	4 06	A	7 24	Q	15 18	15	10½	10¾	sets	–	11A M32	G'm	29
170	19	Th.	4 06	A	7 25	Q	15 18	15	11¼	11½	8P M46	Q	12P M38	Cnc	1
171	20	Fr.	4 06	A	7 25	Q	15 19	14	—	0¼	9 42	Q	1 44	Cnc	2
172	21	Sa.	4 06	A	7 25	Q	15 19	14	0½	1	10 26	P	2 47	Leo	3
173	22	S.	4 07	A	7 25	Q	15 19	14	1¼	2	11 01	N	3 45	Leo	4
174	23	M.	4 07	A	7 25	Q	15 19	14	2¼	3	11 30	L	4 37	Vir	5
175	24	Tu.	4 07	A	7 26	Q	15 18	14	3¼	4	11P M55	J	5 26	Vir	6
176	25	W.	4 07	A	7 26	Q	15 18	13	4¼	5	—	–	6 11	Lib	7
177	26	Th.	4 08	A	7 26	Q	15 18	13	5¼	6	12A M17	I	6 55	Lib	8
178	27	Fr.	4 08	A	7 26	Q	15 18	13	6¼	6¾	12 40	G	7 39	Sco	9
179	28	Sa.	4 09	A	7 26	Q	15 17	13	7¼	7¾	1 03	F	8 23	Sco	10
180	29	S.	4 09	A	7 26	P	15 17	13	8¼	8½	1 28	D	9 09	Sgr	11
181	30	M.	4 09	B	7 26	P	15 16	12	9¼	9¼	1A M57	C	9P M57	Sgr	12

JUNE hath 30 days. [1947

An old house, in the white sun,
And the wide green around;
And the old sum: one and one,
And the right answer found.—
A passer-by may look
On what as well had been
Lost Eden in a book,
Save for two going in,
Half turning, there, to look
Where a passer-by had been.

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.
1	E	Trinity S. Nicomede. ☌ ☿ ☾. {9.1 10.2
2	M.	Tides {9.0 10.3 *May storm*
3	Tu.	Bridgewater, Mass. fd. 1656 ☾ Par. Ecl. ☌ ☉. {8.9 10.3
4	W.	No. Am. disc. 1495 Tides {8.8 10.2 *from East.*
5	Th.	Corpus Christi. St. Boniface. ☾ Rides low. {— 8.6
6	Fr.	Invasion, 1944 ☾ in Apo. Tides {10.0 8.5
7	Sa.	Missouri R. bridged w. steel 1879 Dr. Walter G. Kendall d. 1946 {9.3 8.5
8	E	1st S. af T. Tides {9.6 8.3 *Cooler,*
9	M.	Chas. Dickens d. 1870 Hail and "hurricane" 1946 {9.3 8.3
10	Tu.	Boston Marine Soc. fd. 1742 {9.0 8.3 *may hail.*
11	W.	St. Barnabas. Old Folks meeting W. Commington, Mass. {8.8 8.4
12	Th.	Strawberries Tides {8.7 8.7 *Some*
13	Fr.	ripening ☾ on Eq. Tides {8.7 9.2 *good*
14	Sa.	Flag Day. Hol. Mo. & Pa. Tides {8.8 9.7 *days.*
15	E	2nd S. a. T. St. Bernard Father's Day {9.0 10.3
16	M.	Sacred Heart. ☌ ☌ ☾. Tides {9.3 10.8
17	Tu.	Bunker Hill Day ☿ Gr. El. E. Snowed Vt. 1816 {9.6 11.3
18	W.	Rich. Grozier d. 1946 ☌ ☉ ☾. Invasion Moon {9.8 11.6 *Now*
19	Th.	☾ in Peri. ☾ runs high Tides {9.9 11.8 *much*
20	Fr.	♆ Stat. in R.A. ☌ ☿☾. Hol. W.Va. {— 10.0 *warmer.*
21	Sa.	Fireflies around now ☌ ♄ ☾. ☿ in ♋. Tides {11.7 9.9
22	E	3rd S. a. T. SUMMER BEGINS. 1.19 a.m. {11.3 9.7 *Good*
23	M.	Simon Lake d. 1945 Tides {10.9 9.6 [22nd ☉ enters ♋.
24	Tu.	Midsummer's Day Nat. John the Baptist {10.3 9.5 *growing*
25	W.	Salem Fire, 1914 ☌ ♆☾. ☾ on Eq. {9.7 9.4 *weather.*
26	Th.	U. N. Charter Sgd. 1945 Tides {9.2 9.4
27	Fr.	E. Bartlett (pear) d. 1860 Tides {8.8 9.4 *Real*
28	Sa.	Maria Mitchell d. 1889 ☌ ☿ ☾. {8.6 9.6 *warm.*
29	E	4th S. a. T. St. Peter & St. Paul. {8.5 9.7
30	M.	Bikini Bomb Test, 1946 ☿ Stat. in R.A. □ ♆ ☉. {8.4 9.8

Farmer's Calendar.

Nothing about the farm "shows up" more than in these early June days, yes, and June nights, too. The careless farmer finds the scoot and manure spreader lost in the tall grass. His night-wandering cattle punch through his idle fences to munch the neighbor's garden. Better no fence at all than a poor one.

Of fencing, its thoughtful laying out will save your pasturage. Several rather small pastures, which your cattle or other livestock are allowed to graze alternately, will give you grass far longer than one large pasture constantly grazed. For the small farmer it will prove economical to stake out his few cows in the European way.

To mix your various kinds of livestock in common grazing is poor practice. If you have sheep, cattle and horses, let us say, let the cattle feed first in your fresh pastures or for but a short time together with horses and sheep. Cattle are shallow browsers and will avoid all grass patches, no matter how lush, fertilized with their own dung. Horses will crop more closely. Sheep will crop to the very roots if you let them, and can, of course, do well in a pasture that is exhausted for cattle. Keep livestock of any kind out of land that you are counting on for a future timber crop.

Weeds are going to seed now. Don't let them. Mow them down early this month or before they have started seeding.

1947] JULY, SEVENTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	23N.08	7	22 38	13	21 54	19	20 55	25	19 45
	2	23 04	8	22 32	14	21 45	20	20 45	26	19 32
	3	23 00	9	22 25	15	21 36	21	20 33	27	19 18
	4	22 55	10	22 18	16	21 26	22	20 22	28	19 05
	5	22 50	11	22 10	17	21 16	23	20 10	29	18 51
	6	22 44	12	22 02	18	21 06	24	19 57	30	18 37

○ Full Moon, 3rd day, 5 h. 38 m., morning, W.
☾ Last Quarter, 11th day, 5 h. 54 m., morning, E.
● New Moon, 17th day, 11 h. 15 m., evening, W.
☽ First Quarter, 24th day, 5 h. 54 m., evening, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Sets. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
182	1	Tu.	4 10	B	7 26	P	15 16	12	10	10	2AM31	B	10PM47	Sgr	13
183	2	W.	4 10	B	7 25	P	15 15	12	10½	10¾	3AM11	B	11PM37	Cap	14
184	3	Th.	4 11	B	7 25	P	15 14	12	11¼	11¼	rises	—	—	—	—
185	4	Fr.	4 12	B	7 25	P	15 14	12	—	0	8PM46	P	12AM28	Cap	15
186	5	Sa.	4 12	B	7 25	P	15 13	11	0	0½	9 21	O	1 17	Aqr	16
187	6	S.	4 13	B	7 24	P	15 12	11	0½	1¼	9 51	N	2 05	Aqr	17
188	7	M.	4 13	B	7 24	P	15 11	11	1¼	2	10 17	M	2 50	Aqr	18
189	8	Tu.	4 14	B	7 24	P	15 10	11	2	2½	10 40	K	3 34	Psc	19
190	9	W.	4 15	B	7 23	P	15 09	11	2¾	3¼	11 02	J	4 17	Psc	20
191	10	Th.	4 15	B	7 23	P	15 08	11	3½	4	11 23	H	4 59	Ari	22
192	11	Fr.	4 16	B	7 22	P	15 06	10	4½	5	11PM46	G	5 43	Ari	23
193	12	Sa.	4 17	B	7 22	P	15 05	10	5¼	5¾	—	—	6 28	Tau	24
194	13	S.	4 18	B	7 21	P	15 04	10	6¼	6¾	12AM12	E	7 18	Tau	25
195	14	M.	4 18	B	7 21	P	15 03	10	7¼	7¾	12 43	C	8 12	G'm	26
196	15	Tu.	4 19	B	7 20	P	15 01	10	8¼	8½	1 22	B	9 11	G'm	27
197	16	W.	4 20	B	7 20	P	15 00	10	9¼	9½	2AM12	A	10 15	Cnc	28
198	17	Th.	4 21	B	7 19	P	14 58	10	10¼	10½	sets	—	11AM22	Cnc	29
199	18	Fr.	4 22	B	7 18	P	14 57	10	11	11¼	8PM17	P	12PM28	Leo	1
200	19	Sa.	4 23	B	7 18	P	14 55	10	—	0	8 57	O	11 29	Leo	2
201	20	S.	4 23	C	7 17	O	14 53	10	0¼	0¾	9 29	M	12 26	Vir	3
202	21	M.	4 24	C	7 16	O	14 52	9	1	1¾	9 56	K	3 18	Vir	4
203	22	Tu.	4 25	C	7 15	O	14 50	9	2	2½	10 20	I	4 06	Lib	5
204	23	W.	4 26	C	7 14	O	14 48	9	3	3½	10 43	H	4 51	Lib	6
205	24	Th.	4 27	C	7 13	O	14 46	9	3¾	4¼	11 06	F	5 36	Sco	7
206	25	Fr.	4 28	C	7 13	O	14 44	9	4¾	5¼	11 31	E	6 21	Sco	8
207	26	Sa.	4 29	C	7 12	O	14 42	9	5¾	6¼	11PM59	C	7 07	Sco	9
208	27	S.	4 30	C	7 11	O	14 41	9	6¾	7¼	—	—	7 54	Sgr	10
209	28	M.	4 31	C	7 10	O	14 39	9	7¾	8	12AM31	B	8 43	Sgr	11
210	29	Tu.	4 32	C	7 09	O	14 36	9	8¾	8¾	1 10	A	9 33	Cap	12
211	30	W.	4 33	C	7 07	O	14 34	9	9½	9½	1 55	A	10 24	Cap	13
212	31	Th.	4 34	C	7 06	O	14 32	9	10¼	10¼	2AM47	A	11PM14	Cap	14

JULY hath 31 days. [1947

Grass is another language, a green tongue,
An alien speech not ours to understand,
Heard everywhere, and current through the land,
But not for us the quick word said or sung:
The lexicon is not at our command.
How to attend? How tune the ignorant ear?
We hesitate at whispers, half turn back,
Or lying prone, with all the tongues come near,
Almost we comprehend, almost we hear
What well may be the word our wisdoms lack.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Tu.	Blood of Christ. Tides 8.4 9.9 *Cold*	There's still the old swimming hole under the same twisted alder where Dad flung his pants and shirt as a kid, and where Dad's boy flings his of a hot afternoon.
2	W.	Visit. of Mary. w.St. Eliz. ☿ in Aph. ☌☿☉. 8.4 10.0	
3	Th.	Lexington Normal Sch. fd. 1839. ☾ in Apo. ☾ rides low. 8.5 10.0	
4	Fr.	INDEPENDENCE DAY. Cal. Coolidge born 1872. 8.5 10.0 *and*	
5	Sa.	Br. elect Labor Party 1945. ⊕ in Aph. Tides —/8.6 *rain.*	Come Sundays, now and then, the "old boys" join their younng fry down there and splash and dive. Then after a bit they lie back on the bank and smoke, remembering the days when they stuffed sweet fern and dried raspberry leaves and alfalfa into home-made pipes, and tied knots in the shirt of the last fellow out.
6	E	5th S.a.T. Fast of Tamuz. Hart. Circus Fire 1944. 9.9 8.6	
7	M.	St. Frances Cabrini 1946. can. (Only Am. Cath. Saint). 9.7 8.7	
8	Tu.	Liberty Bell cracked 1835. Tides 9.5 8.7 *Scorching*	
9	W.	Minot's Lighthse Tower beg. 1857. Tides 9.3 8.8 *sun.*	
10	Th.	☾ on Eq. 134°—1943 Death Valley. Tides 9.1 9.0	
11	Fr.	Burr shot Hamilton 1804. Tides 8.9 9.2	
12	Sa.	Thoreau b. 1817. Tides 8.8 9.6 *Expect*	Now the kids have cut poles and in the riled waters catch the silly shiners and little trout. Strange that in this thrashed pool they bite at their best. Dad says there were really big trout here in his day, and recalls the years when the beaver dam made the pool twice this size. He recalls a fifteen inch whopper he caught in those days. "Old" Dan snorts, "Pshaw! It warn't but ten—and I caught it." And that starts a kid's wrangle of words from the oldsters with a heap of unreliable and dimly recollected evidence, till young Dan lets out an Injun Whoop and all hands are on their feet. A wild scramble and grabbing in the ferns till he holds up the fish, flopping and wriggling. "Gosh! Gosh!" —and "old" Dan takes the trout and lays it in the palm of his hand—and turns to Dad—a twinkle in eye. "Gosh, feller, I guess this tops ours, sure." And the sun goes down.
13	E	7th S.af.♆. ☿ in ♌. Hol. Tenn. 8.8 10.0 *thun-*	
14	M.	Bastile Day ☌☿☉ Inf. ☌☌☾. 8.9 10.4 *der*	
15	Tu.	St. Swithun ☌ ☊☾. 9.1 10.9 *storms.*	
16	W.	Atom bomb test N. M.—1945. ♑ Stat. in R.A. ☾ runs high 9.4 11.4	
17	Th.	Miss. trade ap. 1863 ☌☿☾. ☌☿☾.☾ Peri. in 9.7 11.7	
18	Fr.	Klondike Gold Rush 1897. ☌ ♄ ☾. Tides 10.0 11.8	
19	Sa.	Dog Days begin—23rd (Sirius not calc.). Hot 1905. Tides —/10.2	
20	E	7th S.a.Tr. St. Margaret. Tides 11.7 10.2	
21	M.	Pittsburg riots 1877. Tides 11.4 10.2 *Sultry.*	
22	Tu.	Mary Magdalene. ☌☿☿. ☿ Gr. Hel. Lat. S. 10.9 10.0	
23	W.	☾ on Eq. 10.3 9.8 [22nd ☌♆☾. *Cooler.*	
24	Th.	Salt Lake City fd. 1847. 45° drop Boston 1830. Hol. Utah 9.6 9.6	
25	Fr.	St. James. St. Christopher. ☿ Stat. in R.A. Tides 8.9 9.4	
26	Sa.	St. Anne. ☌ ♑ ☾. Tides 8.4 9.2	
27	E	8th S.af.T. Fast of Av. ☌ in ♌. 8.1 9.2	
28	M.	Tides 7.9 9.3 *Moist.*	
29	Tu.	1st Almanac printed 1472. Tides 7.9 9.4	
30	W.	Capt. Cook's 1st trip 1768. ☾ rides low. Tides 8.0 9.5	
31	Th.	St. Ignatius of Loyola. ☾ in Apo. Tides 8.2 9.7	

1947] AUGUST, EIGHTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	18N.07	7	16 32	13	14 48	19	12 54	25	10 54
	2	17 52	8	16 15	14	14 29	20	12 35	26	10 33
	3	17 37	9	15 58	15	14 11	21	12 15	27	10 12
	4	17 21	10	15 41	16	13 52	22	11 55	28	9 51
	5	17 05	11	15 23	17	13 33	23	11 35	29	9 30
	6	16 29	12	15 06	18	13 14	24	11 14	30	9 09

○ Full Moon, 1st day, 8 h. 50 m., evening, E.
☾ Last Quarter, 9th day, 3 h. 22 m., evening, W.
● New Moon, 16th day, 6 h. 12 m., morning, E.
☽ First Quarter, 23rd day, 7 h. 40 m., morning, E.
○ Full Moon, 31st day, 11 h. 34 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Rises. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
213	1	Fr.	4 35	D	7 05	N	14 30	10	11	11	rises	–	—	—	—
214	2	Sa.	4 36	D	7 04	N	14 28	10	11¼	11¼	7P M54	N	12A M02	Aqr	15
215	3	S.	4 37	D	7 03	N	14 26	10	—	0	8 21	M	1 48	Aqr	16
216	4	M.	4 38	D	7 02	N	14 24	10	0¼	0¾	8 45	K	1 33	Psc	17
217	5	Tu.	4 39	D	7 00	N	14 21	10	0¾	1¼	9 06	J	2 16	Psc	18
218	6	W.	4 40	D	6 59	N	14 19	10	1½	2	9 28	I	2 58	Ari	19
219	7	Th.	4 41	D	6 58	N	14 17	10	2¼	2¾	9 49	G	3 41	Ari	20
220	8	Fr.	4 42	D	6 57	N	14 14	10	3	3½	10 13	F	4 25	Ari	21
221	9	Sa.	4 43	D	6 55	N	14 12	10	3¾	4¼	10 41	D	5 11	Tau	22
222	10	S.	4 44	D	6 54	M	14 10	10	4¾	5¼	11 15	B	6 02	Tau	23
223	11	M.	4 45	E	6 53	M	14 07	11	5¾	6¼	11P M58	A	6 57	G'm	24
224	12	Tu.	4 46	E	6 51	M	14 05	11	6¾	7¼	—	–	7 57	G'm	25
225	13	W.	4 48	E	6 50	M	14 02	11	7¾	8¼	12A M54	A	9 01	Cnc	26
226	14	Th.	4 49	E	6 48	M	14 00	11	9	9¼	2 01	A	10 06	Cnc	27
227	15	Fr.	4 50	E	6 47	M	13 57	11	9¾	10¼	3A M18	A	11A M10	Leo	28
228	16	Sa.	4 51	E	6 45	M	13 55	11	10¾	11	sets	–	12P M09	Leo	0
229	17	S.	4 52	E	6 44	M	13 52	12	11¾	—	7P M54	L	1 04	Vir	1
230	18	M.	4 53	E	6 43	M	13 50	12	0	0½	8 20	J	1 55	Vir	2
231	19	Tu.	4 54	E	6 41	M	13 47	12	0¾	1¼	8 44	H	2 43	Lib	3
232	20	W.	4 55	F	6 40	L	13 44	12	1¾	2	9 07	G	3 29	Lib	4
233	21	Th.	4 56	F	6 38	L	13 42	13	2½	3	9 32	E	4 15	Sco	5
234	22	Fr.	4 57	F	6 36	L	13 39	13	3¼	3¾	9 59	D	5 02	Sco	6
235	23	Sa.	4 58	F	6 35	L	13 37	13	4¼	4¾	10 30	C	5 49	Sgr	7
236	24	S.	4 59	F	6 33	L	13 34	13	5¼	5½	11 07	B	6 38	Sgr	9
237	25	M.	5 00	F	6 32	L	13 31	14	6¼	6½	11P M50	A	7 28	Sgr	10
238	26	Tu.	5 01	F	6 30	L	13 29	14	7¼	7½	—	–	8 19	Cap	11
239	27	W.	5 03	F	6 28	L	13 26	14	8¼	8½	12A M40	A	9 09	Cap	12
240	28	Th.	5 04	F	6 27	L	13 23	14	9	9¼	1 37	A	9 58	Aqr	13
241	29	Fr.	5 05	F	6 25	L	13 21	15	9¾	10	2 37	B	10 45	Aqr	14
242	30	Sa.	5 06	G	6 23	K	13 18	15	10½	10½	3A M40	D	11P M31	Psc	15
243	31	S.	5 07	G	6 22	K	13 15	15	11	11¼	rises	–	—	—	—

AUGUST hath 31 days. [1947

Here, where the rain begins,
The cows come to the tree;
Air thickens and light thins,
And all the eye can see
Is where a field begins,
And what as well might be
A memory that thins
To ghosts of cow and tree.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	Fr.	Lammas Day. Hol. Cal. Tides {8.4 9.8	Now is the sweet corn in full tassel, and the rowan from the June-mowed fields big enough to make a good ripple in the hot winds. The waterfall is a thin wavering thread over the mill dam, lawns cry for a heavy soaking (better just before dusk), at night porcupines snuffle and sob and bark and eye the sweet apples in the orchard, foxes feed in the blueberry pastures.
2	Sa.	Decl. of Indep. Sgd. by those present Tides {8.6 9.9	*Showers*
3	E	9th S.af.T. St. Stephen. ☿ Gr.el. W. {— 8.8	
4	M.	Coast Guard Day Heat wave 4-17, 1904 {9.9 9.0	*now*
5	Tu.	Hiroshima, 1945 ♂☌☉. ♂☌♁. Tides {9.9 9.1	
6	W.	Transfiguration. ☾ on Eq. Tides {9.7 9.3	
7	Th.	Name of Jesus Tides {9.5 9.4	
8	Fr.	Adm. King's "Blackest Day of WW II" (Savo Is. 1942) {9.3 9.5	
9	Sa.	Nagasaki, 1945 Tides {9.0 9.6	*Dry*
10	E	11th S.a.P. St. Laurence. ☿ in ♌. {8.8 9.8	
11	M.	Tides {8.6 10.0	*spell.*
12	Tu.	□♃☉. ♂♁☾. ♂♀♄. ♂☌☾. {8.7 10.4	
13	W.	Plant Iris disc. 1847 ☾ runs high Tides {8.9 10.8	
14	Th.	Japs surrender 1945 Hugh Cabot d. 1945 Tides {9.3 11.2	
15	Fr.	As.of Vir. ♂☿☾. ☿ in Peri. ♂♄☾. ♂♀☾. {9.8 11.6	
16	Sa.	Battle of Benning, Vt. ♀ in Peri. {10.2 11.7 [15th ☾ in Peri.	
17	E	11th S.a.T. Sandwich fd. 1639 {10.5 11.6	*Blows*
18	M.	Ill. fireball expl. 1944 ♂ ☿ ♄. Tides {— 10.6	*and*
19	Tu.	♂♆☾. ☾ on Eq. Dog days end Aviation Day {11.8 10.6	
20	W.	Seth Green d. 1889 Tides {10.8 10.4	*rains*
21	Th.	Charter Oak down 1856 Tides {10.1 10.0	*hard.*
22	Fr.	Luigi Cardinal Maglione d. 1944 ♂♃☾. Tides {9 4 9.6	
23	Sa.	Pompeii buried AD 79 Tides {8.6 9.3	*Much*
24	E	12th S.a.T. Northeaster 1893 Texas Hurr. 1945 {8.1 9.0	
25	M.	☿ Gr. Hel. Lat. N. Medford Tornado 1851 {7.7 8.8	*cooler*
26	Tu.	Celia Thaxter d. 1894 ♂☿♀. ☾ rides low. Tides {7.6 8.9	
27	W.	Confucius 551 B.C. ☾ in Apo. Tides {7.7 9.0	*and*
28	Th.	St. August. ♂☿ ☉ Sup. {8.0 9.2	*some*
29	Fr.	St. John the Baptist Beheaded Hol. Calif. Tides {8.3 9.5	
30	Sa.	St. Fiacrius, Hol. La. Tides {8.6 9.7	*clear*
31	E	14th S. a. P. Tides {8.9 9.8	*days.*

This may be the time marking the end of your last field mowed, before the rowan mowing, the last spraying of your fruit trees—when only the occasional weeding of your garden crops seems to demand attention. But there is much that you can do now, and to best advantage. Contrary to usual practice, your light bearing fruit trees may profitably be pruned now. Get out the brush scythe and clear the hardack and scrub cherry and sumac from your orchard walls and around the boulders. No better time to gravel your woods, roads and paths, and inspect your fences for a second mending. Finish the hand mowing around your fruit trees and cut your props for the limbs already heavy with fruit. Choose ash and maple rather than birch for this purpose as they will stand up much better. If the cordwood you cut in spring is still lying about, saw it now and get it under cover.

In this dry season the dam you have been planning on can most easily be constructed.

1947] SEPTEMBER, NINTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	°	′	Days.	°	′	Days.	°	′	Days.	°	′	Days.	°	′
1	8 N.	26	7	6	13	13	3	57	19	1	38	25	0	42
2	8	04	8	5	51	14	3	34	20	1	15	26	1	05
3	7	42	9	5	28	15	3	11	21	0	51	27	1	29
4	7	20	10	5	05	16	2	48	22	0	27	28	1	52
5	6	58	11	4	43	17	2	25	23	0 N.	05	29	2	15
6	6	35	12	4	20	18	2	01	24	0 S.	19	30	2	39

☾ Last Quarter, 7th day, 10 h. 57 m., evening, E.

● New Moon, 14th day, 2 h. 28 m., evening, W.

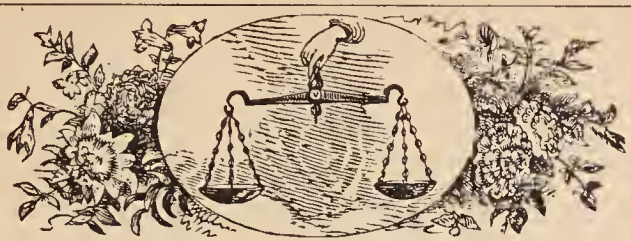
☽ First Quarter, 22nd day, 12 h. 42 m., morning, W.

○ Full Moon, 30th day, 1 h. 41 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Rises. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
244	1	M.	5 08	G	6 20	K	13 12	16	11½	11¾	7 P M 12	J	12 A M 14	Psc	16
245	2	Tu.	5 09	G	6 18	K	13 10	16	—	0¼	7 33	I	12 57	Psc	17
246	3	W.	5 10	G	6 17	K	13 07	16	0½	0¾	7 54	H	1 40	Ari	18
247	4	Th.	5 11	G	6 15	K	13 04	17	1	1½	8 17	F	2 23	Ari	19
248	5	Fr.	5 12	G	6 13	K	13 01	17	1¾	2¼	8 43	D	3 09	Tau	20
249	6	Sa.	5 13	G	6 12	K	12 59	17	2½	3	9 15	C	3 58	Tau	21
250	7	S.	5 14	G	6 10	K	12 56	18	3½	3¾	9 53	A	4 50	G'm	22
251	8	M.	5 15	G	6 08	K	12 53	18	4½	4¾	10 43	A	5 47	G'm	23
252	9	Tu.	5 16	H	6 06	J	12 50	18	5½	5¾	11 P M 43	A	6 48	Cnc	24
253	10	W.	5 17	H	6 04	J	12 47	19	6½	7	—	—	7 51	Cnc	25
254	11	Th.	5 18	H	6 03	J	12 44	19	7½	8	12 A M 55	A	8 54	Leo	26
255	12	Fr.	5 19	H	6 01	J	12 42	19	8	9	2 13	B	9 53	Leo	27
256	13	Sa.	5 21	H	5 59	J	12 39	20	9½	10	3 A M 33	D	10 49	Vir	28
257	14	S.	5 22	H	5 58	J	12 36	20	10½	11¾	sets	—	11 A M 42	Vir	29
258	15	M.	5 23	H	5 56	J	12 33	20	11¼	11¾	6 P M 45	I	12 P M 31	Lib	1
259	16	Tu.	5 24	H	5 54	J	12 30	21	—	0	7 08	H	1 19	Lib	2
260	17	W.	5 25	H	5 52	J	12 28	21	0½	0¾	7 31	F	2 06	Sco	3
261	18	Th.	5 26	H	5 51	J	12 25	21	1¼	1½	7 58	D	2 53	Sco	4
262	19	Fr.	5 27	H	5 49	I	12 22	22	2	2¼	8 27	C	3 41	Sgr	5
263	20	Sa.	5 28	I	5 47	I	12 19	22	2¾	3¼	9 02	B	4 30	Sgr	6
264	21	S.	5 29	I	5 45	I	12 16	23	3¾	4	9 44	A	5 21	Sgr	7
265	22	M.	5 30	I	5 44	I	12 13	23	4½	5	10 32	A	6 12	Cap	8
266	23	Tu.	5 31	I	5 42	I	12 11	23	5¾	6	11 P M 26	A	7 03	Cap	9
267	24	W.	5 32	I	5 40	I	12 08	24	6¾	6¾	—	—	7 52	Aqr	10
268	25	Th.	5 33	I	5 38	I	12 05	24	7¾	7¾	12 A M 25	B	8 40	Aqr	11
269	26	Fr.	5 34	I	5 36	I	12 02	24	8½	8½	1 28	C	9 26	Aqr	12
270	27	Sa.	5 35	I	5 35	I	11 59	25	9¼	9½	2 32	E	10 10	Psc	13
271	28	S.	5 37	I	5 33	I	11 56	25	9¾	10	3 37	F	10 54	Psc	14
272	29	M.	5 38	I	5 31	I	11 54	25	10½	10¾	4 A M 42	H	11 P M 37	Ari	15
273	30	Tu.	5 39	J	5 29	H	11 51	25	11	11½	rises	—	—	—	—

SEPTEMBER hath 30 days. [1947



The bird that was still in the sky when the thunder came,
Sudden and dark and deafening, headed south,
And dwindled to less than a bird in the noise and flame,
And was swallowed and lost in the angry and cavernous mouth . . .
Think of her—now! And think of whatever we've heard
Of sparrows that fall, but never out of the care
Of a larger love than ours . . . and we've need of a word
To tell us today that the way of a bird in the air,
Being dark to us, may lead to a shining tree,
Tranquil and tall in the dawn—as we pray may be.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.
1	M.	Labor Day. Tides {9.2 9.9 *Storms*
2	Tu.	V. J. Day 1945 ☾ on Eq. Lowest bar. 26.35-1935 Tides {— 9.4
3	W.	Eleven days lost 1752 ♂♀☉ Sup. Hurr. 1821 Tides {9.9 9.7
4	Th.	St. Moses. Saxby Gale 1867 Tides {9.8 9.9
5	Fr.	Worst hay fever now Tides {9.6 10.0 *expected.*
6	Sa.	McKinley shot 1901 Tides {9.3 10.0
7	E	14th S.a.T. ♀ Gr. Hel. Lat. N. Tides {9.0 9.9
8	M.	Nat. Virgin Election Day Maine ♂☉☾. {8.7 9.9
9	Tu.	☾ runs high. Trop. storm 1809 Tides {8.5 10.0 *Could*
10	W.	Perry Day ♂♂☾. Tides {8.6 10.2 *be*
11	Th.	Red Sox win Am. Lg. 1946 Tides {8.9 10.5 *fine*
12	Fr.	N. E.'s "Saddest Day" 1674 ♂♄☾. ☾ In Peri. {9.4 10.9
13	Sa.	J. J. Pershing b. 1860 Tides {10.0 11.2 *week.*
14	E	15th S.a.T. Holy Cross. ♂♀☾. {10.4 11.3
15	M.	Jewish New Year ♂☿☾. ♂♆☾. ☾ on Eq. {10.8 11.2
16	Tu.	St. Euphemia. J. McCormack d. 1945 {— 10.9 *Frosts*
17	W.	Constitution Day ☿ in ♍. Ember Day {10.9 10.8 *in*
18	Th.	Trees are blushing ♂☿♆. Tides {10.4 10.5 *places.*
19	Fr.	♂☌☾. □♁☉. Ember Days Tides {9.7 10.1
20	Sa.	Old Ironsides lchd. 1797 Tides {9.0 9.6 *Bad*
21	E	17th S.a.♐. St. Mathew. {8.4 9.2 *storm*
22	M.	8 witches hgd. 1692 ☾ rides low. Underground moon {7.9 8.8 *is*
23	Tu.	AUTUMN BEGINS. 4.29 P.M. ☉en.♎. Tides {7.6 8.5 *due.*
24	W.	Atonement John the Baptist conceived ☾ in Apo. {7.5 8.5
25	Th.	*Killing frost 1879 Tides {7.7 8.7 *Fair.*
26	Fr.	Cyprian & Justina American Indian Day Tides {8.1 8.9
27	Sa.	Daylight Bk. robbery Concord—1863 ♂♀♆. {8.5 9.2 *Cool*
28	E	17th S.a.T. D.S.T. ends ☿ in Aph. {8.9 9.5 *and*
29	M.	St. Michael & All Angels. Succoth. {9.3 9.7 *nice.*
30	Tu	St. Jerome. ☾ on Eq. Harvest moon Tides {9.7 9.8

3/5 of all driving accidents come between dusk and darkness.

Farmer's Calendar.

Plan to sow fields before the 20th of this month. Later sowing than this for a mixture of grass and clover will invite winter killing of the latter. Now is the time to put in your rye or other winter grain. Lawns resowed this month will get a catch of grass with very few weeds. Rake out the dead weeds on your lawns, at least, and fill in with good grass seed.

Go to your orchards and explore for borers. You will find evidence of them on many of the young trees in the form of wadded sawdust at the base and clinging to the trunk. Probe for them with wire, but if this method fails, put a pinch of cyanna gas in the holes and block with mud or grafting wax. Young borers, as shown by black patches and an oozing from the bark near the base of tree, may be picked out with a penknife.

Don't miss the county fair. Encourage the youngsters to look forward to this from the time they plant their gardens, with an eye to entering their big sunflowers, pumpkins, corn or what-not for the many prizes. Their own produce and their own livestock are as much their pride and accomplishment as anything they can show from books or blackboard. But in the making of good farmers education is important. If you can help build their enthusiasm for your way of life, aim to send them on to a good agricultural college. We can't have too many **intelligent** farmers.

1947] OCTOBER, TENTH MONTH.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.	Days.	0 /	Days	0 /	Days.	0 /	Days.	0 /	Days.	0 /
	1	3s. 02	7	5 21	13	7 38	19	9 51	25	11 58
	2	3 25	8	5 44	14	8 00	20	10 12	26	12 19
	3	3 49	9	6 07	15	8 22	21	10 34	27	12 39
	4	4 12	10	6 30	16	8 45	22	10 55	28	13 00
	5	4 35	11	6 53	17	9 07	23	11 16	29	13 20
	6	4 58	12	7 15	18	9 29	24	11 37	30	13 40

☾ Last Quarter, 7th day, 5 h. 29 m., morning, E.

● New Moon, 14th day, 1 h. 10 m., morning, E.

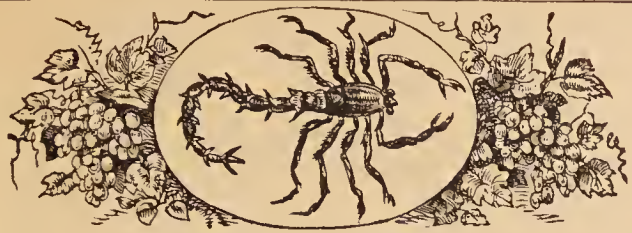
☽ First Quarter, 21st day, 8 h. 11 m., evening, W.

○ Full Moon, 29th day, 3 h. 7 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even. h.	☽ Rises. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
274	1	W.	5 40	J	5 28	H	11 48	26	$11\frac{3}{4}$	—	$6^{P}_{M}21$	G	$12^{A}_{M}21$	Ari	16
275	2	Th.	5 41	J	5 26	H	11 45	26	0	$0\frac{1}{4}$	6 46	E	1 06	Tau	17
276	3	Fr.	5 42	J	5 24	H	11 42	27	$0\frac{3}{4}$	1	7 16	C	1 55	Tau	18
277	4	Sa.	5 43	J	5 22	H	11 39	27	$1\frac{1}{2}$	$1\frac{3}{4}$	7 52	A	2 47	G'm	20
278	5	S.	5 44	J	5 21	H	11 37	27	$2\frac{1}{4}$	$2\frac{1}{2}$	8 38	A	3 42	G'm	21
279	6	M.	5 45	J	5 19	H	11 34	27	3	$3\frac{1}{2}$	9 34	A	4 42	G'm	22
280	7	Tu.	5 46	J	5 17	H	11 31	28	4	$4\frac{1}{2}$	10 41	A	5 43	Cnc	23
281	8	W.	5 48	J	5 16	H	11 28	28	$5\frac{1}{4}$	$5\frac{1}{2}$	$11^{P}_{M}55$	B	6 45	Cnc	24
282	9	Th.	5 49	J	5 14	H	11 25	28	$6\frac{1}{4}$	$7\frac{3}{4}$	—	—	7 44	Leo	25
283	10	Fr.	5 50	J	5 12	H	11 22	29	$7\frac{1}{4}$	$7\frac{3}{4}$	$1^{A}_{M}12$	C	8 39	Leo	26
284	11	Sa.	5 51	K	5 11	G	11 20	29	$8\frac{1}{4}$	$8\frac{3}{4}$	2 29	E	9 31	Vir	27
285	12	S.	5 52	K	5 09	G	11 17	29	$9\frac{1}{4}$	$9\frac{3}{4}$	3 44	G	10 21	Vir	28
286	13	M.	5 53	K	5 07	G	11 14	29	10	$10\frac{1}{2}$	$4^{A}_{M}57$	I	11 08	Lig	29
287	14	Tu.	5 54	K	5 06	G	11 11	30	11	$11\frac{1}{4}$	sets	—	$11^{A}_{M}55$	Lib	0
288	15	W.	5 56	K	5 04	G	11 09	30	$11\frac{1}{4}$	—	$5^{P}_{M}57$	E	$12^{P}_{M}42$	Sco	1
289	16	Th.	5 57	K	5 02	G	11 06	30	0	$0\frac{1}{4}$	6 25	D	1 31	Sco	3
290	17	Fr.	5 58	K	5 01	G	11 03	30	$0\frac{3}{4}$	1	6 58	B	2 20	Sgr	4
291	18	Sa.	5 59	K	4 59	G	11 00	30	$1\frac{1}{2}$	$1\frac{3}{4}$	7 36	A	3 11	Sgr	5
292	19	S.	6 00	K	4 58	G	10 57	31	$2\frac{1}{4}$	$2\frac{1}{2}$	8 22	A	4 03	Cap	6
293	20	M.	6 02	K	4 56	G	10 55	31	$3\frac{1}{4}$	$3\frac{1}{4}$	9 14	A	4 54	Cap	7
294	21	Tu.	6 03	L	4 55	F	10 52	31	4	$4\frac{1}{4}$	10 12	B	5 45	Cap	8
295	22	W.	6 04	L	4 53	F	10 49	31	5	$5\frac{1}{4}$	$11^{P}_{M}14$	C	6 33	Aqr	9
296	23	Th.	6 05	L	4 52	F	10 47	31	6	$6\frac{1}{4}$	—	—	7 19	Aqr	10
297	24	Fr.	6 06	L	4 50	F	10 44	31	7	7	$12^{A}_{M}17$	D	8 04	Psc	11
298	25	Sa.	6 07	L	4 49	F	10 41	32	$7\frac{3}{4}$	8	1 21	E	8 48	Psc	12
299	26	S.	6 09	L	4 47	F	10 39	32	$8\frac{1}{2}$	$8\frac{3}{4}$	2 26	G	9 31	Psc	13
300	27	M.	6 10	L	4 46	F	10 36	32	$9\frac{1}{4}$	$9\frac{1}{2}$	3 31	H	10 14	Ari	14
301	28	Tu.	6 11	L	4 45	F	10 33	32	$9\frac{3}{4}$	$10\frac{1}{4}$	$4^{A}_{M}38$	J	10 59	Ari	15
302	29	W.	6 12	L	4 43	F	10 31	32	$10\frac{1}{2}$	11	rises	—	$11^{P}_{M}47$	Tau	16
303	30	Th.	6 14	L	4 42	F	10 28	32	$11\frac{1}{4}$	$11\frac{1}{2}$	$5^{P}_{M}17$	D	—	—	—
304	31	Fr.	6 15	L	4 41	F	10 26	32	$11\frac{3}{4}$	—	$5^{P}_{M}51$	B	$12^{A}_{M}39$	Tau	17

OCTOBER hath 31 days. [1947



The lone gull, in the vast sky,
Was what he knew his nature by;
The flight's direction and its aim
Being nothing that a man could name,
Being nothing, in the circumstance
Of the round, limitless expanse . . .
The parting and quick-closing air
Now, momentarily, would bear
The inscription—nothing to endure,
A brief and trivial signature.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.	Farmer's Calendar.
1	W.	St. Remigius. Portsmouth, N. H. tornado 1847 Tides 10.0 —	This is a good month to set out trees, either fruit or shade. For your new orchards let us consider how you will proceed. It has been customary to set new trees either 35 or 40 feet apart, or else 20 feet from adjacent sets in the same row and 35 or 40 feet from the rows on either side. The former method looks only to the eventual wide spread of trees at full growth and wastes space while the trees are still young. The latter, allowing for a generous space even at full growth for the passage of cultivators or spray truck, plans for the eventual removal of every other 20 foot spaced tree.
2	Th.	Ellice Island, Scallop 1942 season ☊ Stat. in R. A. Tides 9.9 10.3	
3	Fr.	Chief Black Hawk d 1838 Tides 9.8 10.4 *Good*	
4	Sa.	St. Francis of Assisi. ☌♆☉. 9.6 10.4 *fall*	
5	E	19th S. a. ☽. Snowed 1836 9.8 10.3 *days.*	
6	M.	Shmini Atzereth ☌☊☾. Hoi. Mo. Tides 8.9 10.1	
7	Tu.	Simchoth Torah ☾ runs high Tides 8.6 9.9	
8	W.	☌☌☾. Tides 8.5 9.8 *Heavy*	
9	Th.	St. Denis. Abraham ☌♄☾. ☾ in Peri. 8.7 9.9	
10	Fr.	John Wesley b. 1738 Tides 9.2 10.1	
11	Sa.	11000 Virgins Rain 23.2 inches New Smyrna 1924 9.6 10.4 *rains.*	
12	E	19th S. a. ♎. Columbus Day. 10.1 10.6	
13	M.	J. MacRory d. 1945 ☌♆☾. ☿ Gr. Ei. E. ☾ on Eq. 10.6 10.6	
14	Tu.	☌♀☾. Tides 10.9 10.5	
15	W.	10 days lost 1582 ☌☿☾. Tides 10.9 —	
16	Th.	☌♅☾. Tides 10.2 10.8	
17	Fr.	Indians att. Royalton, Vt. 1780 Tides 9.7 10.5 *Brisk.*	
18	Sa.	St. Luke. Little Summer ☿ Gr. Hel. Lat. S. Tides 9.2 10.1	
19	E	20th S. a. ♎. Mission Sunday Tides 8.7 9.6	
20	M.	☾ rides low. Tides 8.2 9.1	
21	Tu.	☾ in Apo. Tides 7.8 8.7 *Raw.*	
22	W.	Miller's world end fiasco 1844 Tides 7.6 8.4	
23	Th.	World created 4004 B.C. Tides 7.8 8.8	
24	Fr.	Ave. date 1st killing frost Tides 7.9 8.4	
25	Sa.	St. Crispin. Feast of Our Lord ☿ Stat. in R.A. Tides 8.3 8.7	
26	E	21st S. a. ♏. Christ the King Tides 8.7 9.0	
27	M.	Navy Day ☾ on Eq. Tides 9.2 9.2 *Cold*	
28	Tu.	Simon & Jude Shoe ration end 1945 Tides 9.6 9.5 *storms.*	
29	W.	Hartford Courant founded 1764 ☌☿♀. Hunter's moon 10.2 9.6	
30	Th.	Old Time Bail Reading, Vt. Tides 10.8 9.7	
31	Fr.	All Hallow's Eve. Hoi. Nev. 10 8 — *Snappy.*	

1947] NOVEMBER, Eleventh Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	14s. 19	7	16 10	13	17 52	19	19 23	25	20 41
2	14 38	8	16 28	14	18 08	20	19 37	26	20 53
3	14 57	9	16 45	15	18 24	21	19 50	27	21 04
4	15 16	10	17 02	16	18 39	22	20 03	28	21 15
5	15 34	11	17 19	17	18 54	23	20 16	29	21 25
6	15 52	12	17 36	18	19 08	24	20 29	30	21 35

☾ Last Quarter, 5th day, 12 h. 3 m., evening, W.
● New Moon, 12th day, 3 h. 1 m., evening, W.
☽ First Quarter, 20th day, 4 h. 44 m., evening, E.
○ Full Moon, 28th day, 3 h. 45 m., morning, W.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the Week	☉ Rises. h. m.	Key	☉ Sets. h. m.	Key	Length of Days. h. m.	Sun Fast. m.	Full Sea, Boston. Morn h.	Even h.	☽ Rises. h. m	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
305	1	Sa.	6 16	M	4 39	E	10 23	32	0¼	0½	6P M33	A	1A M35	G'm	18
306	2	S.	6 17	M	4 38	E	10 21	32	1¼	1¼	7 29	A	2 35	G'm	19
307	3	M.	6 19	M	4 37	E	10 18	32	2	2¼	8 33	A	3 37	Cnc	20
308	4	Tu.	6 20	M	4 35	E	10 16	32	3	3¼	9 45	A	4 39	Cnc	21
309	5	W.	6 21	M	4 34	E	10 13	32	4	4¼	11P M01	C	5 39	Leo	22
310	6	Th.	6 22	M	4 33	E	10 11	32	5	5¼	—	–	6 35	Leo	23
311	7	Fr.	6 24	M	4 32	E	10 08	32	6	6½	12A M16	E	7 27	Vir	24
312	8	Sa.	6 25	M	4 31	E	10 06	32	7	7½	1 30	G	8 16	Vir	25
313	9	S.	6 26	M	4 30	E	10 04	32	8	8½	2 41	H	9 02	Lib	26
314	10	M.	6 27	N	4 29	D	10 01	32	9	9½	3 53	J	9 48	Lib	27
315	11	Tu.	6 29	N	4 27	D	9 59	32	9¾	10¼	5A M01	K	10 34	Sco	28
316	12	W.	6 30	N	4 26	D	9 57	32	10½	11	sets	–	11A M22	Sco	29
317	13	Th.	6 31	N	4 25	D	9 54	31	11¼	11¾	4P M55	C	12P M11	Sgr	1
318	14	Fr.	6 32	N	4 25	D	9 52	31	—	0	5 31	B	1 01	Sgr	2
319	15	Sa.	6 34	N	4 24	D	9 50	31	0½	0½	6 14	A	1 53	Sgr	3
320	16	S.	6 35	N	4 23	D	9 48	31	1¼	1¼	7 04	A	2 45	Cap	4
321	17	M.	6 36	N	4 22	D	9 46	31	1¾	2	8 00	A	3 36	Cap	5
322	18	Tu.	6 37	N	4 21	D	9 44	31	2¾	2¾	9 00	B	4 26	Aqr	6
323	19	W.	6 39	N	4 20	D	9 42	30	3½	3½	10 02	C	5 12	Aqr	7
324	20	Th.	6 40	N	4 19	D	9 40	30	4¼	4½	11P M06	E	5 57	Psc	8
325	21	Fr.	6 41	O	4 19	C	9 38	30	5¼	5½	—	–	6 41	Psc	9
326	22	Sa.	6 42	O	4 18	C	9 36	30	6	6¼	12A M09	F	7 23	Psc	10
327	23	S.	6 43	O	4 17	C	9 34	29	7	7¼	1 13	H	8 06	Ari	11
328	24	M.	6 44	O	4 17	C	9 32	29	7¾	8	2 18	I	8 49	Ari	12
329	25	Tu.	6 46	O	4 16	C	9 31	29	8½	9	3 25	K	9 36	Tau	13
330	26	W.	6 47	O	4 16	C	9 30	29	9¼	9¾	4 36	M	10 26	Tau	14
331	27	Th.	6 48	O	4 15	C	9 27	28	10	10½	5A M51	N	11P M21	G'm	15
332	28	Fr.	6 49	O	4 15	C	9 26	28	10¾	11¼	rises	–	—	—	—
333	29	Sa.	6 50	O	4 14	C	9 24	28	11½	—	5P M17	A	12A M21	G'm	16
334	30	S.	6 51	O	4 14	C	9 22	27	0	0¼	6P M19	A	1A M25	Cnc	17

NOVEMBER hath 30 days. [1947

The winter woods are grey with sleep,
Or something so akin to sleep
They've no awareness of the man
Who walks among them, pondering
What things to keep, if keep he can,
And what let go, if anything,
Before his turning grey with sleep,
Or something so akin to sleep
He'll have no care of any man
Who walks a grey wood, pondering.

D. M.	D. W.	Aspects, Holidays, Heights of High Water, Weather, etc.
1	Sa.	All Saints. {9.7 10.9} [2nd ♀ in ♉. ☌☾.
2	E	22nd S. a. T. 1st public mass Boston 1788 {9.5 10.8}
3	M.	St. Hubert. ☾ in Peri. ☾ runs high. P.W. Ayres d. 1945 {9.2 10.5}
4	Tu.	Gen. Election Day Tides {8.9 10.2} *Cold*
5	W.	Fawkes Day ☌☿ ☉ Inf. ☌♂ ☾. {8.8 9.9} *and*
6	Th.	St. Leonard. ☌ ♄ ☾. ☿ in ♌. Tides {8.7 9.6}
7	Fr.	No. Africa 1942 Tides {8.9 9.6} *stormy,*
8	Sa.	Prune your grapevines Tides {9.3 9.6} *might*
9	E	23rd S. a. T. ☌♀♃. ☌♆☾. ☾ on Eq.
10	M.	2 froze to death No. Dak. 1945 {10.2 9.8} [9th {9.7 9.7} *snow.*
11	Tu.	Armistice Day, 1918 ☿ in Peri. ☌♂♄. ☌☿☾. {10.5 9.8}
12	W.	St. Martin. ☉ Annular Eclipse Jer. Kern d. 1945 (11) {10.7 9.7}
13	Th.	Indian Summer begins ☌♃ ☾. {10.7 9.4} *Storms*
14	Fr.	Lewis & Clark at Pacific, 1805 ☌♀☾. ☿ Stat. in R.A. {— 10.6}
15	Sa.	King's Name Day, Belgium □ ♄ ☉. {9.1 10.3} *threaten*
16	E	24th S. a. T. ☾ rides low. Tides {8.8 9.9} *but*
17	M.	Endicott Peabody d. 1944 □♂☉. {8.4 9.6} *good*
18	Tu.	St. Peter's ded. 1626 ☾ in Apo. Tides {8.1 9.1} *spell*
19	W.	Gettysburg Address 1863 Tides {8.0 8.7} *of weather*
20	Th.	Many prominent people born this day {7.9 8.5} *expected.*
21	Fr.	Pres. at temple R. Benchley d. 1945 ☿ Gr. Hel. Lat. N. {7.9 8.3}
22	Sa.	St. Cecelia. ☿ Gr. El. W. "As this day so the winter" {8.2 8.3}
23	E	25th S. a. T. St. Clement. Tides {8.5 8.5}
24	M.	Robin Hood d. 1247 ☾ on Eq. Tides {9.0 8.7}
25	Tu.	St. Catharine Tides {9.5 9.0} *Chilly.*
26	W.	Bad seas 1705, 1898 Tides {10.0 9.2}
27	Th.	Thanksgiving. S.S. Portland sank, 1898 Tides {10.5 9.4}
28	Fr.	Cocoanut Grove fire 1943. Hol. Md. {10.9 9.5} *Rains*
29	Sa.	☌ ♁ ☾. Tides {11.1 —} *or snows.*
30	E	1st S. in Ad. St. And. ☾ in Peri. ☾ runs high. {9.6 11.2}

That this is the month of the Hunter's Moon may have no special meaning or appeal to most of us, but the relation of wild life, and game to agriculture should have real meaning to the countryman.

When the first farmer cleared his first field, erected his stone wall and went on to fell more and more trees and make more and more fields, he was upsetting the balanced ways of the primitive wildlife. But with the passing of the years and the centuries there can be no question that wildlife has found a way of adjusting itself to man, and especially the farmer—of finding a new balance. Hedgerows, brush covered walls, brushy corners at the edge of mowing and grain fields are literally refuges for pheasants, and quail, as well as rabbits. The ways of all wild life, the countryman knows, whether it be deer, woodchuck, porcupine, fox, or what you will, take their pattern from his way of life. In great part they live off him, naively or boldly steal from him, unconsciously work for him, often purposely seek his protection when he is least aware of it. He is their meal ticket, and though he hunts them, their guardian.

The case of the deer population of the eastern states, and especially New England, seems almost paradoxical. The farmer is bringing back the wilderness and its wildlife, and he's not sure he likes it.

1947] DECEMBER, Twelfth Month.

ASTRONOMICAL CALCULATIONS.

☉'s Declination.

Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /	Days.	0 /
1	21s. 45	7	22 34	13	23 08	19	23 25	25	23 25		
2	21 54	8	22 41	14	23 12	20	23 26	26	23 23		
3	22 03	9	22 47	15	23 15	21	23 27	27	23 21		
4	22 12	10	22 53	16	23 18	22	23 27	28	23 18		
5	22 20	11	22 58	17	23 21	23	23 27	29	23 15		
6	22 27	12	23 03	18	23 23	24	23 26	30	23 12		

☾ Last Quarter, 4th day, 7 h. 55 m., evening, E.

● New Moon, 12th day, 7 h. 53 m., morning, E.

☽ First Quarter, 20th day, 12 h. 43 m., evening, E.

○ Full Moon, 27th day, 3 h. 27 m., evening, E.

KEY LETTERS REFER TO CORRECTIONS TABLE, PAGE 12, FOR ALL POINTS OUTSIDE NEW ENGLAND.

Day of Year	Day of Month	Day of the 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. Even h.	☽ Rises. h. m.	Key	☽ Souths. h. m.	☽'s Place	Moon's Age
335	1	M.	6 53	O	4 14	C	9 21	27	1	1	$7^{P}_{M}32$	A	$2^{A}_{M}29$	Cnc	18
336	2	Tu.	6 54	O	4 13	C	9 20	26	1¾	2	8 50	B	3 32	Leo	20
337	3	W.	6 55	O	4 13	C	9 18	26	2¾	3	10 06	D	4 30	Leo	21
338	4	Th.	6 56	O	4 13	C	9 17	26	3¾	4	$11^{P}_{M}21$	F	5 24	Vir	22
339	5	Fr.	6 57	O	4 13	C	9 16	25	4¾	5	—	—	6 14	Vir	23
340	6	Sa.	6 58	P	4 12	B	9 15	25	5¾	6¼	$12^{A}_{M}33$	H	7 01	Lib	24
341	7	S.	6 59	P	4 12	B	9 14	24	6¾	7¼	1 42	I	8 46	Lib	25
342	8	M.	7 00	P	4 12	B	9 13	24	7¾	8¼	2 51	K	8 31	Lib	26
343	9	Tu.	7 00	P	4 12	B	9 12	24	8½	9	3 59	L	9 17	Sco	27
344	10	W.	7 01	P	4 12	B	9 11	23	9¼	10	5 07	N	10 05	Sco	28
345	11	Th.	7 02	P	4 12	B	9 10	23	10	10¾	$6^{A}_{M}14$	P	10 54	Sgr	29
346	12	Fr.	7 03	P	4 12	B	9 09	22	10¾	11¼	sets	—	$11^{A}_{M}45$	Sgr	0
347	13	Sa.	7 04	P	4 13	B	9 09	22	11¼	—	$4^{P}_{M}56$	A	$12^{P}_{M}37$	Cap	1
348	14	S.	7 05	P	4 13	B	9 08	21	0	0¼	5 50	A	1 29	Cap	2
349	15	M.	7 05	P	4 13	B	9 08	21	0¾	0¾	6 49	B	2 19	Cap	3
350	16	Tu.	7 06	P	4 13	B	9 07	20	1½	1½	7 51	C	3 07	Aqr	4
351	17	W.	7 07	P	4 14	B	9 07	20	2¼	2¼	8 53	D	3 52	Aqr	5
352	18	Th.	7 08	P	4 14	B	9 07	19	3	3	9 56	F	4 36	Psc	6
353	19	Fr.	7 08	P	4 14	B	9 06	19	3¾	3¾	$10^{P}_{M}58$	G	5 17	Psc	7
354	20	Sa.	7 09	P	4 15	B	9 06	18	4½	4¾	—	—	5 59	Ari	8
355	21	S.	7 09	P	4 15	B	9 06	18	5¼	5½	$12^{A}_{M}01$	I	6 41	Ari	9
356	22	M.	7 10	P	4 16	B	9 06	17	6¼	6½	1 05	J	7 24	Ari	10
357	23	Tu.	7 10	P	4 16	B	9 06	17	7	7½	2 13	L	8 11	Tau	12
358	24	W.	7 11	P	4 17	B	9 06	16	7¾	8¼	3 24	M	9 03	Tau	14
359	25	Th.	7 11	P	4 17	B	9 06	16	8¾	9¼	4 39	O	10 00	G'm	15
360	26	Fr.	7 12	P	4 18	B	9 06	15	9½	10	$5^{A}_{M}57$	Q	$11^{P}_{M}03$	G'm	16
361	27	Sa.	7 12	P	4 19	B	9 07	15	10¼	11	rises	—	—	—	—
362	28	S.	7 12	P	4 19	B	9 07	14	11	11¾	$5^{P}_{M}09$	A	$12^{A}_{M}09$	Cnc	17
363	29	M.	7 12	P	4 20	B	9 07	14	—	0	6 27	B	1 15	Cnc	18
364	30	Tu.	7 13	P	4 21	B	9 08	13	0½	0¾	7 48	C	2 18	Leo	19
365	31	W.	7 13	P	4 21	B	9 09	13	1½	1¾	$9^{P}_{M}07$	E	$3^{A}_{M}16$	Leo	20

DECEMBER hath 31 days. [1947

The trivial sweetness that is love,
The limited sorrow that is grief,
The heart grows fain and fainer of,
Though there before it lies the leaf,
And most instructive in career
Lived out to show what must befall:
From green . . . to gold . . . at last, to sere,
—And gone! The tree, outlasting all,
Stands, for the tardy heart to see
This unimpaired integrity.

D.M.	D.W.	Aspects, Holidays, Heights of High Water, Weather, etc.
1	M.	"Black Hank" d. 1856 (horse) ☌ ☿ ☉. Tides {9.5 11.1} *Un-*
2	Tu.	John Brown h. 1859 Tides {9.8 10.8} *favorable.*
3	W.	Battle Hohenlinden 1800 ☌ ♄ ☾. ☌ ♂ ☾. Tides {9.2 10.3}
4	Th.	Grange fd. 1867 ♄ Stat. in R. A. Tides {9.1 9.9} *Clouds*
5	Fr.	Bible trans. Eng. 1611 Tides {9.1 9.8} *denote*
6	Sa.	St. Nicholas. ☿ in Aph. ☾ on Eq. {9.2 9.2} *snow.*
7	E	2d S. in Ad. St. Ambrose Pearl Har. ☌ ♆ ☾. {9.4 9.1}
8	M.	Conc. Virgin Mary Chanukah N. E. storm 1945 {9.7 9.0}
9	Tu.	Fancy Buttons the rage 1905 Tides {10.0 9.0} *Milder*
10	W.	Kelly & Levin 1941 Tides {10.2 8.9} *now,*
11	Th.	N.E. most horr. murder 1782 (Beadle) ☌ ☿ ☾. ☿ ♃ ☾. {10.3 8.8}
12	Fr.	Robt. Browning d. 1889 Tides {10.3 8.7} *but*
13	Sa.	St. Lucy. Council of Trent 1445 ☾ rides low. {10.2 —} *better*
14	E	3d S. in Ad. ☌ ♀ ☾. ☌ ☿ ♃. ☿ in ♐.
15	M.	Bill of Rights, 1791 {8.5 9.8} [14th {8.6 10.0} *pull the*
16	Tu.	Halcyon is Breeding (15-29) ☍ ☉ ☉. ☾ in Apo. {8.4 9.5} *rug*
17	W.	Wreck of Hesperus 1839 Ember Day Tides {8.3 9.2} *to the*
18	Th.	Thorne Glacier disc. 1930 Buffalo Blizzard 1945 {8.2 8.9} *crack*
19	Fr.	Ember Days Tides {8.2 8.6} *of the door.*
20	Sa.	Gen. Patton d. '45 (21st) Underground moon Tides {8.3 8.4}
21	E	4th Sn Ad. St. Thomas. ☾ on Eq. {8.5 8.8}
22	M.	Win. 11.43 Beg. A.M. ☉ en. ♑. Tides {8.8 8.4} *Fine*
23	Tu.	32 prelates named Cardinals 1945 Fast 'o Teveth {9.2 8.5} *be-*
24	W.	Tides {9.7 8.7} *tween dull*
25	Th.	Christmas. ☿ in Aph. {10.2 9.0} *days.*
26	Fr.	St. Stephen. ☌ ☍ ☾. Tides {10.7 9.2}
27	Sa.	St. John. Apples $4.00 bu. 1750 ☾ runs high. Tides {11.1 9.4}
28	E	1st S. af. Ch. ☿ Lat. S. Gr. Hel. ☾ in Peri. {11.4 9.6}
29	M.	Tides {— 11.5} *Cold and*
30	Tu.	☌ ♄ ☾. 67 cons. days zero beg. N.D. 1934 Tides {9.7 11.3}
31	W.	1st U.S. Postage Stamp used 1847 ☌ ♂ ☾. {9.7 10.9} *snowy.*

Farmer's Calendar.

Now before the real snows have come and the weather holds cold and still, we have our best skating. Nothing is more exhilarating on a brisk December day than to follow the frozen track of one of our winding rivers. The skates sing and cut, and the rushing cold reddens our cheeks and waters our eyes. Familiar landmarks flash past: the rotting wharf where we fish for hornpout on summer nights, the gaunt pine with the remains of the eagle's nest still in it, the expressionless backs of the village houses as they flank the river. Then we are under the covered bridge and stopped at last by the old dam and broken mill. We note as we pause there for a "breather" that the mountain seems suddenly very near and clear, and there is a golden mist of clouds, wispy and faraway along the southwestern horizon. To-morrow the big snow will come and we may hang up our skates for this year.

What better time than now for chopping and logging, or, for that matter, brush cutting and burning? When you are in the woodlot, plan to cut some of that white birch into Yule logs for your city friends. Tied with red ribbon such logs make ideal Christmas gifts.

And take now another kind of inventory—of yourself, your accounting with the world this past year, your sloth or industry, the good deeds done or left undone. And so to the New Year.

Continued from page 6

18, 21, 29; June 18, 25; July 15, 22; Aug. 15, 19; Sept. 8, 14, 15; Oct. 6, 13, 14; Nov. 2, 9, 14, 29; Dec. 14—1947.)

For Cutting Brush, etc.

If you would fell timber, "That it may last sound and good," states Whittemore's Almanac for 1738 (92 years from the founding of Harvard College—and 5687 from the founding of the World), cut it in the winter—especially when the moon is in Capricornus. Aquarius or Pisces (see left hand calendar pages under "Moon's Place." Brush, according to the same source, will never grow again if cut on the following days:

May	2	7	8	9	13	17	24	26	29
June		2	5	8	13	17	20	25	28
July		5	8	13	17	22	25	26	29
August		2	5	9	12	18	21	25	28
September		1	5	8	11	15	19	25	30
October		2	5	9	14	17	21	25	30

On all other days say we, and these as well, brush when cut will grow, and grow again unless you plow it or pull it out by the roots or destroy it with one of these new fangled D.T.'s.

Fluffy Snow

C. F. Brooks who, along with E. F. Rideout, has upon occasion been taken for our Mr. Weatherwise—notwithstanding the latter's distinguished long beard, informed us recently that the average water content of snow is 1/10 its depth. A new case of extraordinarily low density—second only to the world's record—occurred during a 14 degree above temperature snowfall at Milton, Mass. on Jan. 20, 1946, at which time measurements show the fall to contain only 1/150th water content compared with its depth.

Moon Planting Guide

Again, we reiterate that *The Old Farmer's Almanac(k)* has little faith in such "rot" that one finds in some almanacs with regard to the influence of the moon on plant growth. The superstition is that plants which bear their fruits above the ground should be planted during the increase of the moon, preferably near the Full—during a "fruitful sign" and when a similar sign is rising at the time of sowing. Vegetables like potatoes from which the fruit is born under the ground supposedly do better if sown during the decrease of the moon—and the moon be in Virgo or Taurus. These dates can be easily determined from our left hand calendar pages by those who care to experiment along these lines.

Long Range Forecasting

Mr. Weatherwise was prompted to attend this past year the meetings of the American Meteorological Society at the American Museum of History in New York during which time he had the pleasure of talking with the Weather Bureau Chief, F. W. Reichelderfer and of listening to an interesting address by Jerome Namois, Senior Meteorologist, Extended Forecast Section, U. S. Weather Bureau, which touched upon blocking mechanisms, field correlation and corrections of temperatures and pressures, 10,000 foot levels, the physical significance of mean maps, departures from normal, the need for world and North American data over extended periods of time, fundamental weather processes and types. The conclusion of the speaker was that accurate day to day long range forecasts were "years away" but that some luck was being experienced with a six months ahead look at general weather conditions.

The formula by which Mr. Weatherwise is guided in his forecasts for *The Old Farmer's Almanac* was not discussed inasmuch as this has remained a secret for all the years it has been used. There has, however, never been made any claim on the part of the publishers of this *Almanac* that it was a "scientific formula" in the sense that the weather would come up or go down just as surely as the sun in accordance with previously worked out tables. Almanac users are cautioned against considering the forecasts herein as anything more than guides or reminders as to what may happen . . . which is as much an anyone these days can offer.

There is a good deal of activity in the direction of obtaining the key to the weather. Men are studying fall crop moisture, drought periods, sun spots, averages of many kinds, high altitude readings,—the list is long and interesting. Scientists literally are "doing something about the weather." How far they'll get is another question. Uncle Bill's rheumatic knee, Mr. Oak Apple, a woodchuck's hide, and the old plum tree will have to do for Mr. Average Man for some years to come, we imagine.

(See page 63)

Other 1947 Predictions . . . by the "Oracle"

These predictions for 1947 are made on the basis of mathematical calculation, exactly the same as Old Man Euclid figured out the Fifty-second Problem when he slipped on the soap in his bath-tub. We use no crystal balls; most of which are somewhere labelled "Made in Japan" and we are suspicious of such contrivances.

In the field of mechanics, farmers, who have tractors or harvesters to overhaul should spread large sheets beneath the machines when they get to the point where it becomes necessary to reach in, under, down and then up, to place the ½ inch cotter pin in the uppadubble, or the gimmick. Only on rare occasions, in 1947, will this be accomplished without dropping the pin at least five times and losing it four times out of the five.

1947 will be a good year to buy horses; but back them out of the stall first! In buying milch cows, the wise man will take them on trial for a week, before clinching the bargain, if such a thing is possible. Do not attempt to feed young calves with milk while wearing your Sunday suit, in 1947. Violence, most horrible to contemplate, may easily result from failure to observe this waruing. Do not be inquisitive if a male sheep should suddenly appear to be digging with a front foot, as a dog in burying a bone. It will be the part of wisdom to depart from the immediate scene without loss of time. Likewise, the low, rumbling note of the red bull will not denote pain or discomfort . . . except for those who remain within the pasture.

Persons who are kicked by horses during 1947 should remain calm. Do not make hasty movements, especially if the kick has left you in a prone position. Move with deliberation and judgment until you are out of range.

It will be well for the average person to pay some attention to his diet in 1947. Almost certain bad results are sure to follow the eating of more than a dozen fried eggs at a sitting. The fourth helping at the church bean supper should be sternly refused and more than twelve average-sized buckwheat cakes may easily lead to disaster.

More whiskers will be seen than formerly and the world may look for a widespread movement favoring or at least suggesting a practical use for the same, such as weaving them into hosiery, or dyeing them and using them for fur collars. Although this movement will apparently be headed by various women's organizations, it will be the neck-tie manufacturers who will actually sponsor it, in self-defence. As for the product of these people, a word about ties is in order, because 1947 will see the crisis in the tie-manufacturing, dyeing, and designing business; the high-light of which will be the production of a tie so splashed with color that the wearer will be unable to tie it without wearing smoked glasses.

Substitutes of virtually every kind and description will become common, but no chemical or mechanical device will be found that can satisfactorily replace the Rhode Island Red rooster. However, a self-hailed genius will appear during this eventful year, who will inform the world that he has discovered how to raise double-breasted poultry, by hatching only double-yolked eggs. (Patent Applied for.)

Many will earnestly inquire as to why gin is called "dry" when anyone knows that it is wet. Though the rubber, paper, plastic and other substitutes for three-cornered infant's wear shall be turned out in increasing quantity, the same will have to be changed just as frequently.

Pink spinach will make its appearance early in the autumn, in an effort, by child psychologists, to tempt Junior more readily. Junior will be tempted, just once!

With the conversion program well under way, merchandise and clothing will be much more plentiful, and the old-fashioned cut-rate sale will again be known. But if a sign should be seen, reading: "Men's pants, Half-off," do not take it literally.

Writers will find that their profession requires no new ideas or trends of thought in 1947, but it will also be well to sign up for some simple daily task which will yield sufficient income to provide board and room, while the work is being written. Or better still, abandon writing. After all, manual labor has lately developed into a profession, wherein, it is predicted, that the followers thereof, will presently (in 1947) draw their weekly stipends merely for refraining from wrecking the premises where they are employed.

STATISTICS FROM WORLD WAR II

COSTS

Human Life (U. S. only) up to Sept. 1, 1945: 252,885 killed, 651,218 wounded, 43,969 missing, 122,747 prisoners, 17,300 surgical amputatious, 7,300 deafened, 1,190 blinded.

Money (World) up to Dec. 1, 1945: 1154 billiou plus property damage 280 billion—total 1434 billion dollars. War materiel—(U. S.) 287.2 billiou, (Germany) 280 billion, Russia 135.2 billion, Japau 49.2 billion, United Kingdom—over 100 billion. American taxpayers paid: 119.3 billion.

Costs of Living: Compared with 1935-39 average of 100, Mareh 1946 price levels: farm products 172.5—cottons 253—graius 172.2—livestoek 160—foods 142—fuels 126.5—textiles 163.1—building materlals 164.9—All commodities 143.2. These figures are taken from National Fertilizer Association Price Index. According to the U. S. Bureau of Labor Statistics, using the same 1935-39 base as 100, October 1943 price levels were as follows: Food 138.2—rent 108—clothing 133—fuel 107.9 and all commodities 126.4.

Public Debt: As of Jan. 1, 1946 the U. S. public debt was estimated at 278 billion dollars.

Vocations and Avocations: Approximately 8% of the entire U. S. populatiou served in the Armed Forces. As many again were employed making ammunition alone. When sueh industries as shipbnilding, etc. are eonsidered—and the government payroll—and the 30 million farm population—it is safe to assume that over half the population turned from what they were doing to aid the war effort.

ACCOMPLISHMENT (Physical)

Armed Force Strength: Nov. 1, 1940—513,410; Jan. 1, 1945—7,753,949.

Naval Strength: At the end of the war over 100,000 vessels, including 1500 war ships . . . larger than the combined uavies of all the rest of the world. (The Navy lost 431 vessels.)

Synthetic Rubber: Production reached 753,000 tons in 1944.

Shipyards: Prodnced 60 million deadweight tous.

Airplane Manufacturers: Made 223,444 (including 184,433 tactical) plaues from December 1942 to the end of the war.

Tanks: 119,400—**Artillery Pieces:** 1,116,000—**Small Arms:** 18,900,000.

Tractors: 190,000— **Trucks:** 2,400,000 ineluding 660,000 jeeps.

Radio Sets: 1,700,000—**Telephones:** 2,660,000—**Shoes:** 117 million pairs.

Locomotives: 7,000.

Inventions: Atomie energy eontrol, jet propelled planes, buzz bombs aud rockets, radar, DDT, penieillin, microdots, parachute armies, synthetic rnbber—and mauy othcrs.

POPULATION CHANGES

(ineluding Armed Forees)

	1940	1942	Change
Continental United States	131 669 245	133 770 500	gaiu 2 101 255
Northeastern States	36 000 406	35 506 304	loss 494 102
North Central	40 191 408	40 162 262	loss 29 146
The South	41 517 543	43 288 881	gain 1 771 338
The West	13 959 888	14 813 053	gain 853 165
New England			
Maine	846 746	827 964	loss 18 782
New Hampshire	493 259	482 809	loss 10 450
Vermont	359 111	341 791	loss 17 320
Massachusetts	4 320 582	4 348 712	gain 28 130
Rhode Island	714 590	741 506	gain 26 916
Connecticut	1 714 625	1 784 686	gain 70 061
Middle Atlantic			
New York State	13 473 621	12 970 284	loss 508 846
New Jersey	4 166 489	4 279 998	gain 113 509
Pennsylvania	9 912 442	9 728 544	loss 183 898
District of Columbia	601 369	865 280	gaiu 263 921

FARM POPULATION CHANGES

	1940	1945	Change
All Ages—All U. S.	30 398 000	25 398 000	loss 5 000 000
Males—14-24	4 546 000	2 727 000	loss 1 819 000
Males 25-44	3 799 000	3 039 000	loss 760 000
All sexes—45 & over	4 127 000	4 127 000	no change

Sources: Census Bureau, Dept. of Agriculture, Associated Press, War Department.

GESTATION AND REPRODUCTION TABLE

Designation	Proper age for reproduction	Period of the power of reproduction in years	No. of Females for one Male	Period of Gestation and Incubation		
				Shortest period, days	Mean period, days	Longest period, days
Mare	4 years	10 to 12		322	347	419
Stallion	5 "	12 to 15	20 to 30			
Cow	3 "	10 to 14		240	278-285	321
Bull	3 "	8 to 10	30 to 40			
Ewe	2 "	6		146	154	161
Ram	2 "	7	40 to 50			
Sow	1 "	6		109	115	143
Boar	1 "	6	6 to 10			
She Goat	2 "	6		150	156	163
He Goat	2 "	5	20 to 40			
She Ass	4 "	10 to 12		365	380	391
He Ass	5 "	12 to 15				
She Buffalo		8		281	308	335
Bitch	2 "	8 to 9		55	60	63
Dog	2 "	8 to 9				
She Cat	1 "	5 to 6		48	50	56
He Cat	1 "	9 to 10	5 to 6			
Doe Rabbit	6 months	5 to 6		20	28	35
Buck Rabbit	6 "	5 to 6	30			
Cock	6 "	5 to 6	12 to 15			
Hen		3 to 5		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 on Duck's Eggs				22	30	34

DURATION AND FREQUENCY HEAT SEASON

	In heat for	*Reoccurs if not bred*
Mares	6 days	3 to 6 weeks
Cows	2-3 days	3 to 4 weeks
Ewes	2-3 days	17-28 days
Sows	2-4 days	21 days
Bitches	5-7 days	3-6 months
Cats	3-15 days	4 months

AVERAGE DATES FIRST AND LAST KILLING FROSTS

Boston	Apr. 14 — Oct. 26	Richmond	Mar. 31 — Nov. 2
Albany	Apr. 24 — Oct. 15	Raleigh	Mar. 27 — Nov. 5
Harrisburg	Apr. 9 — Oct. 28	Macon	Mar. 14 — Nov. 14
Cincinnati	Apr. 8 — Oct. 23	Del Rio	Feb. 23 — Nov. 27
Toledo	Apr. 22 — Oct. 18	Helena	May 7 — Sept. 29
Chicago	Apr. 16 — Oct. 19	Santa Fe	Apr. 25 — Oct. 19
Detroit	Apr. 28 — Oct. 15	Tucson	Mar. 11 — Nov. 9
Duluth	May 6 — Oct. 5	Yuma	Jan. 20 — Dec. 20
Bismarck	May 11 — Sept. 21	Portland, Ore.	Mar. 15 — Nov. 21
Omaha	Apr. 14 — Oct. 15	San Francisco	Jan. 13 — Dec. 29
Portland	Apr. 19 — Oct. 17	Parkersburg	Apr. 17 — Oct. 18
Hartford	Apr. 20 — Oct. 14	Oklahoma City	Mar. 30 — Nov. 3
Evansville	Apr. 5 — Oct. 29	Denver	May 3 — Oct. 10
Cairo	Mar. 31 — Oct. 29	Spokane	Apr. 14 — Oct. 13
Minneapolis	Apr. 27 — Oct. 10	Salt Lake City	Apr. 18 — Oct. 20

DIGEST OF 1946-7 FISH AND GAME LAWS

Open seasons include both dates. "Rabbit" includes "hare"; "quail" includes "partridge" in South; "grouse" includes Canada grouse, sharptailed, ruffed (known as partridge in North and pheasant in South) and other members of family except prairie chickens, ptarmigan and sage hen. The Fish and Game Commissions of each state have verified these figures (except where indicated) but as many states do not complete laws until after our press date, VERIFY in every case for changes. Limits are daily except those in italics which are seasonal.

Migratory Bird Laws for 1947 will not be released until August. For details consult local authorities or write Department of Interior, Fish & Wildlife Service, Chicago 54, Illinois.

♂ males only. † local exceptions. ‡ non-resident exceptions. ° last year's game laws. * last year's fish laws. # Pounds. x unverified.

State and Species	Seasons	Limits, Season
Alabama°*		
Deer	Nov. 20-Jan. 10 † ♂	*3*
Rabbit	Oct. 1-Feb. 20	
Squirrel	N-Oct. 1-Jan. 1 S-Oct. 15-Jan. 15	
Opossum, Raccoon	Oct. 1-Feb. 20	
Muskrat (fur), Otter	Nov. 20-Jan. 31	
Quail	Nov. 20-Feb. 20	
Turkey	Nov. 20-Jan. 1 ♂† Mar. 20-Apr. 15	*5*
Bass	No closed season	10
W.l., str. bass	No closed season	15
Bream	No closed season	30
Crappie, wh. pch.	No closed season	20
Rck. bass, g.-eye	No closed season	20
W.-eye pike	No closed season	15
Alaska		
Deer	Sept. 1-30 ♂†	*1‡*
Moose	N-Sept. 1-20, S.-Dec. 1-7 ♂†	*1*
Bear, br. & grz.	Sept. 1-June 20†	*2*
Bear, black	E. of 138°: Sept. 1-June 20†	*2*
Polar Bear	No closed season†	
Caribou	Aug. 20-Sept. 30† Dec. 1-15	*1‡*
Mountain goat	Sept. 1-Oct. 31†	*1‡*
Mountain sheep	Aug. 20-31 ♂†	*1*
Rabbit	No closed season†	
Grouse & Ptar'g'n	† agg.	10
Trout & grayling	†	†
Arizona		
Deer	N-Oct. 10-Oct. 25 ♂† S-Nov. 1-Nov. 17 ♂†	*1* *1*
Rabbit	No closed season†	
Abert Squirrel°	No open season	
Turkey°	No open season	
Quail°	Nov. 16-Nov. 30†	10
Trout°	May 30-Sept. 30†	15
Bass	No closed season	10
Chan. Catfish°	No closed season	10
Arkansas		
Deer	Nov. 11-16 ♂† Dec. 9-14 ♂†	*1*
Squirrel	May 15-June 15† Oct. 1-Jan. 1†	
Quail	Dec. 1-Jan. 31	
Turkey	Apr. 1-Apr. 15 ♂	*2*
Bass	May 16-Mar. 15	15
Trout	May 1-Oct. 31	6
Pike	No closed season	6
Jack salmon	No closed season	6
California		
Deer	Aug. 7-Sept. 15 ♂†	*2*
Antelope	Limited ♂	
Bear	Oct. 15-Dec. 31†	*2*
Rabbit	Nov. 15-Dec. 31	15
Quail	Nov. 20-Dec. 15	10
Pheasant	Nov. 20-27 ♂	
Trout (exc. gldn)		
" (Sp. wntr seas.)	May 1-Oct. 31	15
Trout, golden	July 1-Sept. 30†	20
Salmon	†	2
Bass, black	May 29-Oct. 31†	10
Bass, striped	No closed season	5

State and Species	Seasons	Limits, Season
Colorado		
Deer	Oct. 12-Nov. 24†	†
Elk	Oct. 12-Nov. 24†	†
Bear	Oct. 12-Nov. 24 †	†
Quail	Nov. 17	
Pheasant	Nov. 17-Dec. 16	
Rabbit	Oct. 1-Feb. 1	
All fish	May 1-Oct. 31†	20
Connecticut		
Rabbit	Nov. 1-Dec. 31	*30*
Squirrel	Oct. 19-Nov. 23	*30*
Quail	Dates not set	*18*
Pheasant	Oct.19-Nov. 23	*15*
Grouse	Oct.19-Nov. 23	*15*
Trout	Apr. 20-July 15	10
Lake trout	Apr. 20-Aug. 31	3
Pickerel	Apr. 20-Feb. 9	6
Wall-eye	Apr. 20-Feb. 9	6
Bass, black	July 1-Oct. 31	10
Bass, striped	No closed season	10
Perch	Apr. 20-Feb. 9	15
Salmon, sockeye	Apr. 20-Aug. 31	5
Shad	Apr. 20-July 15	
Delaware		
Rabbit	Nov. 15-Dec. 31	
Squirrel	Sept. 15-Nov. 1	
Quail	Nov. 15-Dec. 31	
Pheasant	Nov. 15-Dec. 31 ♂	*6*
Bass	June 25 Feb. 1	6
Pike, pkl., w. eyed pike	June 25 Mar. 1	6
Trout	Apr. 16 Aug.15	6
Florida		
Deer, male	Nov. 20-Dec. 31† ♂	*2*
Squirrel	Nov. 20-Jan. 31†	13
Quail	Nov. 20-Jan. 31†	12
Turkey	Nov. 20-Feb. 15†	*4*
Bass, black	May-Feb. 28	8
Bream	June 1-Mar. 31†	20
Speckled perch	June 1-Mar. 31†	20
xGeorgia°		
Deer	Oct. 15-Jan. 15† ♂	*2*
Bear	Nov. 20-Feb. 28†	
Squirrel	Sept. 15-Jan. 15†	
Quail	Nov. 20-Feb. 28	
Grouse	Nov. 20-Jan. 15	
Turkey	Nov. 1-Feb.28†	*2*
Rabbit	No closed season	
Bass, striped	No closed season†	10
Bass, black	No closed season†	10
Bass, rock	No closed season†	10
Bass, Ky. or r.-eye	No closed season†	10
Bream, perch	No closed season†	25
Crappie	No closed season†	15
Pickerel	No closed season†	15
Wall-eyed pike	No closed season†	3
Muskellunge	No closed season†	2
Trout	Apr. 1-Nov. 15†	10
xIdaho°*		
Deer, elk	Local seasons	*1*
Antelope	Local seasons	
Bear	Jan. 1-Dec. 31†	*1*
Goat	Local seasons	*1*
Sheep	No open season	
Quail (Bob-white)	Local seasons	
Quail (others)	Local seasons	

Idaho (cont.)		
Hun. partridge	Local seasons	
Sage hen	Local seasons	
Pheasant	Local seasons	
Trout	May 21-Nov. 15†	25 or 15#
Bass (l-mouth)	July 1-Apr. 30†	1 15 or 15#
Bass (s-mouth)	No open season	1
Salmon (steelhd.)	Local seasons	2
Illinois°		
Rabbit	Nov. 11-Jan. 31	
Squirrel	Aug. 15-Nov. 15†	
Quail	Nov. 11-Dec. 11	
Pheasant	Nov. 11-Nov. 20†	
Bass, black	May 15-Mar. 31†	10
Bass (rk., wrmtb. wh., yel.) crapples, sunf., bluegills	No closed season	50 (75 in ag-g.)
Buffalo, bullhd., catf., carp, sbpbd.	No closed season	
Trout	Apr. 1-Sept. 30	8
Perch	No closed season	
Pickerel	May 1-Feb. 28	10
Wall-eyed pike	May 1-Feb. 28	10 in ag-g.
Lake tr., whitefish	No closed season	
Indiana°		
Rabbit	Nov. 10-Jan 10	
Squirrel	Aug. 10-Oct. 8	
Quail	Nov. 10-Dec. 20	
Pheasant	Dates not set	
Hun. partridge	Nov. 10-Dec. 20	
Bluegill, rd.-eared sunf., crapple, rock bass	June 16-Apr. 30	25 in ag-g.
Bass, silv. or yel., bl., Ky., wh. or str.	June 16-Apr. 30	6 in ag-g.
Pike-perch	June 16-Apr. 30	6
Pike or pickerel	June 16-Apr. 30	6
Yellow perch	June 16-Apr. 30	
Trout	May 1-Aug. 31	15
Chan. catfish	No closed season	
Iowa		
Rabbit	Aug. 1-Mar. 1	10
Squirrel	Sept. 15-Nov. 15	6
Pheasant°	Oct. 28-Oct. 30† ♂	
Quail°	Nov. 1-Nov. 30	
Hungarian partridge	Nov. 12-Nov. 14†	
Trout	May 1-Oct. 31	8
Northern pike	May 15-Nov. 30†	8
Bass	June 15-Nov. 30†	5
Pike, sand or saug., w.-eyed	May 15-Nov. 30†	8
Bullheads	No closed season	25
Yell. pch. and bass, yellow str., silver	May 15-Nov. 30†	15
Crap., cal. bass	June 15-Nov. 30†	15
Catfish	Apr. 15-Nov. 30†	15
Kansas		
Squirrel	June 15-Nov. 30	
Quail	Intermittent	10
Pheasant	Nov. 7-11 ♂	3
Bass	May 26-Apr. 24	10
Kentucky		
Rabbit	Nov. 20-Jan. 15	8
Squirrel	Aug. 15-Nov. 30	6
Quail	Nov. 20-Jan. 15	
Ruffed Grouse	Dec. 1-Dec. 15	10
Bass, black	May 30-Apr. 30	10
Trout	May 30-Apr. 30	10
W.-eyed pike, sand pike or sauger	May 30-Apr. 30	15 ea.
Kentucky (cont.)		
Striped bass	May 29-Apr. 30	15
Crapple	May 29-Apr. 30	15
Rock bass	May 29-Apr. 30	15
Muskellunge	May 29-Apr. 30	
Loulsiana		
Deer	Nov. 1-Jan. 10†	*2*
Bear	Nov. 1-Jan. 1	*5*
Rabbit	Oct. 1-Mar. 1	
Squirrel	Oct. 1-Jan. 15	*120*
Quail	Dec. 1-Feb. 20	*120*
Turkey	Apr. 1-Apr. 15 ♂	*1*
Bass, black, yel., wbite	May 1-Feb. 28†	15
Crappie	May 1-Feb. 28†	25
Sunfisb	May 1-Feb. 28†	50
Maine		
Deer	Oct. 21-Nov. 30†	*1*
Bear	No closed season	
Rabbit	Oct. 1-Feb. 28†	
Squirrel	Oct. 1-Oct. 31	
Pheasant	Nov. 1-Nov. 15	*12*
Grouse	Oct. 1-Nov. 15	
Salmon, togue(a)	Ice out-Sept. 30	25
Salmon, togue(b)	Ice out-Sept. 15	25
Salmon, togue(c)	Ice out-Aug. 15	25
Trout(a)	Ice out-Sept. 30	25
Trout(b)	Ice out-Sept. 15	25
Trout (c)	Ice out-Aug. 15	25
Wh. perch(a)	Ice out-Sept. 30	25
Wh. perch(b)	Ice out-Sept. 15	25
Wh. perch(c)	Ice out-Aug. 15	25
Black bass(a)	June 21-Sept. 30	25
Black bass(b)	June 21-Sept. 15	25
Black bass(c)	June 21-Aug. 15	25
Black bass (fly)	June 1-20	3
Pickerel a-Lakes & ponds b-Riv. abv. tidewtr. c-Brooks, streams	No closed season	10†
Maryland		
Deer	Dec. 2-7 ♂†	*1*
Rabbit	Nov. 15-Dec. 31†	
Squirrel	Sept. 15-Oct. 15 Nov. 15-Dec. 31†	
Quail	Nov. 15-Dec. 31†	
Grouse	Nov. 15-Dec. 31†	*6*
Pheasant	Nov. 15-Dec. 31† ♂	*6*
Turkey	Nov. 15-Dec. 31†	*1*
Trout	Apr. 15-July 15	10
Bass-non-tdl.	July 1-Nov. 30	10
Str. (rck.) bass, non-tdl. wtrs.	Mar. 15-Nov. 30	10
Wall-eyed pike	Mar. 15-Nov. 30†	10
Pike, pickerel	July 1-Nov. 30	10
Perch	July 1-Nov. 30	
Catfish	Feb. 15-Nov. 30†	10
Massachusetts		
Deer	Dec. 2-Dec. 7†	*1*
Rabbit, bare	Oct. 20-Feb. 15†	
Squirrel	Oct. 20-Nov. 20	*15*
Quail	Dates not set	*20*
Grouse	Dates not set	*15*
Pheasant	Dates not set ♂	6
Bass	July 1-Feb. 15	5
Pike	Apr. 15-Feb. 15	5
Muskellunge	Apr. 15-Feb. 15	5
Pickerel	Apr. 15-Feb. 15	10
Pike perch	Apr. 15-Feb. 15	5
Salmon	Apr. 15-Feb. 15	5
Trout	Apr. 15-July 31†	12
Bluegls., cal. bass, crappie, hrnd. pout, sunfish, yel. pch.	Apr. 15-Feb. 15	20
Michigan		
Deer	Nov.15-Nov. 30†	*1*
Deer (bow & arrow)	Oct. 15-Nov. 5	*1*
Bear	Nov.15-Nov. 30†	*1*
Rabbit	U-Oct. 1-Mar. 1 L-Oct. 15-Jan. 31†	*50* *50*
Squirrel	L-Oct. 15-Nov. 5†	*25*
Grouse, prairie chicken	U-Oct. 1-Oct. 20† L-Oct. 15-Nov. 5†	*15* *15*
Pheasant	L-Oct. 15-Nov. 5†	*8*

Michigan (cont.)		
Woodchuck	L-Oct. 15-Jan. 31†	
Trout	Apr. 27-Sept. 2†	15
Bass	Apr. 27-Sept. 2†	5
No. pike, pk.pch.	Apr. 27-Sept. 2†	5
Muskellunge	Apr. 27-Sept. 2†	
Lake trout	Apr. 27-Sept. 2†	25#
White bass	Apr. 27-Sept. 2†	10
Crappie, rk. bass, yel. pch. bluegills, sunfish	Apr. 27-Sept. 2†	25
Whitefish	Apr. 27-Sept. 2†	7
Minnesota°		
Deer (Bow and Arrow)	Oct. 16-Nov. 1†	*1*
Deer	Nov. 15-Nov. 25†	*1*
Bear	No closed season	
Squirrel	Oct. 15-Dec. 31	
Quail	Oct. 28-Nov. 12†	
Pheasant	Oct. 28-Nov. 12 ♂	
Hun. partridge	Oct. 21-Oct. 27†	
W.-eyed pike, saugers, gt. no. pike, pickerel	May 15-Feb. 15†	8
Muskellunge	May 15-Feb. 15†	2
Bass	June 20-Nov. 30†	6
Trout	May 1-Sept. 15†	15
Lake Trout	Jan. 1-Feb. 15†	5
	May 1-Sept. 30†	
Crappies, sunfish wh. & rk. bass	May 15-Feb. 15†	15
Catfish	May 15-Feb. 15†	10
Bullheads	May 15-Feb. 15†	50
Whitefish	May 15-Feb. 15†	
Buffalo	May 15-Feb. 15†	
xMississippi°		
Deer	Nov. 20-Dec. 1†	*1*
	Dec. 20-Jan. 1†	
Bear	No open season	
Rabbit	Same as Game	
Squirrel	Local seas. 5 zones	
Quail	Dec. 10-Feb. 20†	
Turkey	Apr. 1-Apr. 20 ♂	*1*
Bass	May 1-Feb. 28	15
Crappie	May 1-Feb. 28	15
White perch	May 1-Feb. 28	50
Sunfish		
Missouri		
Deer	Dates not set	‡
Squirrel	May 30-Oct. 31	6
	Nov. 10-30	
Quail	Nov. 10-Jan. 1	15†
Rabbits, groundhogs	Jan. 1-Oct. 31	
	Nov. 10-Dec. 31	
Wall-eyed pike	May 30-Dec. 31	4
Bass, black	May 30-Dec. 31	8
Trout	May 30-Dec. 31†	8
Bass, wh., yel.	May 30-Dec. 31	12
Bass, warmth., rk.	May 30-Dec. 31	12
Crappie	May 30-Dec. 31	12
Channel cat	Mar. 15-May 31	8
	July 15-Dec. 31	
Blue gi., bl. pch.	Mar. 15-Dec. 31	12
Montana		
Deer	Oct. 15-Nov. 15† ♂	*1*
Bear, bl. & br.	Apr. 15-Nov. 15†	*1*†
Bear, grzly.	Oct. 15-Nov. 15	*1*†
Elk	Oct. 19-Dec. 9†	*1*†
Goat	Oct. 1-31	*1*
Grouse, Quail, turkey, Sage hen, Hun. partridge, Pheasant	Dates not set	
All game fish	May 19-Nov. 15	15
Nebraska		
Rabbit	No closed season	10
Squirrel	Sept. 15-Dec. 31	5
Pheasant	Oct. 19-Dec. 9†	5
Trout	No closed season†	10
Bass, black	No closed season†	10
Crappie, sunf., rock bass	No closed season†	
Bullheads	No closed season†	15
Catfish	No closed season†	10
Nebraska (cont.)		
Perch	No closed season†	25
Pike, w.-eye, saug. no'thn.	No closed season†	5
Nevada		
Deer	Oct. 1-Oct. 21 ♂	*1*
Rabbit	Nov. 1-Dec. 31†	
Quail	Nov. 3-Nov. 17	
Pheasant	Nov. 10-Nov. 11	
All game fish	Local seasons	25
New Hampshire		
Deer	Oct. 15-Dec. 21†	*1*
Bear	No closed season	
Rabbit, hare	Oct. 1-Feb. 15	
Squirrel	Oct. 1-Nov. 1	
Quail	No open season	
Grouse	Oct. 1-Dec. 1	*25*
Pheasant	Oct. 15-Nov. 16 ♂†	*10*
Trout, brook	May 1-Sept. 1†	15
Lake Trout	Jan. 1-Sept. 1†	2
Salmon	Apr. 15-Sept. 1†	2
Trout, golden	Apr. 15-Sept. 1	4
Bass	July 1-Nov. 1†	10#
Muskellunge	May 28-Nov. 1	
Pike-perch	May 28-Nov. 1†	
Pickerel	May 28-Jan. 16†	10#
New Jersey°*		
Deer	Dec. 17-Dec. 21 ♂†	1
Rabbit, squirrel	Nov. 10-Dec. 15	6
Quail	Nov. 10-Dec. 15†	10
Grouse	Nov. 10-Dec. 15	
Pheasant	Nov. 10-Dec. 15 ♂	*30*
Trout	Apr. 15-July 15†	10†
	Sept. 1-Sept. 30†	
Pike, pick'l, pike-perch	May 20-Nov. 30†	10
	Jan. 5-Jan. 27†	
Bass, bl., Oswego, white	June 15-Nov. 30†	10
Calico, rock bass, crappie	June 15-Nov. 30†	20
Bass, striped	June 1-Feb. 28	
Wh., yel. pch., catf., sunf.	No closed season	
New Mexico		
Deer	Nov. 10-Nov. 21† ♂	*1*
Elk	(Ltd.)Oct.26-Nov.3	*1*
Bear	Nov. 10-Nov. 21†	*1*†
Antelope	Shooting by permit† ♂	
Turkey	Nov. 10–Nov. 21†	*2*
Squirrel	Nov. 10–Nov. 21	*5*
Trout		20
Bass, pike pch.		15#
Crappie	Apr. 1-15	20
Sunf., ring pch. and bream	May 15-Nov. 30	20
Chan. catf.		
Bullhd., yel. and mud catfish	No closed season	20
New York		
Deer	†	*1*
Bear	†	*1*
Rabbit	Oct. 21-Jan. 31†	6†
Squirrel	Oct. 21-Nov. 18†	5
Quail	No open season†	
Grouse	Dates not set	
Pheasant	" " "	
Black bass	July 1-Nov. 30†	6†
Striped bass	No closed season	
Lake trout	Apr. 1-Sept. 10†	3†
Muskellunge	July 1-Dec. 1†	†
Salmon, ldlckd.	Apr. 1-Sept. 10	2
Salmon, chinook	Apr. 1-Sept. 10	3
Pike-perch	May 1-Mar. 1†	10†
Pickerel	May 1-Mar. 1†	10†
Gt. no'n. pike	May 1-Mar. 1†	10†
Trout, brk., br., r'bow	†	10†
Lake trout	Apr. 1-Sept. 10	3†
Bullheads	No closed season†	†
Whitefish	Apr. 1-Sept. 10†	†
Perch, white	No closed season	25†
Perch, yellow	No closed season†	
Long Island		
Rabbit, squirrel	Nov. 1-Dec. 31	6

Long Is. (cont.)		
Quail	Nov. 1-Dec. 31	6
Grouse	Date not set	
Pheasant	Date not set	4
NorthCarolina		
Deer	Oct. 15-Jan. 1† ♂	2
Bear	Oct. 1-Jan. 1†	2
Rabbit	Nov. 28-Jan. 31	10
Squirrel	Oct. 1-Jan. 1†	
Quail	Nov. 28-Jan. 31	150
Grouse	Nov. 25-Jan. 1	10
Turkey	No open season	
Russian boar	Oct. 15-Jan. 1†	2
Trout	Apr. 15-Aug. 31†	12
Bass, black	No closed season	8
Wall-eyed pike		5
Striped bass		8
North Dakota°		
Sharptail	Oct, 5-Oct. 20	3
Pin'd grouse		
Sage & ruffed grouse; part'ge	No open season	
Pheasant	Oct. 5-Nov. 30 ♂	3
Trout, salmon	May 2-Sept. 30	5
Bass	June 16-Oct. 31	5
Wall-eyed pike, northern pike	May 16-Oct. 31	10
Crappie	June 16-Oct. 31	15
Sunfish	June 16-Oct. 31	15
Perch	May 16-Oct. 31	25
Ohio		
Deer	No open season	
Rabbit	Nov. 15-Jan. 1	4
Squirrel	Sept. 14-28	4
Pheasant	Nov. 15-30 ♂	2
Hun. partridge	Nov. 15-30	2
Grouse	Nov. 15-30	2
INLAND DIST.		1
Muskellunge	No closed season	2
Wall-eyed pike	No closed season	6
Sauger	No closed season	6
Trout	Apr. 14-Sept. 16	6
Bass	June 15-May 1†	6
LAKE ERIE DIST.		
Muskellunge	No closed season	
Wall-eyed pike	No closed season	
Sauger	No closed season	
Trout	Apr. 14-Sept. 16	6
Bass	June 30-May 25†	6
Oklahoma		
Squirrel	May 15-Jan. 1	10
Quail	Inter. (Nov.-Jan.)	10
Bass	No closed season†	10
Chan. catfish	No closed season†	15
Crappie	No closed season†	15
Oregon		
Deer	Sept. 28-Oct.20 ♂†	1
Elk	Oct. 26-Nov. 17	1
Antelope	No open season	1
Squirrel	Sept. 28-Oct. 20	
Quail	Oct. 19-Nov. 3†	
Blue grouse	Oct. 12-20	4
Pheasant	Oct. 19-Nov. 3†	
Hun. partridge	No open season	6
Trout, salmon, steelhead, less than 20"	Apr. 20-Oct. 31	15
Bass, black; Perch, crappie, catf., sunf., bream, pike	No closed season	30
Str. bass, shad	No closed season	
Pennsylvania		
Deer	Dec. 1-Dec. 15 ♂	1
Bear	Nov. 18-23	1
Rabbit	Nov. 1-Nov. 30	4
Squirrel	Nov. 1-Nov. 30	6
Quail	Nov. 1-Nov. 30	4
Ruffed grouse	No open season	
Pheasant	Nov. 1-Nov. 30 ♂	2–8
Turkey	Nov. 1-Nov. 30†	1
Hun. partridge	Nov. 1-Nov. 30	2–8
Woodchuck	July 1-Sept. 30	
Trout	Apr. 15-July 31†	10
Trout, lk. or sal.	July 1-Sept. 29	8
Bass	July 1-Nov. 30	6
Pike-perch	July 1-Nov. 30	6
Pickerel	July 1-Nov. 30	6
Penn. (cont.)		
Muskellunge, West'n and North'n pike	July 1-Nov. 30	2
Yell. pch., rock bass, str. or cal. bass, wh.; crappie, sunf., catf., suckers, carp	No closed season	15
Rhode Island		
Rabbit	Nov. 1-Dec. 31†	
Hare	Nov. 1-Dec. 31	
Squirrel	Nov. 1-Dec. 31	
Quail	Nov. 1-Dec. 31	
Grouse	Nov. 1-Dec. 31†	
Pheasant	Nov. 1-Dec. 31 ♂	
Bass	June 20-Feb. 20†	6
Pickerel	June 20-Feb. 20†	10
Trout	Apr. 15-July 15†	10
Striped bass	No closed season	
Perch, white	No closed season	20
Perch, yellow	No closed season	30
South Carolina*		
Deer	Aug. 15-Jan. 1† ♂	5
Rabbit	Sept. 1-Mar. 1	
Squirrel	Sept. 1-Mar. 1	
Quail	Nov. 28-Mar. 1	
Turkey	Nov. 27-Mar. 1	2
Trout, speckled	No closed season†	20
Trout, rainbow	No closed season†	20
Bass	No closed season†	10†
xSouth Dakota°		
Deer	Nov. 1-Nov. 20† ♂	1
Grouse, prairie chicken	Sept. 20-Oct. 19†	
Pheasant	Sept. 20-Jan. 17†	
Hun. partridge	Sept. 20-Oct. 19†	
Trout	May 1-Sept. 30	15
Bass, w.-eyed pike, pickerel	May 1-Feb. 28	8
Bluegills†	May 1-Feb. 28	15
Bullheads, pch.	May 1-Feb. 28	50
Crappies, sunf.	May 1-Feb. 28	
Tennessee		
Deer	Special seasons	1†
Bear	Special seasons	
Rabbit	Nov. 25-Jan. 25	
Squirrel	Aug. 1-Dec. 31†	
Quail	Nov. 25-Jan. 25	
Grouse	Nov. 25-Jan. 25	
Wild boar	Special seasons	1†
Trout	Mar. 1-Oct. 1	10
Bass	May 30-Mar. 31	8
Wall-eyed pike	May 30-Mar. 31	5
Sauger pike	May 30-Mar. 31	10
Muskellunge	May 30-Mar. 31	5
Crappie	May 30-Mar. 31	15
Rock bass	May 30-Mar. 31	15
White, str. bass	May 30-Mar. 31	15
Yellow bass or jacks	May 30-Mar. 31	15
Warmouth bass	No closed season	25
Bluegill bream	No closed season	25
Catfish	No closed season	
Buffalo	No closed season	
Texas		
Deer	Nov. 16-Dec. 31† ♂	2
Bear	Nov. 16-Dec. 31	1
Peccary	Nov. 16-Dec. 31†	2
Squirrel	{Oct. 1-Dec. 31† {May 1-July 31†	
Quail	Dec. 1-Jan. 16†	
Turkey	Nov. 16-Dec. 31† ♂	3
Bass, bl., sp'ted	No closed season	15
White bass	No closed season	25
Trout	No closed season	5
Crappie	No closed season	25
Catfish	No closed season	25
Utah		
Deer	Oct. 19-Oct. 29† ♂	1
Elk (By permit)		1
Grouse, sage hen, prairie chicken	No open season	
{Pheasant {Quail	Nov. 2-Nov. 4	3†

Utah (cont.)		
Bass	May 15-Oct. 31†	20
Trout	June 15-Oct. 31†	20
Salmon	June 15-Oct. 31†	20
Vermont		
Deer	Nov. 10-Nov. 20	1
Squirrel	Oct. 1-Oct. 31	4
Rabbit	Oct. 1-Feb. 28	3
Quail	No open season	
Grouse	Oct. 1-Nov. 9	4
Pheasant	Oct. Sat. & Wed. ♂	2–4
Bear	June 1-Dec. 31	
Trout	May 1-Aug. 14	20
Lake trout, salmon	May 1-Aug. 31	2
Bass	July 1-Nov. 30	5
Muskellunge	June 15-Apr. 14	25#
Pike-perch	May 1-Mar. 14	25#
Pickerel	May 1-Mar. 14	25#
Smelt	June 1-Mar. 31	
Virginia°		
Deer	Nov. 20-Jan. 5† ♂	1
Bear	Nov. 20-Jan. 5†	1
Elk	Nov. 13, 14, 15	1
Rabbit	Nov. 20-Jan. 20†	75
Squirrel	Sept. 15-Sept. 30 Nov. 20-Jan. 20	75
Quail	Nov. 20-Jan. 20†	135
Grouse	Same as quail	15
Pheasant		20
Turkey		4
Bass	W: June 20-Dec. 31 E: June 20-Mar. 15	10
Trout	Apr. 20-July 31	12
Pike	W: Same as bass E: No closed season	20
Crappie	June 20-Mar. 15	25
Bream	No closed season	25
Washington		
Deer	Oct. 8-Nov. 5† ♂	1
Bear	E: Same as deer W: Closed during Elk season	1
Elk	Nov. 3-Nov. 11 ♂†	1
Rabbit	Oct. 13-Feb. 28†	5
Grouse	Oct. 13-14†	2
Quail	Oct. 13-30	10
Pheasant	Oct. 13-30	3
Hungarian partridge	No open season	
Steelhead	Dec. 1-Mar. 1†	3
Other game fish		
Lowl'd lakes	Apr. 1-Nov. 30	
Gen'l season	May 26-Oct. 31	20

West Virginia°		
Deer	Dec. 2-7	1
Rabbit	Nov. 11-Jan. 4	35
Squirrel	Oct. 5-Nov. 16	24
Quail	Nov. 11-Dec. 14	20
Grouse	Oct. 5-Nov. 16	10
Turkey	Oct. 5-Nov. 16	1
Bear	Nov. 11-30	1
Woodchuck	July 1-Dec. 31†	
Trout, rnbw., brown	Apr. 27-July 15	10
Trout, brook	Apr. 27-July 15	15
Bass	June 29-Nov. 30	8
Pickerel	June 29-Apr. 30	
Muskellunge, w. eyed pike	June 29-Apr. 30	
Rk.bass,crappie, sunf., blucgill	June 29-Apr. 30	15
Catfish	June 29-Apr. 30	10
Perch	June 29-Apr. 30	10
Wisconsin		
Deer	Nov. 23-Dec. 1† ♂	1
Deer (bow & arrow)	Sept. 28-Nov. 14	1
Bear	No closed season†	
Raccoon	Oct. 23-Nov. 30	8
Rabbit	Oct. 19-Jan. 15	3
Squirrel	Oct. 19-Nov. 30	3
Grouse	No open season	
Pheasant	Oct. 19-Nov. 28†	
Hun. partridge	No open season	
Quail	Oct. 24-28†	4
Bass, black	June 20-Jan. 15†	7
Trout	May 18-Sept. 7†	15
Lake trout	Apr. 15-Sept. 30†	5
Wall eyed pike, sauger	May 18-Jan. 15†	7†
No. pike, pick'l	May 18-Jan. 15†	7†
Muskellunge	May 18-Jan. 15†	1
Bass, other	May 18-Jan. 15†	25
Catfish	May 18-Jan. 15†	15
Bullheads	Apr. 15-Jan. 15†	25
Other panfish	May 18-Jan. 15†	25†
Wyoming		
Deer	Local season† ♂	1
Moose	Local seasons ♂	1
Elk	Local seasou† ♂	1
Bear	Local seasons	1
Sheep	Local seasons† ♂	1
Antelope	Local seasons†	2
Pheasant	Local seasons	
Trout	Apr. 1-Oct. 31†	20
Grayling	Apr. 1-Oct. 31†	20
Bass	Apr. 1-Oct. 31†	20

MIGRATORY BIRD LAWS, 1946

After biological investigations and consultations with State game administrators, Secretary of the Interior Krug adopted, and President Truman approved in August, 1946 drastic amendments to the laws on migrating birds. The duck hunting season was reduced from 80 to 45 days, the daily bag limit from 10 to 7, and possession limit from 20 to 14. These amendments have been made to avoid imminent disaster threatened by a 50 per cent increase in the number of hunters from 1944 to 1946 coupled with a 36 per cent decrease in the number of ducks. Although most of the season will be over by the date this Almanac is published (December 1), the salient features of the 1946 rules may be of interest to some.

Waterfowl: October 5 to November 18 in North; October 26 to December 9 in Intermediate; November 23 to January 6 in South. Kentucky is now in South—Iowa, Montana, Ohio—intermediate. Daily bag and possession for geese has been reduced to 2 of any kind. The length of the shooting day for waterfowl, coots, rails, and gallinules runs from one half hour before sunrise to one half hour before sunset.

Rails and Gallinules: Same as waterfowl and coot seasons in Maine, Wisconsin, Massachusetts, and New York.

Wood Duck: No open season in Arizona, Colorado, Kansas, Massachusetts, Nebraska, Nevada, North Dakota, Utah, or Wyoming.

Canada Geese: No open season in Minnesota, Wisconsin, Michigan, Iowa, Illinois, Indiana, Ohio, Missouri, Kentucky, Tennessee, Arkansas, Louisiana, Mississippi, or Alabama.

Snow Geese: No open season in Wyoming.

FOR FULL DETAILS, WRITE: Fish & Wildlife Service, Dept. of Interior, Chicago 54, Illinois.

ANECDOTES AND PLEASANTRIES

SONG

Why so pale and wan, fond lover?
Prythee why so pale?
Will, when looking well can't move her,
Looking ill prevail?
Prythee why so pale?—

Why so dull and mute, young sinner?
Prythee why so mute?
Will, when speaking well can't win her,
Saying nothing do't?
Prythee why so mute?

Quit, quit for shame! this will not move,
This cannot take her—
If of herself she will not love,
Nothing can make her:
The devil take her!

John Suckling

SO THE ROOF FELL THROUGH

It was just after a terrific downpour and we were driving down a lonely road "North of Boston," when we came upon an old fellow surveying the ruins of his home. We asked him what had happened. He explained that the roof had fallen in. We could see that, but why?

"Well," was the answer, "that roof has leaked so long, she's just rotted through."

Why in the world hadn't he fixed it long ago?

"It just seemed I couldn't get at it. When it was fair, there warn't no need of it, and when it rained it was too derned wet."

WISE

If you aim to be thought wise
In everything you say,
Talk wise—if you are able—
But look wise, anyway.

SO I SEE

"You say you carry three pairs of eye glasses. I suppose the lowest powered are for distance and the next stronger for reading. But when do you use the highest powered?"

"Oh! I put them on when I eat shad."

PAIR OF WHISKERS

Mr. Jinks, the sharp trader, was proud of his whiskers. He believed they made him a Beau Brummell, fascinating to the fair sex. Mr. Jinks was also proud of his skill as a trader. In this he had the reputation of being as sharp as a razor.

One evening, in a jovial mood, he got to bragging to friends that he "could buy and sell anything." After a while a broker, known as a "foxy" trader, quietly observed, "You exaggerate. You wouldn't sell all things you possess."

To this Mr. Jinks replied, "Yes, I would. Name your article, and your price."

"It wouldn't be," replied the broker, "that you would sell your fine pair of whiskers?"

"How much am I offered?" asked Mr. Jinks temptingly.

"I'll give you $25," bid the broker. "Make it $50," replied Mr. Jinks. "I will," said the broker, as he drew from his wallet a $50 bank note.

So a bill of sale was duly made out and the price paid, the bill providing that the broker should have the whiskers on demand.

Time dragged on and Mr. Jinks continued to wear his whiskers. He combed them, but he didn't trim them for the foxy broker said, "You mustn't cut my whiskers without my permission."

As the days went on the whiskers lengthened and Mr. Jinks began to regret his bargain, especially as folks made witty remarks about his going about wearing the broker's whiskers.

At long last came the day of the grand ball, of which Mr. Jinks was to be a master of ceremonies. The broker called for his whiskers. Mr. Jinks pleaded to be permitted to wear them to the ball. But the broker, an obdurate person, would not grant him a reprieve, not even for a day.

A barber was summoned to the broker's office, where he gathered a group of friends. Mr. Jinks took the chair. The barber soaped the whiskers, stropped the razor and in a jiffy shaved off one section.

"That's enough for one day," said the broker, as he stayed the barber's razor. "I'll take the other side later."

Mr. Jinks rose in wrath and demanded that the other whisker be shaved off so that he might go to the grand ball, though clean shaven and minus the whiskers of which he was so proud.

But the broker merely said that he didn't want the other whisker until another day. Mr. Jinks then realized that he had been trapped in a trade and he escaped from his predicament by

buying back his whiskers for $100 or twice the sum for which he sold them.

From "Man About Town" in Salem, (Mass.) Evening News.

THE WOMAN WHO LAUGHS

For a good everyday household angel, give us the woman who laughs. Her biscuits may not be just right, and she may occasionally burn her bread, and forget to replace dislocated buttons; but for solid comfort all day and every day, she is a very paragon. The trick of always seeing the bright side, or, if the matter has no bright side, of shining up the dark one, is a very important faculty,—one of the things that no woman should be without. We are not all born with the sunshine in our hearts, as the Irish prettily phrase it; but we can cultivate a cheerful sense of humor, if we only try.

OFA 1889 from Rural New Yorker

AN OLD SAW

A sawyer, after sawing with a very dull saw, exclaimed: "Of all the saws I ever saw saw, I never saw a saw saw as that saw saws."

MR. LINCOLN SAID IT

When Mr. Lincoln was a young lawyer practicing in the courts of Illinois, he was once engaged in a case in which the lawyer on the other side made a speech to the jury full of wild statements.

Lincoln opened his reply by saying, "My friend who has just spoken to you would be all right if it weren't for one thing, and I don't know that you ought blame him for that, for he can't help it. What I refer to is his reckless disregard for the truth. You have seen instances of this in his speech to you. Now the reason of this lies in the constitution of his mind. The moment he begins to talk all his mental operations cease, and he is not responsible. He is, in fact, much like a little steamboat that I saw on the Sangamon River when I was engaged in boating there. This little steamer had a five-foot boiler and a seven foot stop whistle, and every time it whistled the engine stopped."

OUGHT TO

When the automobile was just a growing competitor of old Dobbin, a travelling salesman traversing a lonely country road in his brand-new car got stalled in a muddy place and looked around for help. Finally he saw a farmer tinkering on an odd sort of machine. He was curious, but in a hurry—asked the old fellow for his help and a pair of horses. When they got back to the automobile, the old farmer scratched his head and wanted to know what kind of a contraption that was. The reply was "auto."

"Ought to what?" says the farmer.

"Automobile," replied the salesman, "but you tell me what kind of a machine that was you were tinkering on."

"Well," replied the latter not to be outdone, "that was an automow-grass—but the dern thing don't."

PHILOSOPHY AND SUCH

The great principle of being happy in this world is not to be affected with small things.

Polite behaviour and refined address, like good pictures, make the least show to ordinary eyes.

Magnanimity is not to be disturbed by anything.

Old Farmer's Almanac 1883

ONLY ONE FEAR

Old Lady: "What's the matter with the little boy?"

Street Urchin (whimperingly): "'Fraid.'

Old Lady: "Afraid? Well I do declare! I didn't know you street urchins were ever afraid of anything, seen or unseen in this world or the next."

Street Urchin: "Yes, we're afraid of each other."

THE CLOVE APPLE

In parent branch a hook, or nail,
From a stout twine depends this fruit;
A rosewood wardrobe forms its trunk,
Morocco slippers made its root.
Pierced full of holes the shrivelled pome,
How sweet it scents my grandame's wear!
Her pearly silk and India shawl
Waft Ceylon breezes down the stair.
And bound for church on Sunday morn
(A minted lozenge in his mouth)
How fragrant does my grandsire walk,
Clad in some waistcoat of his youth.

From YANKEE

HER REMEDY

"What did your Mother do for your cut finger?"

"Licked me for cutting it."

WORD CHARADES

(Solutions appear on page 78)

1

Men often strive my first to gain
By strength or skill, by speed or worth;
It causes deepest woe and pain,
It causes also joy and mirth.

I watched a tennis player serve,
And through the air the ball whizzed fast.
It took an unexpected curve;
The umpire said it was my last.

With thoughtful eyes and puzzled brow,
It is my whole you're reading now.

2

Safe from the cold December storm,
I sat by my whole so bright and warm,
When the cry of my first I plainly heard.
My last sprang up without a word;
And panic-stricken, in sudden fright,
We rushed out into the winter night.

3

Clad in his ermine and his robes of state,
The haughty king in pomp and splendor sate.
And 'mong the crowds which thronged the regal chair,
My first approached, and looked upon him there.
She, too, with white-furred robe and gentle mien,
And noble air and countenance serene.
"What does she here?" grumbled a doughty knight.
The king replied, "The world hath said she might."

I walked across a sunny field one day,
And saw an old man working by the way.
"How is my last, old man?" I gaily said.
"My last?" said he, and bent his grizzled head.
"How is my last?" I said it o'er again.
"My last?" he said (he seemed perplexed), and then—
"Is my last good?" I asked of him once more.
"Fine, sir," he said: "better than e'er before."

Across the ocean's wave my total lies;
And, as Lord Tennyson in verse implies,
Is dull and undesirable; but still,
I'd gladly travel there, had I my will.

4

A king had many wives,
Of whom my first was one;
He spoiled their happy lives,
Apparently for fun.

And some he sent away,
Of home and friends bereft;
Of some, ere they could pray,
The steel my last had cleft.

With each, successively,
The king found some pretext
For banishment, and he
Would then the whole my next.

5

High in my first they waved the flag,
'Mid shouts of wild applause;
And soldiers brave marched to my first,
And fought to win the cause.

Without my second we could not
Assert that "Right is Might,"
Nor "Virtue is its own reward,"
Nor other proverbs trite.

My last we all admit to be
A blessing unsurpassed:
Though some would give my last for all,
Some give all for my last.

We often pass my total by
With but a hurried look;
And though we cannot read, yet
We find it in a book.

6

Maid of Athens, ere we part,
Hear my first with tender heart;
Ere another hour is past,
Let me be of thee my last.
Then behold my very soul
Filled o'erflowing with my whole.

7

A brave man looked forth and a figure he saw;
'Twas bound to my first—he surveyed it with awe.
And as it was fast disappearing from sight,
He began to my second with furious might.
An often fought foe, very hard to control,
In the Scriptures we read of the fall of my whole.

OLD FASHIONED PUZZLES

(Answers appear on page 78)

1. Conundrums

A. Why is life the greatest of all conundrums?

B. When may an army be said to be totally destroyed?

C. Which is the swifter, heat or cold?

D. Why is a young lady like a letter?

E. Why are dudes no longer imported into this country from England?

F. What flowers can be found between the nose and the chin?

G. Why is a dude's hat like swearing?

H. How many wives is a man lawfully entitled to by the English prayer-book?

2. Arithmetical Puzzles

A. If a room with 8 corners had a cat in each corner, seven cats before each cat, and a cat on each cat's tail, what would be the whole number of cats?

B. A farmer having an ox-chain consisting of 15 links, broke it into five equal parts and took it to a blacksmith to be welded togther. The blacksmith agreed to repair it for 50 cents for each welding; but when he presented his bill he charged for four weldings, making the bill $2.00. The farmer objected to the bill, saying that it should have been repaired with only three weldings. How was it to be done?

C. In the bottom of a well, 45 feet deep, there was a frog which commenced traveling toward the top. In his journey he ascended 3 feet every day, but fell back 2 feet every night. In how many days did he get out?

D. A vessel with a crew of 30 men, half of whom were black, became short of provisions and fearing that unless half the crew were thrown overboard all would perish, the captain proposed to the sailors to stand upon deck in a row and every ninth man be thrown overboard until half the crew were destroyed. It so happened that the whites were saved. Required: the order of arrangement.

3. Enigma

I am composed of 22 letters.
My 14, 11, 22, 16, 17 is used to separate bran from meal.
My 13, 15, 3 is what people are often glad to do.
My 18, 12, 11, 5, 7 is a very common name.
My 12, 1, 10, 13 is an officer of a ship.
My 6, 15, 10 is a domestic animal.
My 12, 20, 19, 17 is underground.
My 6, 7, 20, 9 is a part of the face.
My 8, 5 is one of the commonest words of the English language.
My 15, 2, 4, 1 is a grand division.
My whole is an old saying.

4. Riddle

I am composed of 6 parts. As a whole I am a useful implement, or a means of conveyance; take away my 1st and I am broken and rough; remove my 2d and I become a plant; remove both 1st and 2d and I can either divide or mark division.

5. Double Acrostic

1. A country seat.
2. Termination.
3. To spring back.
4. A great river in the United States.
5. A fertile piece of land.
6. A race of people.
7. A weight.

My initials give one of the United States.
My finals a county in the same.

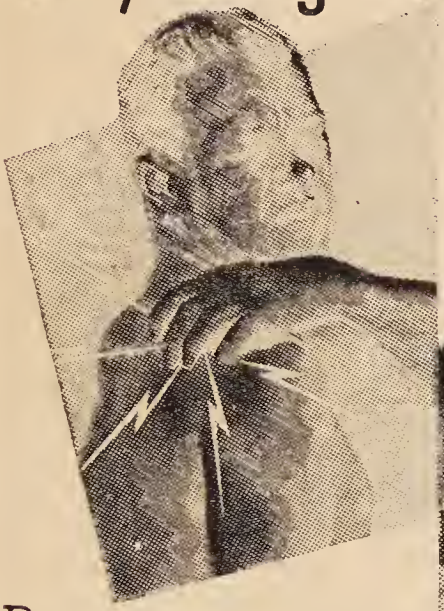
6. Anagram

Rethe si a rowd ni veyer limee,
Ot voel dan rinfedspih read;
Ni Gisheln 'sit "torfeg em ton,"
Ni Hrenfe 'its "vensuior."

7. Puzzle

Take away three lines so as to leave three perfect squares.

Sore, aching shoulder muscles?



Here's relief!

Painful, aching muscles often follow unaccustomed exercise. Fatigue acids may have settled in them. That's why they hurt! But you can help nature help you by rubbing those sore muscles with Absorbine Jr. Increasing local circulation in those areas will bring a supply of fresh blood which helps carry fatigue acids away and your stiff, weary muscles limber up again.

Keep Absorbine Jr. on hand at all times. It's grand relief! $1.25 a bottle at your drugstore.

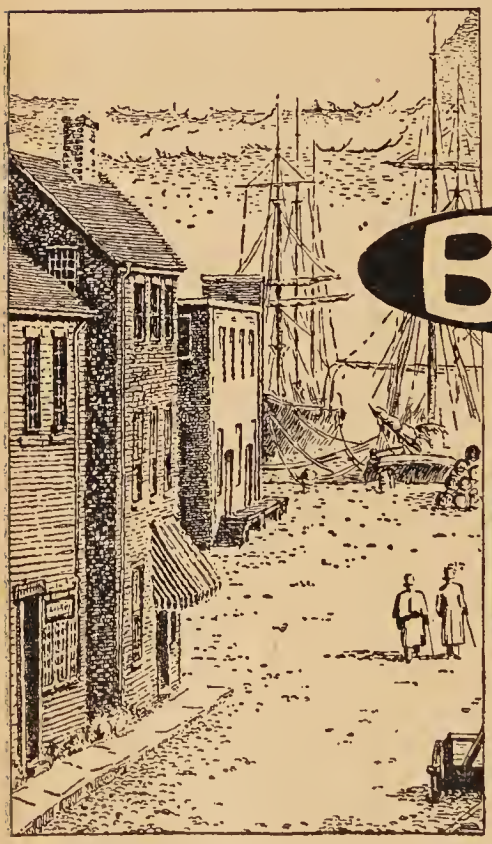
Help nature drive out fatigue acids with Absorbine Jr.

W. F. Young, Inc.
Springfield, Mass.

Absorbine Jr.

Kills Athlete's Foot Organisms on Contact

Baked with true old-time flavor "Down East" in Portland, Maine



Available in handy 18 oz. glass jars

Folks everywhere prefer the extra-delicious, genuine New England goodness of B & M Brick-Oven Baked Beans. Beans baked as generations of New England housewives have baked 'em. Beans actually baked (not steamed) in brick ovens and open bean pots *all day long*. With lots of pork and spicy sauces! If your Grocer can't always supply you, please be patient. Because we bake these hearty, home-style beans so slowly, we cannot hurry them to you. Burnham & Morrill Company, Portland 2, Maine.

RECIPES AND HOUSEHOLD HINTS

By NANCY DIXON

In the year 1600 Jarvace Markham published THE ENGLISH HOUSEWIFE. The qualifications of a Cook were thus described in this strange composition. "She must be cleanly in both body and garments; Secondly, she must have a quick eye; Thirdly, a curious nose; Fourthly, a perfect taste and ready ear; Lastly, she must not be too butterfingered, sweet toothed, or faint hearted."

The first qualification of course remains the same. The quick eye, curious nose, perfect taste and ready ear suggest a form of kitchen acrobatics that have disappeared with the use of our 20th century kitchen equipment.

The importance of kitchen equipment is something to be considered. The tools with which we work should be purchased as carefully as a farmer would his herd or a musician his instrument. Aside from your stove and refrigerator a minimum utensil list for a small family would include:

1 set kitchen knives
1 chopping bowl
2 measuring cups
1 grater
2 biscuit cutters
1 flour sifter
1 egg beater
1 vegetable brush
1 perforated wooden spoon
1 teakettle
1 coffee pot
1 quart baking dish with cover
1 quart saucepan
1 large iron frying pan
2 bread pans
1 biscuit pan
1 meat grinder
1 tube pan
1 spatula
1 cake tester
1 can opener
1 set measuring spoons
1 cake cooler
1 apple corer
1 rolling pin
1 medium strainer
1 pair kitchen shears
1 pastry brush
1 small funnel
1 colander
1 pint baking dish
1 quart size double boiler
1 pint saucepan
1 cover to fit same
1 cookie sheet
6 custard cups (double for muffin tins)
1 pie plate
2 layer tins
1 2-tined fork
1 rubber scraper

Thermometers for frying, syrups, meats and ovens

You will, of course, consider the size and habits of your family when buying utensils.

Shall we try out some of the above equipment on the following recipes?

Hominy Croquettes

Boil 1 cup hominy grits in 6 cups salted water for 1 hour. Mix 1½ cups hot hominy with two beaten egg yolks and a little melted butter or margarine. Season to taste. Shape into small balls and fry in deep hot fat until lightly browned.

Country Style Onion Pie

3 lbs. onions
1 pint coffee cream
3 eggs, beaten
Pastry for One Pie

Peel and slice the onions. Fry in butter or other shortening until golden brown. Add cream and egg beaten together. Line deep pie plate with pastry. Pour in onions. Cover with remaining pastry. Bake in 350 degree oven for 1 hour. Crust should be golden brown.

Cooked-Potato Dumplings

3½ lbs. cooked potatoes
1⅓ tablespoons butter
4-5 eggs, beaten
Sprinkling of nutmeg
1 tablespoon salt
2 cups flour
1 roll cubed
Salted water for boiling

Peel and grate the cooked potatoes. When cooled add butter, eggs, nutmeg, salt and flour and mix well. Fry the roll, which has been cut in very small cubes, in butter until golden and crisp. Shape dough into medium-sized balls with some of the crisp fried roll in the center of each. Roll in flour and boil in an uncovered kettle for 15 minutes. (Water should be at a rolling boil before dumplings are added. Make a test dumpling and cook. If this should fall apart add more flour to the dough.)

Graham Cracker Delight

1 small box graham crackers
2 eggs
½ cup sugar
¾ cup milk
¼ teaspoon baking powder
Dash salt
4 drops vanilla

Soak the crackers in milk until spongy; add sugar and eggs, baking powder, salt and vanilla. Butter a casserole; pour in the mixture. Sprinkle some dry sugar over the top. Dot with butter and bake in a 350 degree oven for 20 minutes. Serve with whipped cream.

And now for a few household hints just to complete the day:

Apple Corer. The bottom part of a funnel makes a fine substitute for an apple corer.

Kerosene Flame. Pour milk over the flame of a kerosene fire; it will put the flame out instantly.

Green Vegetables. When cooking green vegetables use very little water, do not use a lid and cook only until tender. Do NOT add soda.

Gold Borders. Clean the gold borders on plates by scrubbing with a toothbrush dipped in bicarbonate of soda.

Butter Saver. To save butter when eating hot sweet corn, butter a small piece of bread and use the bread to spread the butter on the corn.

Bed Slippers. Make bed slippers for children out of old felt hats. Trace around a shoe on the felt with a pencil. Cut out the felt. Crochet uppers and sew them onto the soles, using a ribbon or a piece of yarn at the top to keep them on.

Pigskin Gloves. When laundering pigskin gloves add a few drops of olive oil to the rinsing water. You will find that they will be much softer.

Washing Laces. Even delicate laces may be washed beautifully and without fear of tearing by first basting the lace to a piece of white muslin or old sheet before washing.

Milk Bottle Caps. Cover milk bottle caps with crepe paper and fill with nuts and candy and use as favors for the next children's party.

Leaky Garden Hose. Do not dispose of your garden hose because it springs a few leaks. Paint the entire length of hose with a pliable roofing paint. This treatment will close all the tiny holes and breaks.

Moth Preventive. Hang moth preventive as high as possible in a closet as the fumes are much heavier than air and will filter downward.

Valuable Documents. To preserve valuable documents rub surfaces with a guttapercha solution bought at a drug store. To prevent from turning yellow with age wrap in blue tissue paper and store in envelopes.

Laundry Bag. Have a draw string on both ends of your laundry bag. Simply untie the string at the bottom and out comes the laundry.

Coffee Storage. Keep coffee in a tightly closed jar, upside down in the refrigerator. Coffee loses its flavor by separation, as its oils rise to the top of a container and evaporate when the jar is opened.

Lime Deposit. To remove the deposit of lime found in the bottom of a teakettle pour hot vinegar into the kettle and allow to stand over night. This will loosen the lime. After this has been done and to prevent further formation of the deposit put a few marbles in the bottom of the kettle.

Spices. Keep your spices in a cool place. This prevents the oils from evaporating.

ONE WAY LINE

The *Brattleboro Reformer* tells of one Mrs. Butler, late of Jamaica, Vermont, who took no interest in the technical phases of the telephone industry but used the instrument with high Yankee disdain for conventions.

"When she wanted to order something from the store of George Gleason (one house removed) she would push the crank enough to sound the operator's signal, take down the receiver, waiting for nothing or nobody, and give her order twice. Without further ado and without listening, she would hang up and go about her business. In the long suffering ways of telephone operators Ruth then would call Gleason and give him the order. If it didn't appear when Mrs. Butler thought it should, she would repeat the procedure, giving her order twice and asking why but not waiting for an explanation."

* * *

7 MYSTERIES

The "Seven Mysteries of the World" are:

1. How green leaves capture food and store it.
2. Life
3. Universe
4. Chemical elements
5. Disease
6. Mind
7. Emotions

Science News Letter

This famous White House line offers you a New England family of quality foods—rich, flavory, fresh coffee—choice orange pekoe and pekoe tea—crispy, golden-brown salted peanuts. There are none better at any price.

WHITE HOUSE COFFEE

Box 1871 BOSTON, (5) MASS.

POSTAL RATES.—DOMESTIC

New legislation is being proposed as we go to press, which may affect these rates—particularly air mail.

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

LETTERS AND POSTAL CARDS.— FIRST CLASS.

Letters and Written and Sealed Matter, 3 cents for each ounce, local and non-local, except that drop letters are subject to 1 cent 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.

Post Cards and Private Mailing Cards which comply with Departmental requirements ..... .01

Business Reply Cards or Letters, consult Post Office.

NEWSPAPERS AND PERIODICALS.— SECOND CLASS.

Entire Newspapers or Magazines when mailed by the public; for each two ounces or fraction, regardless of distance or weight ..... .01

Fourth class rate applies when it is lower than second class.

MERCHANDISE AND MISCELLANEOUS.— THIRD CLASS.

(Limit of weight 8 ounces.)

Special Rates for Books.— Books (containing no advertising matter other than incidental announcements of books) all zones: 3 cents a pound plus 1 cent up to and including 16 pounds; 17 to 27 pounds, 3 cents a pound plus 2 cents; 28 to 38 pounds, 3 cents a pound plus 3 cents; 39 to 49 pounds, 3 cents a pound plus 4 cents; 50 to 61 pounds, 3 cents a pound plus 5 cents; 62 to 70 pounds, 3 cents a pound plus 6 cents.

Merchandise, incomplete copies of newspapers, printed and other mailable matter, each 2 ounces or fraction ..... .015

Books, catalogues mailed in packages not exceeding 8 oz. in weight (must be of 24 or more pages and substantially bound, with at least 22 pages printed, seeds, cuttings, bulbs, roots, scions and plants, 2 ounces or fraction ..... .01

Plain Printed Cards containing no writing other than the address, and not conforming with regulation size of Post Card, shall be considered Third Class and mailed for ..... .015

Permit Mail. Envelopes, folders, etc., which are to be mailed under Third Class permit privileges should indicate the amount of postage paid.

Bulk Mailings. Applications for bulk mailing privilege should be submitted to the Post Office.

PARCEL POST.— FOURTH CLASS.

(For Zone consult Post Office)

Everything over 8 ounces, including books and printed matter, except **First Class** and newspapers and other periodicals entered as **Second Class** matter mailed by the publishers:—

Table of fourth-class or parcel-post rates

Weight in Lbs.	Local	ZONES 1-2 Up to 150 miles	3 150 to 300 miles	4 300 to 600 miles	5 600 to 1,000 miles	6 1,000 to 1,400 miles	7 1,400 to 1,800 miles	8 Over 1,800 miles
1	$0.08	$0.09	$0.10	$0.11	$0.12	$0.13	$0.15	$0.16
2	.09	.11	.12	.15	.18	.20	.24	.27
3	.09	.12	.14	.18	.23	.27	.33	.38
4	.10	.13	.16	.22	.28	.34	.42	.49
5	.10	.14	.18	.25	.34	.41	.52	.61
6	.11	.15	.20	.29	.39	.48	.61	.72
7	.11	.16	.22	.32	.44	.56	.70	.83
8	.12	.17	.24	.36	.50	.63	.79	.95
9	.12	.18	.26	.39	.56	.70	.89	1.06
10	.13	.19	.28	.43	.61	.77	.98	1.17
11	.13	.20	.30	.46	.66	.84	1.07	1.29
12	.14	.22	.32	.50	.72	.92	1.16	1.40
13	.14	.23	.34	.54	.77	.99	1.26	1.51
14	.15	.24	.36	.58	.82	1.06	1.35	1.63
15	.15	.25	.38	.61	.89	1.13	1.44	1.74
16	.16	.26	.40	.65	.94	1.21	1.53	1.85
17	.16	.27	.42	.68	.99	1.28	1.63	1.97
18	.17	.28	.44	.72	1.05	1.35	1.72	2.08
19	.17	.29	.46	.75	1.10	1.42	1.81	2.19
20	.18	.30	.48	.79	1.15	1.49	1.91	2.31
21	.18	.31	.50	.82	1.21	1.57	2.00	2.42
22	.19	.33	.53	.87	1.27	1.64	2.09	2.53
23	.19	.34	.55	.90	1.32	1.71	2.18	2.65
24	.20	.35	.57	.94	1.37	1.78	2.28	2.76
25	.20	.36	.59	.97	1.43	1.85	2.37	2.87
26	.21	.37	.61	1.01	1.48	1.93	2.46	2.99
27	.21	.38	.63	1.04	1.53	2.00	2.55	3.10
28	.22	.39	.65	1.08	1.60	2.07	2.65	3.21
29	.22	.40	.67	1.11	1.65	2.14	2.74	3.33
30	.23	.41	.69	1.15	1.70	2.21	2.83	3.44
31	.23	.42	.71	1.18	1.75	2.29	2.93	3.55
32	.24	.44	.73	1.23	1.81	2.36	3.02	3.67
33	.24	.45	.75	1.26	1.86	2.43	3.11	3.78
34	.25	.46	.77	1.30	1.92	2.50	3.20	3.89
35	.25	.47	.79	1.33	1.98	2.58	3.30	4.01

Weight in Lbs.	Local	ZONES 1-2 Up to 150 miles	3 150 to 300 miles	4 300 to 600 miles	5 600 to 1,000 miles	6 1,000 to 1,400 miles	7 1,400 to 1,800 miles	8 Over 1,800 miles
36	$0.26	$0.48	$0.81	$1.37	$2.03	$2.65	$3.39	$4.12
37	.26	.49	.83	1.40	2.08	2.72	3.48	4.23
38	.27	.50	.85	1.44	2.14	2.79	3.57	4.35
39	.27	.52	.88	1.47	2.19	2.86	3.67	4.46
40	.28	.53	.90	1.51	2.25	2.94	3.76	4.57
41	.28	.54	.92	1.55	2.30	3.01	3.85	4.69
42	.29	.56	.94	1.59	2.36	3.08	3.94	4.80
43	.29	.57	.96	1.62	2.41	3.15	4.04	4.91
44	.30	.58	.98	1.66	2.46	3.22	4.13	5.03
45	.30	.59	1.00	1.69	2.52	3.30	4.22	5.14
46	.31	.60	1.02	1.73	2.58	3.37	4.32	5.25
47	.31	.61	1.04	1.76	2.63	3.44	4.41	5.37
48	.32	.62	1.06	1.80	2.69	3.51	4.50	5.48
49	.32	.63	1.08	1.83	2.74	3.58	4.59	5.59
50	.33	.64	1.10	1.87	2.79	3.66	4.69	5.71
55	.35	.70	1.21	2.05	3.07	4.02	5.15	6.27
60	.38	.75	1.31	2.24	3.34	4.38	5.61	6.84
65	.40	.81	1.41	2.41	3.62	4.74	6.08	7.41
70	.43	.87	1.51	2.60	3.88	5.10	6.54	7.97

EXCEPTIONS

(a) In the first or second zone, where the distance by the shortest regular practicable mail route is 300 miles or more, the rate is the same as for the third zone.

(b) On parcels collected on rural routes the postage is 2 cents less per parcel than shown in the foregoing table when for local delivery and 3 cents less per parcel when for other than local delivery.

(c) Parcels weighing less than 10 pounds measuring over 84 inches, but not more than 100 inches in length and girth combined, are subject to a minimum charge equal to that for a 10-pound parcel for the zone to which addressed.

(d) For special rates on catalogs and other similar printed advertising matter, consult postmaster.

Limit of size for parcels is 100 inches in length and girth combined. Limit of weight is 70 pounds in all zones.

Library Books. — Books sent by authorized libraries to readers and when returned by such readers, for delivery within the first three zones or the State in which mailed: 4 cents for the first pound and 1 cent for each additional pound up to and including 47 pounds; 52 cents for 48 pounds and 1 cent for each additional pound up to and including 70 pounds.

SPECIAL HANDLING. (Fourth Class Matter Only.)

Parcels of 4th Class Matter endorsed "Special Handling" will be given the most expeditious treatment practicable (but not Special Delivery) upon payment, in addition to regular postage: Up to 2 lbs. 10c; Over 2 to 10 lbs. 15c; Over 10 lbs. 20c.

SPECIAL DELIVERY FEES

	First Class	Second, Third or Fourth Class
Up to 2 pounds	13c	17c
Over 2 pounds up to 10 pounds	20c	25c
Over 10 pounds	25c	35c

The prepayment of the foregoing fee on second, third, or fourth class mail entitles it to the most expeditious handling and transportation practicable, and also entitles it to special delivery at the office of address.

To Canada: United States Special Delivery Fees are applicable on articles prepaid at the letter rate of postage. Newfoundland and Labrador 20c prepaid in addition to regular postage on letters or articles only prepaid at the letter rate.

Domestic Registered Mail — Fees for Indemnity limited to:

$5	20c	$300	65c	$800	$1.20
50	25c	400	80c	900	1.25
75	35c	500	95c	1,000	1.35
100	40c	600	$1.05		
200	55c	700	1.15		

Registered mail is subject to surcharges under certain conditions. Consult postmaster.

Domestic Insured Mail (third and fourth classes) Fees for indemnity limited to:

$5	3c	$25	10c	$50	15c	$200	25c

Domestic C. O. D. Mail — Unregistered (third and fourth classes) and sealed domestic mail of any class bearing postage at the first-class rate: Fees for collections and Indemnity limited to:

$2.50	15c	$25.00	30c	$100.00	50c
5.00	20c	50.00	40c	150.00	55c
				200.00	60c

C. O. D. Mail — Registered (sealed matter of any class bearing first-class postage). Consult postmaster for fees and limits of indemnity.

POSTAL MONEY ORDER

From $0.01 to $2.50	6	From $20.01 to $40	15
From $2.51 to $5	8	From $40.01 to $60	18
From $5.01 to $10	11	From $60.01 to $80	20
From $10.01 to $20	13	From $80.01 to $100	22

POSTAL NOTES

1c to $10 ..... Fee 5c

ARMED FORCES OVERSEAS

Three cents an ounce, regular, or five cents half-ounce, air, care of U. S. Postmaster or Fleet Post Office at Ports of Embarkation.

POSTAL RATES.—FOREIGN

Letters.—For the places in the following list the postal rate is 3 cents each ounce or fraction. For all other foreign destinations, 5 cents first ounce and 3 cents each additional ounce or fraction: **Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras (Republic), Labrador, Mexico, Newfoundland, Nicaragua, Panama, Paraguay, Peru, Salvador, El; Spain and possessions; Uruguay, Venezuela.**

Post Cards.—Single post cards for places enumerated above 2 cents. Single post cards for all other foreign destinations 3 cents. Maximum size 6x4¼ inches, minimum size 4x2¾ inches.

Printed Matter.—1½ cents for each two ounces or fraction. Limit of weight: Inquire at Post Office.

Maximum dimensions.—For all foreign destinations on all classes of mail noted above (except Post Cards), 36 inches length, breadth and thickness combined, the length being limited to 24 inches. When sent in the form of a roll the length (the maximum of which is 32 inches) plus twice the diameter is limited to 40 inches.

INTERNATIONAL PARCEL POST.

Many foreign countries have special import license regulations about which information may be obtained at your local post office.

Because of the varying rates and conditions, as well as frequent changes, applicable to foreign countries, it is important that a qualified postal employee handle parcel post transactions. Therefore, parcel post packages for foreign destinations must not be posted in a letter box; such packages should be taken to the main post office or to one of the larger classified stations and handed to a postal clerk.

AIR MAIL: DOMESTIC AND FOREIGN

(All rates per one half ounce unless otherwise indicated. For Armed Forces —see preceding page.)

1. 5 cents: Per ounce: United States, Alaska, Canada. Per half ounce: Cuba, Mexico, Puerto Rico, U. S., Virgin Islands.

2. 10 cents: Bermuda, all of Central America and the Caribbean except those mentioned par. 3.

3. 15 cents: British & French Guiana, Colombia, Ecuador, Hawaii, Newfoundland, Surinam, and Venezuela.

4. 20 cents: South America, except for points in par. 3, and the Falkland Islands.

5. 25 cents: Canton Island.

6. 30 cents: Azores, all of Europe except Germany, Great Britain, Iceland, Ireland, Madeira, Malta, and Spanish offices in No. Africa.

7. 33 cents: Algeria, Corsica, Libya, Br., Fch., Span. Morocco.

8. 35 cents: Guam.

9. 40 cents: Canary Islands, Fiji, New Caledonia, Rio de Oro.

10. 45 cents: Dahomey, French Togoland, Mauritania, Niger, Senegal.

11. 50 cents: French Sudan, Gambia, Gold Coast Colony, Guinea (Fch., Port., Span.), Ivory Coast, Liberia, New Zealand, Nigeria, Sierra Leone, and the Philippines.

12. 55 cents: Cape Verde Islands.

13. 60 cents: Africa, except points mentioned pars. 11 and 14, Cameroons, Br. & Fch., Mauritius.

14. 70 cents: Australia, Malay States, India, China and Far East . . . except Japan. Turkey and Middle East and Near East, Aden, Brunio, Ethiopia, Italian & French Somaliland.

CONSULT YOUR POSTMASTER FOR CONFIRMATION.

7 WONDERS

The "Seven Wonders of the World" are:

1. Pyramids of Egypt
2. Tomb of Mausolus
3. Temple of Diana at Ephesus (New Testament)
4. Walls and Hanging Gardens of Babylon
5. Colossus of Rhodes
6. Great Statue of Jupiter Olympus
7. Watch Tower at Alexandria

STATE EXTENSION DIRECTORS

Consult these men about your garden aud farm problems. They know the answers.

(*Courtesy—L. A. Schlup—Division of Extension Information*)

State	
Alabama:	P. O. Davis, Alabama Polytechnic Institute, Auburn.
Arizona:	C. U. Pickrell, University of Arizona, Tucson.
Arkansas:	(W. R. Horlacher, College of Agriculture, University of Arkansas, Fayetteville. *(Aubrey D. Gates, Associate Director, P. O. Box 391, Little Rock.
California:	B. H. Crocheron, College of Agriculture, University of California, Berkeley 4.
Colorado:	F. A. Anderson, Colorado Agricultural and Mechanical College, Fort Collins.
Connecticut:	W. B. Young, Director, University of Connecticut, Storrs.
Delaware:	G. L. Schuster, University of Delaware, Newark.
Florida:	A. P. Spencer, Agricultural Extensiou Service, Experiment Station, Gainesville.
Georgia:	Walter S. Brown, Georgia State College of Agriculture, Athens.
Idaho:	C. W. Hickman, Acting Director, College of Agriculture, University of Idaho, Moscow.
Illinois:	H. P. Rusk, College of Agriculture, University of Illinois, Urbana.
Indiana:	H. J. Reed, Purdue University, La Fayette.
Iowa:	R. K. Bliss, Iowa State College of Agriculture and Mechanic Arts, Ames.
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Maryland:	T. B. Symons, University of Maryland, College Park.
Massachusetts:	W. A. Munson, Massachusetts State College, Amherst.
Michigan:	R. J. Baldwin, Michigan State College of Agriculture and Applied Science, East Lansing.
Minnesota:	Paul E. Miller, Department of Agriculture of the University of Miunesota, Uuiversity Farm, St. Paul 8.
Mississippi:	L. I. Jones, Mississippi State College, State College.
Missouri:	J. W. Burch, College of Agriculture, University of Missouri, Columbia.
Montana:	R. B. Tootell, Montana State College of Agriculture and Mechanic Arts, Bozeman.
Nebraska:	W. H. Brokaw, College of Agriculture, University of Nebraska, Lincoln 1.
Nevada:	C. W. Creel, Agricultural Extension Division, University of Nevada, Reno.
New Hampshire:	H. B. Stevens, University of New Hampshire, Durham.
New Jersey:	(W. H. Martin, State College of Agriculture and Mechanic Arts of Rutgers University, New Brunswick. *(L. G. Cook, Associate Director, College of Agriculture, New Brunswick.
New Mexico:	A. B. Fite, New Mexico College of Agriculture and Mechanic Arts, State College.
New York:	L. R. Simons, New York State College of Agriculture, Ithaca.
North Carolina:	I. O. Schaub, State College Station, Raleigh.
North Dakota:	E. J. Haslerud, North Dakota Agricultural College, State College Station, Fargo.
Ohio:	H. C. Ramsower, College of Agriculture, Ohio State University, Columbus 10.

Oklahoma:	Shawnee Brown, Oklahoma Agricultural and Mechanical College, Stillwater.
Oregon:	W. A. Schoenfeld, Oregon State Agricultural College, Corvallis.
Pennsylvania:	J. M. Fry, Pennsylvania State College, State College.
Rhode Island:	H. O. Stuart, Rhode Island State College, Kingston.
South Carolina:	D. W. Watkins, Clemson Agricultural College of South Carolina. Clemson.
South Dakota:	George I. Gilbertson, Director. South Dakota State College of Agriculture and Mechanic Arts, Brookings.
Tennessee:	C. E. Brehm, College of Agriculture, University of Tennessee, Knoxville 7.
Texas:	Ide P. Trotter, Agricultural and Mechanical College of Texas. College Station.
Utah:	R. L. Wrigley, Acting Director, Utah State Agricultural College, Logan.
Vermont:	J. E. Carrigan, College of Agriculture, University of Vermont, Burlington.
Virginia:	L. B. Dietrick, Virginia Polytechnic Institute, Blacksburg.
Washington:	E. V. Ellington, State College of Washington, Pullman.
West Virginia:	J. O. Knapp, College of Agriculture, West Virginia University, Morgantown.
Wisconsin:	W. W. Clark, Associate Director, College of Agriculture, University of Wisconsin, Madison 6.
Wyoming:	A. E. Bowman, College of Agriculture, University of Wyoming, Laramie.

*All general correspondence is conducted by the associate director.

A TABLE FOR TELLING THE WEATHER THROUGH ALL THE LUNATIONS OF EACH YEAR FOREVER

If the new moon, 1st quarter, full moon, or last quarter happens (see left hand calendar pages 14-36)

Moon	Time of Change	In Summer	In Winter
	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.

The nearer the time of the moon's change, first quarter, full, or last quarter is to midnight, the fairer the weather will be during the seven days following. (10 P.M. — 2 A.M.).

The nearer to noon the more foul or wet weather is to be expected. (10 A.M. to 2 P.M.).

Spring and autumn are affected nearly in the same ratio as summer and winter.

Farmers & Mechanics Manual, 1874

Tables of Measures

(English Units)

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 nautical mile=6080 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

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

(Metric Units)

Linear Measure

1 centimeter=10 millimeters
1 decimeter=10 centimeters
1 meter=10 decimeters
1 dekameter=10 meters
1 hektometer=10 dekameters
1 kilometer=10 hektometers
1 inch=2.54 centimeters
1 meter=39.37 inches
1 yard=0.914 meters
1 mile=1609 meters=1.61 kilometers

Square Measure

1 square centimeter=100 square millimeters
1 sq. decimeter=100 sq. centimeters
1 sq. meter=100 sq. decimeters=1 centar
1 ar=100 centars
1 hektar=100 ars
1 sq. kilometer=100 hektars
1 sq. centimeter=0.15 sq. inches
1 sq. meter=1.20 sq. yards
1 sq. kilometer=0.39 sq. miles
1 hektar=2.47 acres
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

Cubic Measure

1 cubic centimeter=1000 cubic millimeters
1 cu. decimeter=1000 cu. centimeters
1 cu. meter=1000 cu. decimeters
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

Weights

Avoirdupois

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

Troy

(Used in weighing gold, silver, jewels)

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

Apothecaries

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

Metric

1 centigram=10 milligrams
1 decigram=10 centigrams
1 gram=10 decigrams
1 dekagram=10 grams
1 hektogram=10 dekagrams
1 kilogram=10 hektograms
1 metric ton=1000 kilograms
1 kilogram=2.20 pounds
1 pound avoirdupois=0.45 kilograms

DEGREE DAY

A "degree-day" is one when the average temperature is 64°F. Days which have an average temperature of 54° are sometimes called "11-degree-days," and those with an average temperature of 0°, "65 - degree - days." However, instead of calling a single zero-day a 65-degree day, it is here said to have 65 degree-day units.

* * *

T'AIN'T SO

Once again making the rounds is the hard-to-kill story about wheat (and other grains) being removed from ancient tombs and planted, and producing crops. The U. S. Department of Agriculture says it is such a good grain story that it is too bad there is not a grain of truth to it. Grain removed from vases in tombs is practically carbonized from age and exposure and is just as dead as the mummies of those who were provided with the grain as a sort of K-ration for their trips to and through worlds beyond this one.

HOW TO MAKE A COMPOST PILE

By J. R. HEPLER

I have had many inquiries on how to build a compost pile. Many people who build them put in so much fertilizer and lime that the compost is really dangerous to the plants. There is no better way to build compost than the old-fashioned method used a century ago. You build the pile of alternate layers of heavy sod and cow manure, using perhaps twice as much sod as cow manure, and allow it to rot for a year or two. This will make excellent compost. Do not add fertilizer of any kind to this composted material because of the danger of using so much that it will burn the tender seedlings.

If you want to build a compost pile in August for use next spring, make it of alternate layers of well-rotted manure and garden soil. Preferably, this should be kept in a dry cellar so that it will not freeze. The danger of using garden soil is that it is likely to have in it more damping-off and other plant diseases than old sod. Certain diseases stay in the soil for many years. The soil back of my house was infected more than 30 years ago and if I should use it for compost I would be almost certain to infect all cabbage, cauliflower, and broccoli plants with clubfoot, which is still very plentiful in it. The big advantage in using sod is that you can get soil from places that are quite likely to be free from disease.

Now, garden refuse such as pea vines, potato vines, bean vines, corn stalks, etc., are often composted to make manure. If this organic matter is infested with blight, as usually happens with celery tops, potato tops, or bean vines, you are simply returning these diseases to the soil. Therefore, it probably would be better to burn all this trash. But if you decide to make compost from it, either mix with some manure or one pound of 5-8-7 fertilizer to 50 pounds of garden wastes and allow the compost to rot over winter. It will make an acceptable manure by spring. However, this material should not be used for growing plants in the greenhouse.

—*The Journal-Transcript*, Franklin, N. H.

Editor's Note: It is said that by burying a piece of oak wood in a compost pile or manure pile, venomous snakes will refrain from inhabiting it.

STANDARD TIME ZONES OF THE UNITED STATES

[*Beginning with the Atlantic Standard Time Zone, the clock is set back one hour as one proceeds West into each other zone. Technically the time changes one hour for every 15° West but we have "arranged" the time zones that follow as better suiting our needs.*]

Atlantic Standard Time (60° West)—which is 4 hrs. earlier than Greenwich time.—stretches in from the Atlantic Ocean and stops, roughly, at a line drawn between Calais and Houlton, Maine.

Eastern Standard Time (75° West) begins where Atlantic Standard Time stops, and stretches West to Isle Royal in Lake Superior, from where it goes to Sault Ste. Marie, into Lake Huron a bit, and down the center of Lake Michigan; jogs over to 85° longitude and down to Covington, Ky.; meanders over to the Big Sandy River and down through Bristol, N. C., to the 35th parallel, along which it proceeds to Chattanooga before making its final drop to Apalachicola, Fla.

Central Standard Time (90° West) begins where Eastern Standard Time stopped and stretches West to the No. Dakota-Montana border; comes back East far enough to split So. Dakota in halves; jogs through almost the center of Nebraska, cuts off the Northeast corner of Kansas and then follows the border between Texas and New Mexico; thence proceeds to underline New Mexico and Arizona—stopping near Yuma.

Mountain Standard Time (105° West) begins where Central Standard Time stopped, and stretches West to the Idaho-Montana border, from where it drops to the Salmon River, which it follows West to the Oregon-Idaho border, down and then East along the Nevada-Oregon and Idaho border to Bear Lake, Idaho; leaves the Great Salt Lake just to the West and Sevier Lake, too, before cutting into the corner made by Utah, Nevada, and Arizona. It cuts back East to as far again beyond St. George, Utah, and then South on 113° longitude before making West for the California-Arizona border and along down the Colorado River to follow the western shore of the Gulf of California.

Pacific Standard Time (120° West) begins where Mountain Standard Time ends, and stretches to the Pacific Ocean.

—*Courtesy Interstate Commerce Commission, Apr. 22, 1944.*

DEFENDANT WON

An Alabama man charged with the stealing of a calf made the following statement: "I was always teached to be honest, an' most always have been, but when I see the calf I calved, I never wanted a calf so bad in all my life."

The jury returned the following verdict: "We air satisfied that Steve stole the calf, but as the feller that owned the animal is a considerable of a slouch, we agree to clear Steve and make slouch pay the costs."

FRUITFUL WINDS

In Spain it is reported, according to *Roman Farm Management* by Fairfax Harrison, there is a phenomenon of breeding which seems incredible but is nevertheless true, namely: that on Mount Tagnus on that part of the coast of Lusitania near Olisippo, mares are sometimes impregnated by the wind—(Lisbon). This is something which often happens to chickens. Foals born of such mares never live more than three years.

* * *

LARGE HOG

"For in Arcadia I saw," writes Varro, "a hog with my own eyes which was so fat it was not only unable to get up but a shrew mouse, having eaten a hole in its back, had there made its nest and was rearing a family."

* * *

1ST MAN UP

of European blood, Mt. Washington was Darby Field, an Irishman from near Exeter. The date was 1642.

* * *

NEW FRONTIERS IN AGRICULTURE

"Whoever makes two ears of corn, or two blades of grass grow where only one grew before, deserves better of mankind, and does more essential service to his country than the whole race of politicians put together."
—Dean Swift

Never in all history has the world been so food conscious, nor the vital importance of topsoil received such serious consideration. Soil conservation, the replenishment of fertility, the production of crops with higher food value—these have become household words. And the tiller of the soil, to a degree he never dreamed, has been raised in the esteem of all mankind. For too many years our land has been treated like a poor relative, grudgingly offered mere driblets of replenishment. Fortunately for civilization, soil fertility at this eleventh hour is coming to be regarded as money on deposit.

Fortunately, too, for generations yet unborn, this increasing enlightenment has disclosed that even the best of conventional farming practices fail to return to the land all plant food needed to produce a healthy crop. In the urge for greater harvests, the growing of high-yielding hybrid crop varieties is being paid for by the loss of the most valuable nutrients of the soil. Further, is it nothing more than mere coincidence that insect pests have increased to a corresponding degree?

If we could wave a magic wand and—presto—clothe again this great land of ours with the virgin soil our forefathers found here, we would have the remedy. Mr. and Mrs. J. David Larson, of Hinsdale, Illinois don't claim to be magicians, and they aren't prepared to do just what the magic wand can, all at once, *but* after some twenty-five years of experimentation they have now available, in potentially unlimited quantities, a synthetic topsoil. They call it *Normal Soil,* and say that it's identical in all respects with the type of normal virgin soil found on mountain slopes, where, through the interminably slow process of weathering, the primary rocks have disintegrated and decomposed, and, after centuries of time, natural or virgin soil has been produced. Employing such common materials as clay, limestone, ground rock, peat, and farm wastes and then subjecting them to a "cellulose fermentation" process, they are certain they have produced new virgin soil—in the short space of three years. They claim the use of their Normal Soil will alone return to the land *everything* removed by the crop.

As a conditioner of intractable land their Normal Soil has been strikingly demonstrated on a plot of heavy clay ground where the crust was so solid that a post-hole digger was needed to break through when they planted their first crop of potatoes (a double handful of Normal Soil to each hole). They used no fertilizers and no sprays or dusts of any kind, but produced an excellent crop—and alongside fields that were heavily attacked by blight and Colorado beetle.

The "magic" qualities of their Normal Soil lies simply in the fact, they explain, of the chemical balance of its fifteen principal soil elements, all of which are in the available or plant food form,—that is, thoroughly broken down and blended. There is no excess of certain elements with a deficiency of others. Upon such chemical balance of the fifteen chief soil elements depends not only the yield but the quality of all products of the soil. And to this quality is due the vital resistance to fungus and other plant diseases, and explains why insect pests are *absolutely uninterested in healthy crops.*

The farmer and the fruit grower may be especially interested in Mr. and Mrs. Larson's contention that the use of their balanced soil alone precludes the necessity for sprays or dusts of any kind. They are awaiting with complete confidence the future reports of those orchardists who have just started a Normal Soil program.

The Larsons do not agree with soil experts who claim most of our topsoil is irrevocably destroyed. Not only, they say, can the missing topsoil be wholly replaced by adopting their program of soil restoration, but the result would be a new topsoil superior in fertility to the original soil. Readers desiring further information with regard to Normal Soil should write B. M. Rice of Peterborough, N. H.

SCIENTISTS AT WORK

(Courtesy in part Experiment Station Record—U. S. Department of Agriculture)

Sterility. The *Farm Journal*, February, 1946: Proper feeding is the key to the problem of sterility. Vitamin C (ascorbic acid) is most important—and it is Vitamin A which helps the body produce this necessary C. The cattle get A from green grass, high quality alfalfa, grass silage, etc. Once sterility has set in, the injection of ascorbic acid will give startling results. Another product that may help is the new thyroprotein "thyroid" drug.

Sunshine in Food. Dr. Karl Hamner and Dr. F. G. Somers, Cornell University, have discovered that the amount of Vitamin C in tomatoes varies directly with the sunlight the tomatoes receive during the 2 to 3 weeks before picking. In turnip greens, the C can be boosted 800%. Man, monkeys and guinea pigs are the only beings who don't make their own C—and most human beings need about 70 milligrams a day to maintain health. Some tomatoes contain only 20 milligrams; others have 90. The side of an apple facing the sun has more C in it than the shady side, etc.

Farm Ponds. J. R. Carreker, U. S. Dept. of Agriculture, indicates top width is more important than face slope on a small dam. A minimum width of 8 feet is recommended (a bulldozer blade makes 10). To prevent seepage, the core wall of the best cementable clay loam available should extend down under the dam. A 4- to 6-in. pipe should be placed under the dam for draining the pond; adequate spillway capacity and protection are absolutely necessary in safe pond construction; shallow areas should be eliminated from the pond; special features such as use of water for irrigation and livestock watering should be provided for when the pond is constructed. Fish production in ponds depends on proper stocking, food supply, flood control, weed control, erosion control on the watershed, and removal of mature fish.

More Food. N. W. Hosley and other committee members, American Society of Foresters, have come to the conclusion that under proper management, forest wildlife could contribute much more meat, fish, furs, fats, skins, and recreation than it is now doing. Frequently this contribution could be made to the advantage of the wildlife itself through the removal of surplus populations. "Some way must be found to harvest the allowable crop and at the same time to retain public support of conservation measures."

Fire Waste. T. M. Adams of the Vermont Experiment Station has found that during recent years farm property losses by fire have been approximately 1 per cent of the value of the buildings; losses steadily increased from 1900 to 1931 and then decreased, being over 12 times as large in 1931 and 8 times as large in 1940 when they amounted to about $700,000; fire insurance rates per $1,000 increased from $2.30 to $6.60; of fires for which the causes were known ($305,573 of the total loss of $682,708) 32 per cent were caused by defective flues, 20 per cent by lightning, and 13 per cent by defective heating systems.

Wintering Raspberries. W. G. Brierley, Minnesota Experiment Station, states that unprotected Latham and Chief canes have at times survived winter temperatures as low as —45° F.; yet, on other occasions, they have succumbed under more moderate temperatures. Covering canes during the winter is conceded to be the only safe way to avoid winter injury.

Skunk Odor. Mrs. Edwina F. Forrester, Framingham, Mass. states that even a well scented dog can be made "companionable" again within a reasonably short time by washing the animal with a mixture of 1 quart of vinegar—with one quart of water. A man's overcoat may be saved by placing vinegar on the stove, boiling it, and holding the coat over the fumes. The "wood-pussy" will soon be on its way.

Plant Onions Upright. At the Idaho Experiment Station, records taken on the yield of seed from onions planted October 6, 1943, in three manners showed that there were 25 per cent more seedstalks and the average yields were 40 per cent greater where the bulbs

were set upright than where random planting was used, and that virtual crop failure follow deliberate upside-down planting. Despite the additional cost of upright planting there was a substantial profit from this method.

Draft Horse Weight. L. H. Blakeslee, Michigan Experiment Station, has worked out a table from which the live weights of draft horses can be predicted from measurement of heart girth based on measurements and observations of 43 Belgian and Percheron foals at monthly intervals from birth. The weight was predicted from the equation $y - c = ae^{bx}$, wherein y = the weight, x is the heart girth in centimeters, and c, a, e, and b are constants calculated as —572.15, 286.46, 2.178, and 0.00996, respectively. A standard deviation of only ±12.32 lb. was calculated from the observed measurements.

Better Frozen Berries. F. P. Griffiths, Massachusetts State College, states that attention should be given to varieties used, maturity, freshness—as well as firmness, ripeness, and full development. Materials added before freezing include various sugar mixtures as desired, and the use of pectin or calcium chloride brine dip to reduce drip. The method of packaging varies from a heat-sealed carton to a glass jar or tin can depending upon the space and equipment available. Maximum firmness and minimum of drip in the fruit is obtained by extremely rapid freezing; freezing at —10°F. is considered essential. A storage temperature of 0° or below, with little fluctuation, is recommended.

2, 4-D Control of Lawns. Homeowners who are planning to use one of the several 2, 4-D weed killer spray preparations now on the market to rid lawns of such troublesome weeds as dandelions or narrow-leaved plantains may expect that the growth of the grass will be checked somewhat following the spraying.

The grasses recover, however, and in really weedy lawns the elimination of the weed competition favors better growth of grass. The result is that after about a month the effect of the weed-killing chemical wears off and the growth of the grass gains.

Experiments last year by U. S. Department of Agriculture investigators showed good results from fertilizing weedy lawns with a nitrogen fertilizer (urea applied at the rate of 60 pounds to the acre). The two chemicals did not interact and injure each other, and the fertilization did not preserve the weeds or encourage their growth. Instead, the urea acted on the grass and stimulated growth so that the check caused by the 2, 4-D was less objectionable. Dr. P. C. Marth and Dr. J. W. Mitchell also added the fungicide, Fermate, to the spray mixture without causing any unfavorable results.

DDT Control of House Flies. Messrs. Lindquist, Madden, Wilson, and Knipling of the Department of Agriculture have found that when 5-day-old houseflies were exposed for 1 to 5 min. and then transferred to clean cages for observations on knock-down and kill, boxes treated with 5 percent each of DDT and cyclohexanone in Deobase gave slightly better results over a 207-day period than those treated with 5 per cent. DDT in kerosene. When applied to screen-wire cages with a paint brush (100 mg. DDT per square foot) 10 per cent. DDT gave better results dissolved in kerosene than in dibutyl phthalate.

Strips of muslin treated with DDT and hung in the fly-rearing room gave almost complete kill of flies overnight and remained effective for 150 days. DDT dissolved in furniture polish and applied to mess hall tables is reported to have been effective.

Carrot Storage. R. E. Nylund of the Minnesota Experiment Station points out that storage for carrots in damp soil or sand is beneficial and that 36° temperature is nearly twice as beneficial as 43°. Cutting away the crowns does not seem to be a good idea.

Fisheries. "The fishery problem," says W. F. Royce, aquatic biologist, New Bedford, Mass., "is similar in principle to crop production, especially in the case of bottom fish. If the fish are too thick, the old fish crowd the young and too many die a natural death. If the fish are too thin, the limiting factor seems to be insufficient egg production. Reasons for pessimism about New England fisheries lie in the present largest-size-ever fleet, which must utilize only George's Bank and the Gulf of Maine—thus shortening the young haddock crop; meat will soon be giving fish competition; and Canadian freezing plants, with lower wages than we pay, are entrenching themselves in American markets."

Hay Fever. Dr. Earl R. Loew of University of Illinois College of Medicine, and scientists from the Mayo Clinic have concluded that 2 to 3 daily pills of the new drug "benadryl" may give relief to sufferers from hay fever—and hives. It will not cure, but should relieve stuffy nose, smarting, watery eyes, etc.

Coughs. R. G. Frazier in *Proc. America Phil. Soc.*, April, 1940, reveals the men whose work kept them indoors during the U. S. Antarctic Service Expedition, 1939-41, were practically free from coughs. Those working outdoors in temperatures as high as —30°F. developed irritating coughs to a degree proportionate with the amount of exposure. As soon as exposure ceased, so did the coughs.

To stop choking—look up.

OTHER FARM STATISTICS

Tractors in Use: 1930—less than a million; 1939—more than a million; 1945—over two million; 1950—over 2½ million (est.).

Cash income to farmers: 1932—5 billion dollars; 1945—20 billion.

Mortgage Debt: 10⅔ billion in 1923—5⅓ billion in 1945.

Bank Deposits: 11½ billion in 1945 (War bond holdings 4½ billion).

Enough lumber is used in the United States in one year to build a boardwalk, 30 feet wide, one inch thick, from Boston to the moon (30 billion board feet). Newsprint takes about a quarter of it.

QUALITY

FOR SEVERAL years I have waged a losing battle in St. Petersburg for the creation of an advertising and promotion department under some trained man who would give all his time to the task of attracting a more profitable class of customers. The policy has been to get numbers without regard to quality.

At a cocktail party where I said something along that line, a candid friend who concentrates on enjoying the almost perfect climate and scoffs at my interest in civic affairs, said:

"You remind me of the very social-minded and serious lady I read about recently. She was added to the board of a home for delinquent girls. She took her job seriously and made a thorough study of the inmates. When she got her facts in hand she burst in upon the board and said earnestly: 'It is high time that we began to attract a better class of girl to this institution.'"

Thomas Dreier

PRESIDENT AND GOVERNMENT OFFICIALS

President .....HARRY S. TRUMAN .....Missouri

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GLOSSARY OF ASTRONOMICAL TERMS, ETC.

abol. . . . abolished
Aet, . . . age
An. Ecl. . . . see Eclipse, Annular.
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.
Appulse . . . if during eclipse Moon passes only through the penumbra.
b. — born.
Aspect . . . description of the relative position of two or more bodies in the solar system. These are described by signs, etc., on the calendar pages thus ☌☍♃, etc. By consulting the meaning of the signs and aspects on the opposite page, you will arrive at the meaning for the "sign language" used as the example; viz., Conjunction (☌) of Mars (♂) and the Jupiter (♃) occurs on this day. (See par. 2, page 4.)
Conj. — conjunction . . . moment of closest approach to each other of any two heavenly bodies.
conscr. . . . consecrated.
d. . . . died.
declination (see top left hand calendar pages) . . . measure of angular distance any celestial object lies perpendicularly north or south of celestial equator. Exactly analagous to terrestrial latitude. OFA gives declination at time each day the Sun is due South.
Dominical Letter . . . used in reckoning civil calendars.
Eclipse . . . conjunction or opposition of sun and moon occurs with moon at or near a node.
Eclipse, annular . . . when sunlight shows around the Moon during the eclipse.
Eclipse, lunar . . . opposition of Sun and Moon with moon at or near node.
Eclipse, solar . . . conjunction of Sun and Moon with Moon at or near node.
Ecliptic . . . that circle in which the plane of the orbit of the Earth about the Sun would if extended cut the celestial sphere — or the apparent path of the Sun in the sky in a year due to the Earth's revolution about the Sun each year.
El. — elongation . . . apparent angular distance of a member of the solar system from the Sun as seen from the Earth.
Epact . . . used in reckoning ecclesiastical calendars.
Eq. . . . equator.
Equinox, autumnal . . . Sun passes from northern to southern hemisphere. Fall.
Equinox, vernal . . . sun passes from southern to northern hemisphere. Spring.
E.S.T. . . . Eastern Standard Time.
Feasts and Fasts . . . In the religious calendars, many "observable" days change each year with the date Easter falls on. The OFA endeavors to list the important Protestant, Catholic, and Jewish observances.
fd. . . . founded.
Full Sea (Morn and Eve) . . . the time the tide is high in the morning and in the evening at Commonwealth Pier, Boston. A correction table in the OFA also adjusts this time for other places. (See page 7.)
Gr. El. . . . greatest elongation.
Geocentric . . . measure of celestial longitude and latitude when observer is at center of the Earth.
Golden Number . . . used in reckoning civil calendars.
Heliocentric . . . measure of celestial longitude and laticude when observer is at center of the Sun.
Inf. — Inferior . . . Inferior conjunction is when the Planet is between the Sun and the Earth.
Julian Period . . . First year was 4713 B.C. Its length is 7980 years.
k. . . . killed.
Key . . . columns of letters marked thus refer to correction table on page 12 so that the times given may be adjusted to localities other than Boston.
Lat. — latitude.
Moon's Age . . . average time elapsing between new moons (max. 29½ days). Calculated when Moon is due South.
(☽) First Quarter . . . moon in quadrature East or one half of the side of the moon toward the earth is illuminated.
(○) Full Moon . . . moon reaches opposition.
(☾) Last Quarter . . . moon in quadrature West.
(●) New Moon . . . Sun and Moon in conjunction.
Moon's Phases . . . Aspects of Moon and Sun.
Moon's Place . . . Moon's position in the Zodiac when due South or which "sign" it is in. See page 4 — par. 3.
Moon Rise and Set . . . as used in the OFA apply only to risings and settings between sunset and sunrise . . . or during the night.
Moon Runs High or Low . . . day of month Moon Souths highest or lowest above the horizon.
Moon Souths . . . Moon exactly above South point of observer's horizon.
Node . . . when a Planet or Moon in its motion crosses the ecliptic.

Node, Ascending . . . Planet or Moon crosses ecliptic from South to North.
Node, Descending . . . Planet or Moon crosses ecliptic from North to South.
Occultations . . . eclipses of Stars by the Moon.
Opposition . . . time when Sun, and Moon or Planet appear on opposite sides of the sky (elongation 180 degrees).
O.S. — Old Style . . . was when calendar was eleven days "out of whack." In September, 1752, the 3rd was reckoned as the 14th, to make present calendar.
Penumbra . . . concentric area of partial shadow around the umbra.
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.
Quadrature . . . Moon or Planet lies a quarter turn of the sky from the 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.
Rain . . . drops large enough to splatter on the old man's bald head.
Rej. — rejects.
Roman Indiction . . . used in reckoning ecclesiastical calendars.
Seasons . . . boundary points are the two solstices and two equinoxes.
Snow . . . when a cat's tracks are visible on the barn roof.
Solar Cycle . . . used in reckoning civil calendars.
Solstice, Summer . . . point at which the Sun is farthest north of the celestial equator, passing overhead on the Tropic of Cancer. Beginning of Summer.
Soistice, Winter . . . limit of Sun's journey south of the celestial equator, passing overhead on the Tropic of Capricorn. Beginning of Winter.
Star, Evening . . . above horizon at Sunset.
Star, Morning . . . above horizon at Sunrise.
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.
Tides, heights of . . . at Commonwealth Pier, Boston. See correction table on page 7 for adjustments for other places.
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.
Umbra . . . deep shadow through which the Moon passes during eclipse.
Weather Indications . . . in italics on the right hand calendar pages indicate the weather over, as a rule, three or four days time as shown by the spread of the words down the page.
w. . . . with.
Zenith . . . point in heavens directly over observer's head.
Zodiac . . . sixteen degree sky road outside of which moon and planets never wander. It is divided into twelve equal divisions called the Signs of the Zodiac, and forms much of the basis of some astrology — and superstition. See page 4 — par. 3.

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

INDEX

(The Old Farmer's Almanac (k) contains a wealth of information which many who are new to it miss by not consulting our Directions for Use and Explanations given on Pages 4, 10–12 76.) All queries gladly answered without charge.)

ANSWERS TO WORD CHARADES

1. Couplet. 2. Firedog. 3. Cathay. 4. Annex. 5. Frontispiece. 6. Pleasure. 7. Sparrow.

ANSWERS TO OLD FASHIONED PUZZLES

1. Conundrums
   - A. Because we must all give it up.
   - B. When its soldiers are all in quarters.
   - C. Heat, because you can catch cold.
   - D. Because if she isn't well stamped the mails (males) won't take her.
   - E. Because a Yankee dude'll do (Yankee doodle doo).
   - F. Tulips (two lips).
   - G. Because it is something to avoid.
   - H. Sixteen: Four richer, four poorer, four better, four worse.
2. Arithmetical Puzzles
   - A. Eight Cats
   - B. Method: Each piece consisted of 3 links; cut open the three lines of one piece and use these to connect the other from pieces of the chain.
   - C. Method: He gains 1 ft. a day and in 42 days he is 3 ft. from the top; and on the 43rd day he reaches the top.
   - D. Answer: WWWWBBBBBWWBWWWBWBBWWBBBWBBWWB. This can easily be proved by trial using letters or figures to represent men.
3. A stitch in time saves nine.
4. Sledge.
5. Villa, end, rebound, Mississippi, oasis, negro, ton.
6. There is a word in every clime,
   To love and friendship dear;
   In English 'tis forget me not,
   In French 'tis souvenir.
7. 

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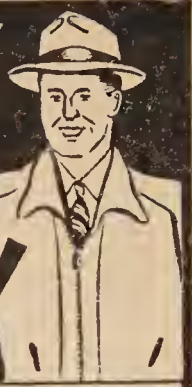

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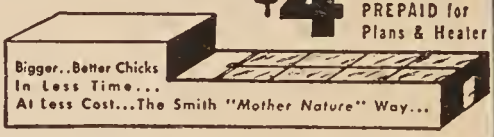

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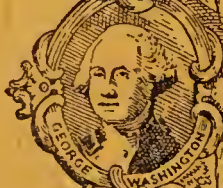

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