UNITED STATES DEPARTMENT OF AGRICULTURE
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A BIBLIOGRAPHY ON THE AGRICULTURE OF THE AMERICAN INDIANS

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PREFACE

The scope of this bibliography is delineated in the table of contents. The section of comprehensive references on the pre-Columbian agriculture of the American Indian is of special interest to the general reader. The section on the centers of advanced agricultural development supplies references for the research worker who wishes to know about the methods used by the Indian in terrace farming, irrigation, conservation, and other evidences of progress beyond primitive cultivation. The section on the particular crops domesticated and raised by the Indian will, it is hoped, be helpful to the scientist in carrying on research incident to the history and improvement of these crops. The section on the agriculture of the reservations in the United States provides selected references on recent and present-day problems of irrigation, conservation, forestry, and land use. The sections on food and medicinal plants used by the Indian are of similar import for the scientist who seeks new sources of food and drugs. In view of the fact that the Indians constitute a large share of the populations of the New World countries other than the United States and Canada, the bibliography may also contribute to a better understanding of the culture of these countries and therefore to closer relations between North and South America.

The bibliography is comprehensive insofar as practicable. It includes the references that appear in the publication entitled "Agriculture of the American Indians; A Classified List of Annotated Historical References with an Introduction" which was issued in mimeographed form as U. S. Department of Agriculture Library Bibliographical Contributions 23 (ed. 1, May 1932; ed. 2, June 1933). To insure completeness, the following indexes have been consulted: Agricultural Index, 1916–1939; Annual Magazine Subject Index, 1908–1938; Industrial Arts Index, 1914–1939; International Index to Periodicals, 1920–1939; Poole's Index to Periodical Literature, 1882–1906; Readers' Guide to Periodical Literature, 1900–1939; Readers' Guide to Periodical Literature Supplement, 1907–1919; and Writings on American History, 1906–1935.

BIBLIOGRAPHY ON THE AGRICULTURE OF THE AMERICAN INDIANS

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INTRODUCTION

If the Western Hemisphere had been unoccupied by an aboriginal people, the story of its conquest by Europeans would have been quite different. Although the American Indian was the cause of the red line of conflict on the frontier, he made many contributions to our present civilization (48).[2] Not the least of these were his agricultural plants, methods, and processes. It has been estimated that four-sevenths of the total agricultural production of the United States, measured in farm values, consists of economic plants that were domesticated by the Indian and taken over by the white man (104–105). The extent of the debt to the Indian for his work of domestication is emphasized when we recall that the white man has not reduced to cultivation a single important staple during the 400 years that he has dominated the New World.

In taking possession of the continents of the Western Hemisphere, among the first lands utilized by the Europeans were the clearings made by the Indians for their crude farms (315, 317–318). The whites attempted to use their European crops and methods but found it necessary to adopt many of those in use among the Indians. Out of the union of American Indian and European farming came the first solution of the food-quest problem of the colonists and the beginnings of modern American agriculture. Herein lies the reason that, in any adequate study of the history of agriculture in the United States, the agriculture of the Indians cannot be ignored.

Anthropologists tell us that the remote ancestors of the American Indian came from Asia some 10,000 or more years ago, while in the Neolithic stage of development. At that time they had no food supply in the form of domesticated plants and animals, nor did they know how to use metals. Their only implements were bows and arrows, stone axes, and knives. The same was true of the tribes that remained behind in the Eastern Hemisphere. Eventually, each group developed a stable food supply from the plants and animals at hand, entirely ignorant of the way the other was solving the same problem (23, 105, 109). In this connection H. J. Spinden's chronological and economic diagram of the parallelism between the development of the civilization of the Eastern and Western Hemispheres is of interest (104).

[1] Anne C. Chew has aided throughout the preparation of this bibliography.
[2] The numbers in parentheses refer to the corresponding items in the bibliography.

For a long time the descendants of these first immigrants to America knew nothing of agriculture, but eventually tribes in the highlands of Mexico and Central America began the practice of protecting the plants relied on as their main source of food. Then, perhaps considerably later, they began to weed and, in a crude way, to cultivate them. Still later, they undertook systematic gathering of seeds and roots for planting in protected areas. This invention of agriculture in the Western Hemisphere, which occurred thousands of years ago, made possible noteworthy advances in human culture.

The flowering of the Mayan civilization—which began about 1000 B. C.—was based upon the economic conquest of the humid tropics. The Mayas not only modified the old series of plants to meet wetland conditions but also domesticated indigenous plants. The cacao plant, representations of whose pods appear as details of several sculptures at Copan dating from the fifth century A. D., was tended, and chocolate was prepared from its seeds. Other plants were also brought under cultivation, among them the papaya, the anona, the avocado, and the zapote (198, 201, 205–206, 208).

As a result of the gradual spread of the cultivation of maize, beans, and squashes to the north and south, agriculture came to be practiced in widely scattered parts of the Western Hemisphere. The process of distribution was slow, for gradual acclimating of the cultivated plants to localities farther and farther from their original tropical or subtropical homes required many centuries. To supplement these nonindigenous plants, however, local plants were brought under cultivation in the several regions. In South America the most important indigenous plant was the potato, a native of the Andes (446). In the Amazon Valley, the manioc, the sweetpotato, the pineapple, and the peanut were developed as sources of food. For North America, above Mexico, the indigenous food plants similarly utilized were limited to the Jerusalem artichoke and the strawberry. Had it not been for their natural abundance, it is probable that the blueberry, the cranberry, and wildrice would have been domesticated.

Paramount among the food plants domesticated and developed by the Indian and given directly or indirectly to the white man is corn, or maize. The white potato was destined to become one of the world's greatest food staples, along with wheat, rice, and corn. Tobacco is one of the most important of our present-day cash crops. Other plants originally used by the Indian are agave, alligator pear or avocado, arrowroot, barnyard grass, the many varieties of kidney and lima beans, cacao, capsicum or chili pepper, cashew nuts, cherimoya, cocoa, cotton (*Gossypium barbadense* L.), gourds of all kinds, guava, Jerusalem artichoke, madia, manioc or cassava, maté or Paraguay tea, oca, papaya, peanut, pineapple, pricklypear or Indian fig, pumpkin, quinoa,s, squash, star-apple, sweetpotato, and tomato (23, 65).

The adaptation of European methods to American conditions proved a problem of extreme difficulty. For several years after their foundation the first colonies faced starvation and survived only because of the supplies they received from the mother country and the food they bought or took from the Indians. The permanence of the colonies was assured only when they were established agriculturally, and this came after the crops and tillage methods of the natives had been adopted. Governor William Bradford told how Squanto came to the

relief of the Pilgrim Fathers, "showing them both ye maner how to set it [*corn*] and after how to dress & tend it. Also he tolud them excepte they gott fish & set with it (in these old grounds) it would come to nothing."

The entire "maize-culture complex"—to use a term of the anthropologist and the sociologist—was taken over by the white man (402). The farm of the pioneer, whether in the seventeenth century or the twentieth, is a counterpart of the Indian cornfield. The ground is exposed to the sunlight by girdling the trees or scotching their roots, and the trunks and stumps are removed by burning. The kernels of corn are planted in hills 3 or 4 feet apart; beans are planted with the corn, and pumpkins and squashes between the hills. The soil is cultivated to check the weeds and to keep it loose and friable. Scarecrows—and sometimes children on platforms—are used to keep away the birds. In harvesting the corn, the husking peg is still useful. The corn is stored in slatted cribs upon posts to facilitate air circulation. When used for human food, it is prepared in ways devised by the Indians. It must be granted that the white man has added machinery and animal power to the Indian method of planting corn and other plants of New World origin, but the native system of placing the plants in hills and heaping earth about the stalks during cultivation is still a fundamental process in farming, just as broadcast seeding is essential in growing the grains of Old World origin.

Several varieties of cotton were used by the Indian in pre-Columbian times. It is probably the only important cultivated plant which was domesticated independently in both hemispheres. Today the mainstay of the world's cotton industry is a native American species, *Gossypium hirsutum* L., which was cultivated by the Indians of Mexico. Besides llama wool and alpaca the Indian used several kinds of the maguey (*Agave americana* L.) and the *Agave sisalana* Perr., the sisal hemp, the piassava, the leaves of the pineapple, and the ixtile as sources of fiber. In northeastern North America the whites followed the Indian in making ropes and strings from black Indian hemp (*Apocynum cannibinum* L.) and the mark of the leatherwood (*Dirca palustris* L.). The Indian realized the properties of rubber. When the Spaniards entered Mexico they watched Indian ball games played in public courts and obtained balls as souvenirs to send home. A recent writer has referred to this incident as the beginning of the world's rubber trade (3).

Many vegetable products were gathered by the Indians but were not cultivated because of their natural abundance. Berries and roots were important sources of food and medicine. In contrast to our field crops, the American fruit industry is built mainly on fruits not native to this country. Of the common fruits, the following may be cited as native: Blackberry, blueberry, crab apple, cranberry, dewberry, elderberry, June berry, gooseberry (native in distinction from the European type), grape (excepting the European or vinifera type), huckleberry, mulberry (certain relatively unimportant types), persimmon (native in distinction from the Oriental type), plum (native in distinction from the Japanese and European types), raspberry (both red and black), and strawberry. The preponderance of berries

in this native list is striking, and the absence of fruit trees is equally so. Two diagrams in the Yearbook of the United States Department of Agriculture for 1925 indicate effectively the relative importance of vegetables and fruits native to the United States and those introduced from other lands. Although the great bulk of the fruit grown represents varieties originated here, these varieties have come largely from foreign species.

The Indian had few domesticated animals. The dog alone was practically universal. In the Andes, the Incas had llamas and alpacas. The llamas were raised in herds, numbering thousands, and were not only used in transportation but were sheared for their wool and slaughtered for their flesh. Other domestications include that of the guinea pig by the Incas and that of the turkey by the tribes of Mexico and the southwestern United States, who kept them for their eggs and feathers as well as for their flesh. Bees were kept by the Aztecs, Mayas, and certain of the lesser tribes.

In aboriginal America, irrigation was practiced from Arizona to Chile. In the Salt River Valley there were about 150 miles of main irrigation ditches, and some of these have been incorporated into the modern systems. In Peru, irrigation was carried out on a scale scarcely equaled by modern peoples. The remains of the aqueduct systems of the Inca Empire show genius and organization which may well be respected today (280, 313).

Artificial fertilization was widely undertaken. One of the most prevalent methods, especially along the Atlantic coast, was to place fish in the cornhills during planting. In parts of the area of intensive agriculture manures were used.

In North America, hominy, pone, sagamité, samp, succotash, and supawn are typical native dishes. Pemmican and jerked beef were first prepared by the Indian, and in the Great Lakes region wild-rice was and still is used in such quantity as to make it a staple (490). The entire technique of preparing maple sugar has been acquired from the Indian, and his way of cooking clams by baking and of preparing fish by planking have been adopted. The folk foods of Spanish America are largely aboriginal in origin; so also are the drinks—pulque, mescal, chicha, and cachiri. Various methods of making more palatable certain fruits, herbs, roots, and game were learned from the natives. Chewing gum also came from the Indian.

Following the discovery of America, many of the medicines used by the Indians became popular in Europe (48). While some of these are now regarded as having little therapeutic value, others are still of prime importance. At first Europeans regarded guaiacum wood (lignumvitae) and sarsaparilla as the most important American medicines. Tobacco and copal were first introduced into Europe as medicines. In the American colonies the Indian doctor who knew the uses of herbs, barks, leaves, roots, and juices treated the white pioneers or taught them secret remedies. The natives of Bolivia and Peru chewed the leaves of the coca plant long before the Spanish conquest, and they realized its physiological action in diminishing the feeling of fatigue and in dulling pain. Observing these facts, the white man developed cocaine for use as a local anesthetic.

The bark and leaves of the witch-hazel were also widely used for soothing irritations. Cascara sagrada and quinine have proved their merits as remedies, the latter being an aid of inestimable value in conquering the fever-ridden tropics.

The Indian discovered and developed a number of excellent dyes. Chief among these was that made from the cochineal, an insect from southern Mexico which was domesticated and grown on the nopal or pricklypear cactus. Another important dye, also the result of domestication, was anil, or American indigo. In Central America the Indian used the secretion of the murex shellfish as a purple dye.

These, in summary, are the contributions of the American Indian to agriculture. Applying a well-known inscription—*Si monumentum requiris, circumspice*—to the Indian, we may close by saying "If you seek his monument, look around."

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compared (fruits in relation to advancement), pp. 304–310; cultivation of roots prior to that of cereals (the potato; roots superseded by cereals; advanced root culture, desiccation, instance of a root-cultivating population—Haiti; manioc cultivation in Haiti; social condition of Haiti; Haitian religion; labour involved in the culture of vegetable species), pp. 310–320; cereal agriculture in the New World—maize (origin of maize cultivation in Mexico and Central America; other centres of maize agriculture probable; obstacles to maize cultivation; maize in South America—Paraguay and Southern Peru; Cañari legend of the origin of maize cultivation; Northern Peru and New Granada; centres of artificial food production in America; migratory and stationary food production; primitive agriculture in America; transition to permanent agriculture; surface tillage in eastern North America; natural surface tillage on the Pacific side; cultivation of maize in relation to temperature; artificial extension of cultivable lands, terraces of Peru; minor extensions of cultivable areas; irrigation; irrigation for the purpose of warping, manuring; formation of the calendar; calendar feasts; modes of determining the solstices; art of masonry), pp. 320–354; extension of agriculture to nonalimentary and subalimentary plants (agriculture and intoxicants; agriculture and drunkenness; extensions of agriculture, chilli pepper; the cotton plant; the American aloes; the pulque aloe; reduction of the aloe to cultivation; saccharines from the aloe and maize; the cacao tree; historical importance of the cacao tree; cacao the first object of special tropical agriculture; cacao, coffee, and tea; the Chian plant; the oil Chian; the coca tree), pp. 362–389; agriculture and religion pp. 389–433.

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THE PHYTOGEOGRAPHY OF CULTIVATED PLANTS IN RELATION TO ASSUMED PRE-COLUMBIAN EURASIAN-AMERICAN CONTACTS. Amer. Anthrop. 33: 375–382. July–September 1931.

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——— (78)
THE PROBLEM OF ECONOMIC PLANTS IN RELATION TO MAN IN PRE-COLUMBIAN AMERICA. 5th Pacific Sci. Cong. Canada, Proc. (1933) 1: 759–767. Toronto, Univ. Toronto Press. 1934.

NEWHALL, BEATRICE. (79)
CHOCOLATE IN NEW SPAIN. Pan. Amer. Union Bul. 70: 786–793, illus. October 1936.

Article based on José García Payón, Amaxoxoatl; o Libro del Chocolate (Toluca, Mexico, 1936).

Cacao was cultivated and used in many ways by the Indians, and early became popular with the Spaniards.

NICOL, HUGH. (80)
MIXED CROPPING IN PRIMITIVE AGRICULTURE. Empire Jour. Expt. Agr. 3: 189–195. April 1935.

American Indian agriculture, pp. 193–194.

NORDENSKIÖLD, ERLAND. (81)
THE AMERICAN INDIAN AS AN INVENTOR. Roy. Anthrop. Inst. Jour. 59: 273–309. July–December 1929.

Elucidation of the important problem of independent inventions and culture loans. The illustrations show manioc graters, cigar holder, vessel with hollow rim, flutes, hearthstones of baked clay, barbed fish hook, wooden spurs, and sugar mill. Bibliography, pp. 307–309. Summary with same title in Scot. Geog. Mag. 47: 39–40 (Jan. 15, 1931).

For a criticism of Nordenskiöld's studies, see Wilhelm Koppers, "Methodologisches zur Frage der Kulturbeziehungen zwischen der Alten und der Neuen Welt; mit besonderer Berücksichtigung neuerer einschlägiger Untersuchungen von E. von Nordenskiölds," in Anthrop. Gesell. Wien Mitt. 62 (6): 319–327 (1932).

OLIN, WALTER HERBERT. (82)
AMERICAN IRRIGATION FARMING: A SYSTEMATIC AND PRACTICAL TREATMENT OF EVERY PHASE OF IRRIGATION FARMING, INCLUDING ITS HISTORY, WITH STATISTICAL TABLES AND FORMULAS. 364 pp. illus. Chicago, A. C. McClurg & Co. 1913.

Ancient irrigation in the Americas, pp. 8–12. Bibliography, pp. 349–355.

PARKINS, A. E. (83)
THE INDIANS OF THE GREAT LAKES REGION AND THEIR ENVIRONMENT. Geog. Rev. 6: 504–512. December 1918.

The Five Nations; the Hurons; the Ottawas; the Chippewas; wildrice Indians; Indians of the lake plains and river valleys between Lakes Erie and Michigan; the Indians forest economy; Indian as fisherman; Great Lakes fishing sites; Indian as hunter; unused resources and the effect of civilization.

PEET, S. D. (84)
PREHISTORIC FARMING. Wis. State Agr. Soc. Trans. (1887) 25: 390–408.

Early Indian agriculture throughout America, with emphasis on Wisconsin.

PÉNARD, J. M.
LAND OWNERSHIP AND CHIEFTAINCY AMONG THE CHIPPEWAYAN AND CARIBOU-EATERS. Primitive Man 2 (1–2): 20–24. January 1929.

Landownership among the little-known Chippewayan, an Athapascan-speaking tribe of northern Saskatchewan and Alberta. A note by Father John Cooper summarizing the data in old sources on northwestern tundra land tenure, and indicating its significance in relation to the similar land tenures of the northern Algonkian is also included.

PETRULLO, VINCENZO. (86)
ANCIENT CIVILIZATIONS OF AMERICA. Pan Amer. Union Bul. 69: 169–182, illus. March 1935.

Aztec, Mayan, and Incan civilizations, including agricultural achievements.

POWELL, E. P. (87)
THE INDIANS AS GARDENERS. Country Life [Garden City, N. Y.] 29 (6): 130, 132. April 1916.

POWELL, J. W. (88)
THE NORTH AMERICAN INDIANS. *In* The United States of America, edited by Nathaniel Southgate Shaler, 1: 190–272. New York, D. Appleton & Co. 1894.

Subsistence of the Indians, pp. 245–249; domestication of animals by Indians, pp. 249–251; Indian technology, pp. 251–256.

RENAUD, E. B. (89)
INFLUENCE OF FOOD ON INDIAN CULTURE. Social Forces 10: 97–101. October 1931.

Chiefly concerning the buffalo as the center of the plains culture.

SAFFORD, WILLIAM EDWIN. (90)
FOOD PLANTS AND TEXTILES OF ANCIENT AMERICA. 19th Internatl. Cong. Americanists, Washington, Proc. 1915: 12–30. 1917.

Also in 2d Pan Amer. Sci. Cong. Proc., Washington, Dec. 27, 1915–Jan. 8, 1916, v. 1, sect. 1, Anthropology, pp. 146–159 (Washington, Govt. Print. Off., 1917).

The illustrations show a display in the U. S. National Museum of terra cotta funeral vases representing food products, from ancient Peruvian graves of the coast region near Trujillo and Chimbote, and four individual vases. The subheadings are: maize; quenua; beans; lupines; peanuts; other legumes; Bromeliaceae; gourds; squashes and pumpkins; Annonaceae; *Lucumas;* pepinos; *Cyphomandias;* almonds of Chachapoyas; *Capsicum* peppers; pichurim beans; balsam of Peru; seeds used as rattles; roots and tubers; coca; chocolate; *Ilex paraguayensis* (yerba maté); *Nicotiana tabacum* (tobacco); cohoba, the narcotic snuff of Hispaniola; other narcotics; textiles; cotton; *Furcraea* fiber.

——— (91)
FOODS DISCOVERED WITH AMERICA. Sci. Monthly 21: 181–186. August 1925.

The menu composed entirely of dishes made up of foods discovered with America is of considerable interest.

SAFFORD, WILLIAM EDWIN. (92)
THE ISOLATION OF ANCIENT AMERICA AS ESTABLISHED BY THE CULTIVATED PLANTS AND THE LANGUAGES OF ITS ABORIGINES. 20th Internatl. Cong. Americanists, Rio de Janeiro, Proc. (1922) 1: 167–171. 1924.

The complete isolation of America from the rest of the world before the time of Columbus, indicated by the fact that no grain or food plant of the Old World had found its way to the Western Hemisphere in prehistoric times and vice versa.

——— (93)
THE ISOLATION OF ANCIENT AMERICA AS INDICATED BY ITS AGRICULTURE AND LANGUAGES. Sci. Monthly 22: 55–59. January 1926.

——— (94)
NOTRE HERITAGE DES INDIENS AMÉRICAINS. 20th Internatl. Cong. Americanists, Rio de Janeiro, Proc. (1922) 1: 173–178, illus. 1924.

The important plants used as food, medicine, and dyes, and the textile and other economic plants discovered and introduced into cultivation by the American aborigines before the time of Columbus. Translated under the title "Our Heritage from the American Indians" in Smithsn. Inst. Ann. Rpt. 1926: 405–410, illus.

SANFORD, ALBERT HART. (95)
THE STORY OF AGRICULTURE IN THE UNITED STATES. 394 pp., illus. Boston, New York, D. C. Heath & Co. 1916.

See ch. 1, The Indians as Farmers, pp. 1–11.

SAPPER, KARL. (96)
GEOGRAPHIE DER ALTINDIANISCHEN LANDWIRTSCHAFT. Petermanns Mitt. aus Justus Perthes' Geog. Anst. 80: 41–44, 80–83, 118–121, map. Gotha, Germany. 1934.

Tropical agronomy in pre-Columbian America; temperate agronomy in America; ancient Indian animal breeding; pre-Columbian additions to Indian agriculture. The map following p. 72 gives a good picture of the agricultural regions of pre-Columbian America.

——— (97)
DIE GEOGRAPHISCHE BEDINGTHEIT DER ALTAMERIKANISCHEN HOCHKULTUREN UND KULTURSTAATEN. Petermanns Mitt. aus Justus Perthes' Geog. Anst. 77: 178–182, 245–248. 1931.

The reasons why the pre-Columbian cultures developed on highlands; the types of states developed among the Indians. Climatic factors are stressed.

SAUER, CARL. (98)
AMERICAN AGRICULTURAL ORIGINS: A CONSIDERATION OF NATURE AND CULTURE. *In* Essays in Anthropology Presented to A. L. Kroeber, pp. 279–297. Berkeley, Univ. Calif. Press. 1936.

American agriculture had plural origins in the humid lands of mesothermal climate.

SPECK, FRANK G. (99)
ABORIGINAL CONSERVATORS. Bird-lore 40: 258–261. July–August 1938.

"Both the system of land tenure and the close association, often of an almost spiritual nature, that existed between the Algonkian Indians of north-eastern Canada and all species of animals and plants prevented wanton destruction, and led to a thoroughly satisfactory system of wild life conservation."—Canad. Hist. Rev. 20: 104 (March 1939).

——— (100)
LAND OWNERSHIP AMONG HUNTING PEOPLES IN PRIMITIVE AMERICA AND THE WORLD'S MARGINAL AREAS. 22d Internatl. Cong. Americanists, Rome, Proc. (1926) 2: 323–332.

SPINDEN, HERBERT JOSEPH. (101)
LA AGRICULTURA EN LA AMERICA PRECOLOMBIANA. La Hacienda 23: 202–204, illus. June 1928.

"De Cómo los Indígenas del Continente Americano Cultivaban y Explotaban Numerosas Plantas Agrícolas, Forestales y Medicinales—Patatas, Maíz, Cacao, Habichuelas, Cocahuetes, Caucho, etc.—ya Muchos Siglos Antes de la Llegada de los Espanoles."—Subtitle.

SPINDEN, HERBERT JOSEPH. (102)

THE INVENTION AND SPREAD OF AGRICULTURE IN AMERICA. Amer. Mus. Jour. 17 (3) : 181–188. March 1917.

The illustrations show the following: pottery reproductions of maize, cast in molds that were made over actual ears of maize—these reproductions were sometimes used as details on great ceremonial urns in southern Mexico; pottery reproductions of squashes; the "maize god" of the Peruvians whose body is formed of molded ears of maize, buried in the field as a prayer for good crops; a water jar decorated with peanuts found in the cemetery of Chimbote on the arid coast of Peru. The map shows the pottery distribution and agriculture in the New World.

Reprinted, including the illustrations, under the title "Origin of American Agriculture; Ancient Pottery Reveals the Invention and Spread of Agriculture in America" in Sci. Amer. Sup. 88: 120–121, 127, illus. (Aug. 23, 1919).

——— (103)

THE ORIGIN AND DISTRIBUTION OF AGRICULTURE IN AMERICA. 19th Internatl. Cong. Americanists, Washington, Proc., 1915: 269–276. 1917.

Reprinted in Alfred Louis Kroeber and Thomas Talbot Waterman, eds., Source Book in Anthropology, pp. 245–251 (Calif. Univ. Syllabus Ser. No. 118, Berkeley, Univ. Calif. Press, 1920).

——— (104)

THE POPULATION OF ANCIENT AMERICA. Geog. Rev. 18: 641–660, maps. October 1928.

Though pertaining primarily to Central America, the factors which have led to the decrease of the Indians there are applicable to the race as a whole, and the author's estimates of population refer to both continents. The chronological and economic diagram of the parallelism between Old and New World civilizations presenting in summary form some of the facts bearing on the question of the population of ancient America is of particular interest. There are a few paragraphs on Indian agriculture, including the statement that about four-sevenths of the agricultural production of the United States (farm values) is in economic plants domesticated by the American Indian and taken over by the white man.

Reprinted in Smithsn. Inst. Ann. Rpt. 1929: 451–471.

——— (105)

THANK THE AMERICAN INDIAN; WE OWE TO THE INDIAN WELL OVER HALF OF OUR GREAT AGRICULTURAL WEALTH; POTATOES, MAIZE, CACAO, BEANS, THE PEANUT, RUBBER AND OTHER PLANTS WERE DOMESTICATED HERE LONG BEFORE COLUMBUS DISCOVERED AMERICA. Sci. Amer. 138: 330–332, illus. April 1928.

Excellent study of the origin and domestication of the plants which constituted our inheritance from the ancient civilization of American Indians. In the first paragraph the author states that four-sevenths of our total agricultural wealth "consists of crops unknown in the Old World until after the momentous voyage of Columbus."

The illustrations show the following: A stone on which is a carving of the monkey god of cacao, cacao pods being attached to his limbs and tail; the goddess of water holding ears of maize in her hands; a sixth century sculpture from Copan of the god of maize, his head being an opening ear of maize; the god of maize of Peru, a bundle of actual ears supplying the mold for this tusked god, whose children are also shown.

STIRLING, MATTHEW W. (106)

AMERICA'S FIRST SETTLERS, THE INDIANS. Natl. Geog. Mag. 72: 535–596, illus. November 1937.

Useful for its illustrations and general comments on the various contributions of the American Indians.

STURTEVANT, E. LEWIS. (107)

KITCHEN GARDEN ESCULENTS OF AMERICAN ORIGIN. Amer. Nat. 19: 444–457, 542–553, 658–669. May, June, July 1885.

Introduction, p. 444; alkekengi (strawberry tomato), pp. 444–446; kidney bean, pp. 446–452; lima bean, pp. 452–454; asparagus bean, p. 454; scarlet runner bean, pp. 454–455; cucumber, pp. 455–456; garlic, leek, onion, chives, pp. 456–457; Jerusalem artichoke, p. 542; martynia, pp. 542–543; nasturtium, pp. 543–544; peppers, pp. 544–550; potatoes, pp. 550–553; pumpkins and squashes, pp. 658–663; purslane, pp. 663–664; sweet corn, pp. 664–665; sweet-potato, pp. 666–667; tomato, pp. 667–669. Bibliographical footnotes.

THOMAS, CYRUS. (108)
REPORT ON THE MOUND EXPLORATIONS OF THE BUREAU OF ETHNOLOGY. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1890–91) 12: 3–742, illus., maps.

Agriculture of the Indians, pp. 615–620.

VAVILOV, N. I. (109)
MEXICO AND CENTRAL AMERICA AS THE PRINCIPAL CENTER OF ORIGIN OF CULTIVATED PLANTS OF THE NEW WORLD. Trudy Prikl. Bot., Genet., i Selek. (Bul. Appl. Bot., Genet., and Plant Breeding) 26: 135–199. Leningrad. 1931.

Russian text, pp. 135–178; English text, pp. 179–199. Review in Geog. Rev. 21: 680–682 (October 1931).

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THE PROBLEM OF THE ORIGIN OF THE WORLD'S AGRICULTURE IN THE LIGHT OF THE LATEST INVESTIGATIONS. 10 pp., illus. *In* Science at the Cross Roads; Papers Presented to the International Congress of the History of Science and Technology, London, June 29–July 3, 1931, by the Delegates of the U. S. S. R. London, Kniga (England). 1931.

——— (111)
LE PROBLÉME DE L'ORICINE DES PLANTES CULTIVÉES. Inst. Natl. Agron. Paris, Ann. (ser. 2) 26: 239–246. 1934.

VERRILL, ALPHEUS HYATT. (112)
FOODS AMERICA GAVE THE WORLD. 289 pp., illus. Boston, L. C. Page & Co. 1937.

Introduction, pp. v–x; 1, The Grass We Call Corn, pp. 1–9; 2, The Grain of the Gods, pp. 10–17; 3, What Corn Has Done for Civilization, pp. 18–24; 4, The Strange Story of the Potato, pp. 25–32; 5, First Cousins of the Spud, pp. 33–41; 6, The Most Valuable Root Food, pp. 42–48; 7, Foods our Southern Neighbors Love, pp. 49–57; 8, Food Made from Poison, pp. 58–66; 9, The Story of Chocolate, pp. 67–74; 10, The Tea of the Gauchos, pp. 75–82; 11, Pumpkins and Their Kin, pp. 83–87; 12, Who Doesn't Know Beans?, pp. 88–94; 13, The Mighty Peanut, pp. 95–100; 14, Our Edible Weeds, pp. 101–109; 15, The Most Useful Trees, pp. 110–119; 16, The Fruit of Hospitality, pp. 120–125; 17, Fruits the Roses Give Us, pp. 126–137; 18, The Orchid that Flavors our Cakes, pp. 138–143; 19, Fruits We Seldom See, pp. 144–171; 20, Nuts for Dessert, pp. 172–182; 21, Strange Foods of Strange People, pp. 183–188; 22, The Thanksgiving Bird, pp. 189–195.

Appendices in collaboration with Otis W. Barrett: Check List of all American Food-Plants; Derivation and Meanings of Plant Names; List of American Food Animals, pp. 197–279.

WEDEL, W. R. (113)
DUST BOWLS OF THE PAST. Science (n. s.) v. 86, No. 2232, Sup. Oct. 8, 1937.

The possible use of evidence concerning ancient Indian village sites to indicate undependable areas for farming. Same in Sci. News Letter 32: 232 (Oct. 9, 1937).

WISSLER, CLARK. (114)
AGRICULTURE; PRIMITIVE AGRICULTURE. Encycl. Social Sci. 1: 572–574. New York, Macmillan Co. 1930.

Bibliography, pp. 598–599. See also articles on Irrigation, Migration, Nomads, Culture, and Anthropology.

——— (115)
THE INDIAN AND THE WHITE MAN'S BUFFALO. Nat. Hist. 40: 625–630, 697. November 1937.

The difficulty of getting the Indians to adopt white civilization.

——— (116)
THE NORTH AMERICAN INDIANS OF THE PLAINS. Pop. Sci. Monthly 82: 436–444, maps. May 1913.

The maps show the culture areas of North America, the location of the Indians of the Plains, and the distribution of forests in western United States.

——— (117)
PREHISTORIC MAN. Mentor 8 (2): 1–11, illus. Mar. 1, 1920.

Agricultural as well as general characteristics of prehistoric man. The illustrations are of the American Indians.

Agriculture of Particular Regions and Tribes

AZTEC AGRICULTURE

BUTMAN, CARL HAWES. (118)
XOCHIMILCO AND ITS LAKE OF GARDENS; AZTEC IRRIGATION OF THE SIXTEENTH CENTURY. Sci. Amer. Sup. 74: 132–133, illus. Aug. 31, 1912.

The unique irrigation system which the Aztecs were using when Cortez invaded Mexico in 1521.

CURRAN, C. H. (119)
INSECT LORE OF THE AZTECS. Nat. Hist. 39: 196–203, illus. March 1937.

"Revealing early acquaintanceship with many of our agricultural pests and therapeutic measures against so currently prominent a creature as the black widow spider."—Subtitle.

HOUGH, WALTER. (120)
THE PALM AND AGAVE AS CULTURE PLANTS. 15th Internatl. Cong. Americanists, Quebec, Proc. (1906) 1: 213–221.

The civilization of the Mexican plateau was based on the agave.

MANCHESTER, H. H. (121)
PREHISTORIC AMERICAN GARDENS. Gard. Mag. and Home Builder 42: 41–43, illus. September 1925.

Gardening in the two Americas before the advent of Columbus; the part flowers played in Incaland and early Mexico; amusing movable gardens and how bird conservation began four centuries ago.

MENDIZÁBAL, MIGUEL O. de. (122)
INFLUENCIA DE LA SAL EN LA DISTRIBUCIÓN GEOGRÁFICA DE LOS GRUPOS INDIGENAS DE MEXICO. 23d Internatl. Cong. Americanists, New York, Proc. 1928: 93–100, map.

NUTTALL, ZELIA. (123)
THE FLOWER LOVERS AND GARDENERS OF ANCIENT MEXICO. Internatl. Gard. Club Jour. 3: 364–379, illus. September 1919.

For a Spanish version, see "Los Aficionados a las Flores y los Jardines del Mexico Antiguo," in Memorias y Revista de la Sociedad Científica "Antonia Alzate" Mexico 43: 593–608, illus. (Septiembre-Diciembre 1924).

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THE GARDENS OF ANCIENT MEXICO. Internatl. Gard. Club Jour. 3: 573–590, illus. December 1919.

Reprinted in Smithsn. Inst. Ann. Rpt. 1923: 453–464, illus. For a Spanish version, see "Los Jardines del Antiguo Mexico," in Memorias y Revista de la Sociedad Científica "Antonio Alzate" Mexico 37: 193–213, illus. (Diciembre 1920).

ROBERTS, FRANK H. H., JR. (125)
IN THE EMPIRE OF THE AZTECS. Natl. Geog. Mag. 71: 724–750, illus. June 1937.

Short description of ancient Aztec agriculture is included.

SAFFORD, WILLIAM EDWIN. (126)
AN ECONOMIC *amaranthus* OF ANCIENT AMERICA (WITH EXHIBITION OF SPECIMENS AND LANTERNS). Science 44: 870. Dec. 15, 1916.

"Among the tributes paid to Montezuma by the pueblos of Mexico was a certain grain of ivory whiteness and more minute than a mustard seed, called by the Aztecs huauhtli. Eighteen imperial granaries were filled with it each year, each having a capacity of about 9,000 bushels."

——— (127)
A FORGOTTEN CEREAL OF ANCIENT AMERICA. 19th Internatl. Cong. Americanists, Washington, Proc. 1915: 286–297. 1917.

The white-seeded *amaranthus* is identified with the ceremonial huauhtli of the Aztecs and with the "bledo" of Cabeza de Vaca.

STEFFEN, MAX. (128)
DIE LANDWIRTSCHAFT BEI DEN ALTAMERIKANISCHEN KULTURVÖLKERN. 139 pp. Leipzig, Duncker & Humbolt. 1883.

Die Azteken; die Mayas; die Chibchas; das Incareich.

THOMPSON, JOHN ERIC. (129)
MEXICO BEFORE CORTEZ; AN ACCOUNT OF THE EARLY LIFE, RELIGION AND RITUAL OF THE AZTECS AND KINDRED PEOPLES. 298 pp., illus. New York and London, Charles Scribner's Sons. 1933.

See pp. 8–11, 60–68, 137–150, 159, 168, 179–181, 283, 286, and 288. Review in Hispanic-Amer. Hist. Rev. 14: 90–92 (1934).

TORO, ALFONSO. (130)
LAS PLANTAS SAGRADAS DE LOS AZTECAS Y SU INFLUENCIA SOBRE EL ARTE PRECORTESIANO. 23d Internatl. Cong. Americanists, New York. Proc. 1928: 101–121, illus. New York. 1930.

The sacred plants of the Aztecs and their influence on pre-Cortesian art.

WRIGHT, RICHARDSON. (131)
THE STORY OF GARDENING FROM THE HANGING GARDENS OF BABYLON TO THE HANGING GARDENS OF NEW YORK. 475 pp., illus. New York, Dodd, Mead & Co. 1934.

Plants and gardens the conquistadors found, pp. 167–175; primitive corn planting, pp. 8–10.

See also items 2–5, 17–18, 20–22, 67, 82, 86, 109, 152, 211, 349, 354, 357, 373, 396, 412, 467, 637–638, 727–732, 755, 769, 774, 777, 779, 782, 797, 807, 820, 823.

CALIFORNIA

KROEBER, A. L. (132)
HANDBOOK OF THE INDIANS OF CALIFORNIA. U. S. Bur. Amer. Ethnol. Bul. 78, 995 pp., illus., maps. 1925.

Review by E. W. Gifford in Geog. Rev. 16: 238–239 (April 1926).

See also items 6, 301, 461, 517, 635, 640, 657, 666, 682, 702, 710, 718, 739, 752, 786.

CARIBBEAN SEA AND CENTRAL AMERICA

CONZEMIUS, EDWARD. (133)
ETHNOGRAPHICAL NOTES ON THE BLACK CARIB (GARIF). Amer. Anthrop. 30: 183–205. April–June 1928.

This Central American group is part Indian and part Negro, but many Indian customs are retained. Their agriculture is discussed under the subtitles "Customs and habits"; "Foodstuffs—preparation of cassava bread"; and "Other occupations, industry."

——— (134)
ETHNOGRAPHICAL SURVEY OF THE MISKITO AND SUMU INDIANS OF HONDURAS AND NICARAGUA. U. S. Bur. Amer. Ethnol. Bul. 106, 191 pp., illus. 1932.

Domestic utensils, pp. 33–35; tools, pp. 35–38; cotton textiles, pp. 50–51; other handicrafts, pp. 52–54; domestication of animals and birds (indigenous animals and birds, bees, cattle, horses, pigs, fowl, dogs), pp. 57–60; agriculture (cassava, sweetpotatoes, yams, other vegetables, maize, beans, cacao, cactus, fruits, gardens), pp. 60–65; food preparation, pp. 88–91; narcotics, stimulants, etc. (tobacco, pepper, oils, etc.), pp. 91–95; nonfermented beverages, pp. 95–98; intoxicating beverages, pp. 98–101; diseases, pp. 118–126; bibliography, pp. 173–178.

FEWKES, JESSE WALTER. (135)
THE ABORIGINES OF PORTO RICO AND NEIGHBORING ISLANDS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1904) 25: 3–320, illus.

See especially Agriculture, pp. 50–53.

MORALES CABRERA, PABLO. (136)
PUERTO RICO INDÍGENA; PREHISTORIA Y PROTOHISTORIA DE PUERTO RICO; DESCRIPCIÓN DE LOS USOS, COSTUMBRES, LENGUAJE, RELIGIÓN, GOBIERNO, AGRICULTURA, INDUSTRIAS DEL PUEBLO TAINO DE BORIQUÉN, SEGÚN LOS CRONISTAS DE INDIAS EN LA ÉPOCA DEL DESCUBRIMIENTO DE AMÉRICA. 381 pp., illus. San Juan, Puerto Rico, "Imprenta Venezuela." 1932.

Treatise, with frequent quotations from early historians, on the natives of a section of Puerto Rico before and at the time of the Spanish conquest in the sixteenth century. See especially "industrias agrícolas," pp. 121–137, which discusses yucca, corn, potatoes, beans, and other products.

REYNOSO, ALVARO. (137)
AGRICULTURA DE LOS INDÍGENAS DE CUBA Y HAITI. 111 pp. Paris. 1881. (Notas Acerca del Cultivo en Camellones.)

Una nueva edición, notablemente corregida y aumentada de Apuntes acerca de varios cultivos Cubanos. Hemos creído conveniente separar de esa próxima publicación lo que se refiere al cultivo de los tubérculos por los indígenas de Cuba y Haití, porque en ella no podiamos exponer ciertas consideraciones, mientras que, en la present forma, es posible manifestarlas oportunamente con un fin determinado.

INCAN AGRICULTURE

BARRIENTOS, E. (138)
LA AGRICULTURA EN EL TIEMPO DE LOS INCAS. [Peru] Min. de Fomento, Dir. de Agr. y Ganad. Bol. 2: 426, 428, 430, 432, 434. Lima. July–December 1932.

BAUDIN, LOUIS. (139)
LES COMMUNAUTÉS AGRAIRES DU PÉROU PRÉCOLOMBIÉN. Rev. d'Hist. Econ. et Sociale (Paris) 15(3): 302–320. 1927.

"Cet article constituera un chapitre d'un ouvrage qui paraîtra prochainement sur: L'Empire des Inka." Its contents are indicated by the following headings: La politique agraire; le partage du sol; le partage du bétail; l'exportation du modes de culture; les traces de propiété individuelle; bibliography, pp. 318–320.

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L'EMPIRE SOCIALISTE DES INKA. 296 pp., maps. Paris, Inst. d'Ethnol. 1928. (Paris Univ., Trav. et Mém. de l'Inst. d'Ethnol., 5.)

Review by G. Grandidier in Jour. des Débats 35 (2): 397–399 (Sept. 7, 1928).

——— (141)
LES INTERPRÉTATIONS DU SOCIALISME DES INCAS. Soc. Amér. Belgique Bul. 17: 51–56. 1935.

Discussion of the interpretations which have been given by various writers of the eighteenth and nineteenth centuries concerning the socialism of the Incas.

——— (142)
L'ORGANISATION ÉCONOMIQUE DE L'EMPIRE DES INCAS (PÉROU PRÉCOLOMBIEN). Rev. de L'Amér. Latine 17 (89): 385–393. May 1929.

The economic organization of the Inca Empire, stressing the agrarian village-community, or ayllu, which was the basis of the economic and social structure of pre-Hispanic Peru. Extensive abstract by Philip A. Means in Social Sci. Abs. 1: 8051 (November 1929).

Also published in [Paris] Acad. des Sci. Morales et Polit., Séances at Travaux, Compt. Rend. 89: 445–455 (November–December 1929).

BENNETT, WENDELL C. (143)
WEAVING IN THE LAND OF THE INCAS. Nat. Hist. 36: 62–72, illus. June 1935.

The cotton and wool fabrics of the ancient Incas.

BONTHOUX, VICTOR ADOLPHE. (144)
LE RÉGIME ÉCONOMIQUE DES INCAS. 116 pp. Paris, Amand Girard. 1927.

BUTTERFIELD, H. M. (145)
THE AGRICULTURE OF ANCIENT PERU. Calif. Univ. Jour. Agr. 7 (4): 31. April 1921.

[COLLIER, CHARLES.] (146)
MODERN FARMERS TO LEARN LESSONS FROM LAND LORE OF ANCIENT INCAS. Lit. Digest 122 (21): 23, illus. Nov. 21, 1936.

Incan agriculture, apropos of Charles Collier's trip to South America.

COOK, ORATOR FULLER. (147)
FOOT-PLOW AGRICULTURE IN PERU. Smithsn. Inst. Ann Rpt. 1918: 487–491, illus.

The highly specialized agriculture of the ancient Peruvians considered in terms of three principal types or systems, namely, the more primitive milpa system in the lower valleys at altitudes of less than 5,000 feet, the terrace

COOK, ORATOR FULLER—Continued.

system in the intermediate or temperate valleys of the eastern Andes at altitudes between 5,000 and 11,000 feet, and the system in the higher valleys at altitudes of from 11,000 to 14,000 feet where the farming was done by human labor, facilitated by a peculiar implement for breaking the sod, which is described in detail. The illustration shows the cashrom or foot-plow of the Hebrides, from Mitchell's The Past in the Present, p. 113. Its survival suggests that northern Europe may have passed through a stage corresponding to the foot-plow agriculture of Peru.

Also in Pan Amer. Union Bul. 52: 160–166, illus. (February 1921). The pictures show the taclla, the ancient instrument used by the Aztecs for turning the earth on the terraced farms of the Andes of Peru and Bolivia.

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PERU AS A CENTER OF DOMESTICATION; TRACING THE ORIGIN OF CIVILIZATION THROUGH THE DOMESTICATED PLANTS. Jour. Hered. 16: 3–46, 72, 94–110, illus. February, March 1925.

Plants domesticated before animals; agriculture indigenous in America; relative antiquity of domestication; unity of American agriculture; location of Maya civilization; endemic crop plants of the Peruvian region; native Peruvian plant names; list of names of domesticated plants in Peru; crop plants of extra-Peruvian origin; other centers of domestication; conditions of domestication in Peru; domestication of animals in Peru; agricultural arts in Peru; building of terraces and irrigation works; weaving of cotton and wool; astronomical determination of seasons; social organization and colonization; summary.

The illustrations include the following: terrace agriculture of ancient Peru; pigweeds as seed crops; a field of quinoa; cocaine shrub; a seed-bearing cassava; a cultivated lupine; oca (*Oxalis tuberosum*) roots; Peruvian potato varieties; roots of the *Papa lisas*; an edible canna, a nasturtium root crop; a striped variety of anyus; a sweetpotato in flower; roots of the llacon; Inca storehouses.

Reprinted in slightly abridged form in Smithsn. Inst. Ann. Rpt. 1925: 503–532, illus.

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PERU AS A PRIMITIVE CENTER OF AGRICULTURE. Wash. Acad. Sci. Jour. 19: 127–128. March 1929.

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QUICHA NAMES OF SWEET POTATO. Wash. Acad. Sci. Jour. 6: 86–90. Feb. 19, 1916.

See also John R. Swanton, "Notes on the Aboriginal name 'Aje'," Wash. Acad. Sci. Jour. 6: 136–137 (Mar. 19, 1916).

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STAIRCASE FARMS OF THE ANCIENTS; ASTOUNDING FARMING SKILL OF ANCIENT PERUVIANS, WHO WERE PROBABLY THE MOST INDUSTRIOUS AND HIGHLY ORGANIZED PEOPLE IN HISTORY. Natl. Geog. Mag. 29: 474–534, illus. May 1916.

There are 48 illustrations; among those of particular interest are the following: An artificial waterfall connecting two ancient irrigation ditches in the high coastal desert of southwestern Peru; wheat and barley fields of the slopes above the Urubamba Valley; one of the highest agricultural canals in the world; two views of plowing in Peru; llamas loaded with rock salt in a typical Peruvian plaza; a boy shepherd and his sheep near Chincheros, Peru; several views of staircase farms of the ancients; storehouses for the crops of the Incas; ear of Cuzco, the large-kernel corn of Peru; cuzco kernels; pigmy corn of the highest altitudes; a pile containing 16 potato varieties from one field; views of two other varieties of potatoes; coca-drying yard at Santa Ana; two views of coca plantations; a native Peruvian cotton; a tree tomato; a wild cherry tomato; a wild tomato of the eastern Andes.

See also the photographs of foot-plowing in Peru and of a flock of young alpacas in Hiram Bingham's "Further Explorations in the Land of the Incas" on p. 452 in the same number.

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CONSTANTIN, J. (152)
MYSTÈRES AGRICOLES DES ANDES: ORGES DU PÉROU, MAÏS DE JALA. Nature [Paris] 62: 193–203, illus. Mar. 1, 1934.

Anomalies culturales des céréales des Andes du Pérou; maïs de Jala (Mexique); le maïs de Jala et des céréales des hautes Andes du Pérou explication des anomalies; lien entre la taille et la durée de végétation (maïs); agriculture Péruvienne; culture de la pomme de terre au Pérou et types sauvages.

——— and BOISE, D. (153)
SUR LES GRAINES ET TUBERCULES DES TOMBEAUX PÉRUVIENS DE LA PÉRIOQUE INCASIQUE. Rev. Gén. de Bot. 22: 242–265, illus. June 15, 1910.

Bibliographical footnotes and fifteen figures in the text.

CRAWFORD, MORRIS DE CAMP. (154)
PERUVIAN FABRICS. Amer. Mus. Nat. Hist. Anthrop. Papers 12(4): 105–191, illus. New York. 1916.

——— (155)
PERUVIAN TEXTILES. Amer. Mus. Nat. Hist. Anthrop. Papers 12(3): 53–104, illus. New York. 1915.

"The object of this paper is to give some idea of the technical side of the fabrics found in the graves of Coastal Peru. The nature of design and color will be considered only in this relation."

EATON, GEORGE F. (156)
FOOD ANIMALS OF THE PERUVIAN HIGHLANDS. 21st Cong. Internatl. Américanists, Göteberg, Proc. 1924: 61–66. Göteberg, Museum. 1925.

Introduction; comparison of plant and animal foods; garniture of graves and contents of kitchen middens as evidence of flesh diet; groups of mammals represented (deer; dog; rodents; marsupials); note on ceremonial cannibalism.

ENOCK, C. REGINALD. (157)
THE LAND LAWS AND "SOCIALISM" OF THE INCAS OF PERU. 33 pp. London, P. S. King & Son. 1912. (Natl. Liberal Club. Polit. and Econ. Circle, Trans. 83.)

GASCOIN, E. (158)
DEUX EXPÉRIENCES SOCIALISTES DES "RÉDUCTIONES" À L'EMPIRE DES INCAS. Rev. Polit. et Litteraire 71: 714–718. Dec. 2, 1933.

GUERRERO, J. C. (159)
DER STAATSSOZIALISMUS IM ALTEN PERU. Nord und Süd 52: 538–543. June 1929.

State socialism in ancient Peru.

HARCOURT, RAOUL D'. (160)
TECHNIQUE DES TISSUS PÉRUVIENS À FILS DE CHAÎNE ET DE TRAME DISCONTINUS; LE NOEUD DE FILET MODERNE AU PÉROU. Soc. Américanistes Jour. (n. s.) 28(2): 323–325, illus. 1936.

Technical discussion of Peruvian weaving.

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LES TEXTILES ANCIENS DU PÉROU ET LEURS TECHNIQUES. 170 pp., illus. Paris, Les editions d'art et d'histoire. 1934.

Technical discussion, very well illustrated. Index bibliographique, pp. 163–166.

——— and HARCOURT, M. (162)
LES TISSUS INDIENS DU VIEUX PÉROU. 32 pp., illus. Paris, Albert Morancé. 1924.

Généralités, pp. 5–7; les matières textiles, pp. 7–8; le filage, pp. 9–10; les fils, pp. 10–12; les teintures, pp. 12–13; les métiers, pp. 13–14; les genres de tissus, pp. 14–20; les styles décoratifs, pp. 21–26; bibliography, p. 27.

Also issued by Brentano's with an English title-page.

HARDY, OSGOOD. (163)
THE INCAS. Mentor 6(3): 1–11, illus. Mar. 15, 1918.

Note particularly the printed text on the abundant food supply of the Incas on the back of plate 4; the material on peasant and labor conditions, p. 8; and agriculture and architecture, pp. 9–11. There are 27 illustrations.

JESSUP, MORRIS K. (164)
INCA MASONRY AT CUZCO. Amer. Anthrop. 36: 239–241, illus. April-June 1934.
The article holds that stones were fitted by grinding during construction.

JOYCE, THOMAS ATHOL. (165)
SOUTH AMERICAN ARCHAEOLOGY; AN INTRODUCTION TO THE ARCHAEOLOGY OF THE SOUTH AMERICAN CONTINENT WITH SPECIAL REFERENCE TO THE EARLY HISTORY OF PERU. 292 pp. New York, G. P. Putnam's Sons. 1912.
Review by William Curtis Farabee in Amer. Hist. Rev. 18: 116–118 (October 1912).

KELL, WALTER V. (166)
INDIANS DISCOVERED NITRATE OF SODA IN SOUTH AMERICA; NOW USED FOR ONE HUNDRED YEARS BY AMERICAN FARMERS. Hoosier Farmer 15(4): 12–13, 29. Feb. 15, 1930.

LANGLOIS, GÉNÉRAL. (167)
DEUX CIVILISATIONS DU PÉROU PRÉCOLUMBIEN. Rev. Sci. [Paris] 72: 349–356, 383–388, illus. June 9-23, 1934.
The civilizations of the coast and the mountains are treated separately.

LATCHAM, RICARDO E. (168)
LOS ANIMALES DOMÉSTICOS DE LA AMÉRICA PRECOLOMBIANA. Santiago del Chile Museo de Etnología y Antropología de Chile Publicaciones 3(1): 1–199. 1922.
Mainly animals used by the Incas.

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ATACAMEÑO ARCHAEOLOGY. Amer. Anthrop. 38: 609–619, illus. October-December 1936.
Agriculture and irrigation of a pre-Incan tribe of Peru.

MCBRIDE, GEORGE MCCUTCHEN. (170)
THE AGRARIAN INDIAN COMMUNITIES OF HIGHLAND BOLIVIA. Amer. Geog. Soc. Res. Ser. 5, 27 pp., illus., maps. New York, Oxford Univ. Press. 1921.
Bolivia an agricultural country; distribution of the population; attachment to the soil; organization of the communities; common lands; modifications introduced by the Spaniards; modifications introduced by the Bolivian Republic; distribution of surviving communities; department of La Paz; department of Oruro; department of Potosí; department of Chuquisaca; department of Cochabamba; number of Indians living in communities; extent of community holdings; present tendencies.

MEANS, PHILIP AINSWORTH. (171)
ANCIENT CIVILIZATIONS OF THE ANDES. 586 pp., illus., maps. New York, Charles Scribner's Sons. 1931.
See pp. 12, 20–21, 36–37 for material on agriculture; and pp. 11, 19–22, 309–317, 323 for material on diet. Bibliography, pp. 545–573. Review by Osgood Hardy in Amer. Hist. Rev. 37: 785–787 (July 1932).

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THE DOMESTICATION OF THE LLAMA. Science 47: 268–269. Mar. 15, 1918.
Comment by O. F. Cook, "Domestication of Animals in Peru," Jour. Hered. 10: 176–181 (April 1919).

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THE INCAS: EMPIRE BUILDERS OF THE ANDES. Natl. Geog. Mag. 73: 225–264, illus. February 1938.
Summary history of the Incan Empire. Paintings and photographs contrast the old and new. For agriculture, see especially: Incaland gave the world the Irish potato, p. 234; manpower presses coca leaves, p. 248; sheep graze in the ruins of Tiahuanaco, p. 250; almost to the tops of the peaks climbed the elaborate staircase farms of the ancients, p. 252; llamas and longer-wooled alpacas graze in the chill shadow of Ausangate snow peak, p. 254; potatoes little larger than golf balls grow in the high altitudes of the Andes, p. 257.

MURDOCK, GEORGE PETER. (174)
THE ORGANIZATION OF INCA SOCIETY. Sci. Monthly 38: 231–239. March 1934.
The article includes discussion of the types of agriculture and irrigation. Same condensed under the title "The Incas were Communists" in Lit. Digest 117 (12): 19 (Mar. 24, 1934).

NORTON, HENRY KITTREDGE. (175)
THE HEIRS OF THE INCAS. Travel 60 (1): 13–17, 47–48, illus. November 1932.

Comparison of past and present ways of life in Peru.

OLSON, RONALD L. (176)
OLD EMPIRES OF THE ANDES. Nat. Hist. 31: 3–22, illus. January-February 1931.

The succession of civilizations in the Andes—Nazca, Early Chimu which led over to Tiahuanaco, Epigonal, Chavin (the last two probably derivatives of Tiahuanaco), Late Chimu (derived from Chavin), Ica and Inca (derived from Ica). There are 19 pictures, a map of the Incan Empire, and a chart of the sequence of cultures. Summary by L. L. Bernard in Social Sci. Abs. 3: 14976 (October 1931).

POINDEXTER, MILES. (177)
THE AYAR-INCAS. 2 v., illus., maps. New York, Horace Liveright. 1930.

"The first volume records . . . observations at many of the more famous ancient sites and summarizes many of the facts about the early Peruvian cultures, religion, architecture, implements, weaving, music, and agriculture." Reviews by J. W. Gregory in Geog. Jour. 78: 555–557 (December 1931); Hispanic Amer. Hist. Rev. 11: 232–234 (May 1931).

See especially ch. 10, Terraced Farms, 1: 83–88; ch. 15, The Spread of Aboriginal American Culture, 1: 122–127; ch. 18, Colonization, Trade and Communication, 1: 141–148; ch. 35, Weaving, 1: 240–245, affording information on cotton; ch. 38, Roads, 1: 253–254; ch. 39, Agriculture and Stock-Breeding, 1: 255–256.

ROOSEVELT, CORNELIUS VAN S. (178)
ANCIENT CIVILIZATIONS OF THE SANTA VALLEY AND CHAVÍN. Geog. Rev. 25: 21–42, illus., map. January 1935.

Some coast walls; curious ruins near Casma; the Santa Valley and the "Great Wall"; en route to Chavín; the ruins of Chavín.

TAGLIANI, G., and WIAZMITINOW, A.
ÜBER ALTPERUANISCHE GEFÄRBTE GEWEBE. Melliand Textil. Ber. 15: 257–260, illus. 1934.

A lecture on the dyestuffs used by the Incas.

TROLL, C. (180)
DIE GEOGRAPHISCHEN GRUNDLAGEN DER ANDINEN KULTUREN UND DES INCAREICHES. Ibero-Amer. Arch. 5: 258–294, maps. October 1931.

The geographical foundations of the Andean cultures and of the Incan empire. Die Eigenart und die Räumliche Gebundenheit der Andinen Bodenkulture (Die Haustiere der Andenvölker; Die Weidegründe der Anden, Puna und Paramo; Die andinen Kulturegewächse und ihre Verwertung; Die Böden der Punazone; Künstliche Bewässerung und Terrassierung); Alter und Herkunft der Kulturen; Die Landschaftszonen der Tropischen Anden; Landschafts und Kulturgrenzen in den Anden (Die Ausbreitung des Inkareiches über die Puna-Anden; Die Vorstösse der lezton Inkas nach Chile und Ecuador; Der "Limes" des Inkareiches; Das Yungasproblem; Die drei Kulturwellen Boliviens in vorspanischer zeit; Die spanische Landnahme); Bibliographical footnotes. Summary by William E. Rudolph in Social Sci. Abs. 4: 14288 (September 1932).

UGARTE CÉSAR ANTONIO. (181)
THE COMMUNISM OF THE ANCIENT PERUVIANS; ARCHEOLOGICAL RESEARCHES HAVE CHANGED TRADITIONAL IDEAS UPON THE FAMOUS EMPIRE OF THE INCAS. Pan Amer. Mag. 32: 307–316, illus. May 1921.

Note particularly the conclusions on pp. 313–316. Eleven of the 17 pictures are of ruins of the Inca period.

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THE ECONOMIC LIFE OF ANCIENT PERU. Inter-Amer. (Eng. ed.) 8: 126–138, illus. December 1924.

Translation of article in Mercurio Peruano (Lima, Peru), May 1924, on the results of investigations, conducted during recent years, concerning the economic life of ancient Peru. Summary under the title "Economic Life of Ancient Peru" in Amer. Rev. of Reviews 70: 547–549, illus. (November 1924).

VALETTE, M. F. (183)
NOTE SUR LA TEINTURE DE TISSUS PRÉCOLOMBIENS DU BAS-PÉROU. Soc. des Américanistes de Paris Jour. (n. s.) 10: 43–45. 1913.

Dyes used by the pre-Columbian Peruvian Indians.

VERRILL, ALPHEUS HYATT. (184)
AMERICA'S FIRST INTERNATIONAL HIGHWAY. Sci. Amer. 143: 50–51, illus. July 1930.

Pre-Incan aborigines engineered a "modern" highway 4,000 miles through the South American Andes. "This highway did not link the two continents but it linked several great nations; it was over 4,000 miles in length. . . . The International Highway was the 'King's Road' of the Incas. . . . From Quito in Ecuador, to beyond Tucuman in Chile, the Incan Highway followed the general lines of the Andes. At intervals, side roads branched off. A second road 25 feet in width, . . . followed the shore line from Ecuador to Chile."

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THE COMMUNISM OF THE INCAS. Fortnightly Rev. 138: 492–503. October 1932.

WICKES, D. R., and LOWDERMILK, W. C. (186)
SOIL CONSERVATION IN ANCIENT PERU. U. S. Dept. Agr. Soil Conserv. Serv. Soil Conserv. 4: 91–94, illus. October 1938.

WRIGLEY, G. M. (187)
FAIRS OF THE CENTRAL ANDES. Geog. Rev. 7: 65–80, illus., map. February 1919.

The various kinds of fairs; transportation and the fair; the Huari fair; the Huancayo fair; the weekly fair (its ancient origin; twofold function of the market); the annual fair (seasonal and religious origin; festivals in ancient Peru; Christian ritual and pagan festival; other aspects of the fair; early connection with trade and transportation; location of the commercial fairs; fairs in transition zones; present conditions; relation to North American commerce).

See also items 2–5, 9, 14, 17–18, 20, 22, 47, 49, 67, 80–82, 86, 90, 102, 121, 128, 383, 404, 438–439, 441, 444, 446, 449, 686, 694, 759–760, 767, 800.

IROQUOIS AGRICULTURE

BATES, ERL A. (188)
OUR FIRST NEW YORK CO-OPERATORS. Bur. Farmer 6 (2): 3, 25. October 1930.

DOUGLAS, FREDERIC H. (189)
IROQUOIS FOODS. Denver Art Mus., Dept. Indian Art Leaflet 26, 4 pp. Denver. June 1931.

HERRIOTT, WILLIAM. (190)
ABORIGINAL AGRICULTURE IN SOUTHWESTERN ONTARIO. Waterloo Hist. Soc. Ann. Rpt. (1923) 11: 18–21.

The Jerusalem artichoke, pumpkin, maize, tobacco, and aquatic plants. Based on Candolle.

PARKER, ARTHUR C. (191)
THE ARCHEOLOGICAL HISTORY OF NEW YORK. N. Y. State Mus. Buls. 235–238, 743 pp., illus. July–August, September–October 1920.

Mainly descriptions of sites of villages, etc., where remains were found. Very little on agriculture, some material on tools. Commented on under the title "Aboriginal Geography of New York State and City" in Geog. Rev. 13: 133 (January 1923).

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THE LEAGUE OF THE IROQUOIS. Home Geog. Monthly 2 (2): 7–12, illus. August 1932.

STITES, SARA HENRY. (193)
ECONOMICS OF THE IROQUOIS. 160 pp. Lancaster, Pa., New Era Print. Co. 1905.

Note particularly the "Sketch of the Economic Systems of the North American Indians," and ch. 1, The Environment of the Iroquois, pp. 13–19; ch. 2, The Productive Activities of the Iroquois, pp. 20–26; ch. 3, The Organization

STITES, SARA HENRY—Continued.

of Producers, pp. 27–43; ch. 4, The Wealth of the Iroquois, pp. 44–68; and Bibliography, pp. 157–159.

This doctoral dissertation of Bryn Mawr College is reviewed by Alexander F. Chamberlain in Rev. Hist. Pub. Relating to Canada (1905) 10: 187–188.

WAUGH, FREDERICK WILKERSON. (194)

IROQUOIS FOODS AND FOOD PREPARATION. 235 pp., illus. Ottawa, Govt. Print. Bur. 1916. (Canada, Geol. Survey, Mem. 86. Anthrop. Ser. 12.)

Agricultural methods and customs, pp. 3–46; cookery and eating customs, pp. 46–54; utensils used in the gathering, preparation, and eating of food, pp. 54–71; food materials and recipes, pp. 71–154; bibliography, pp. 155–158.

Review in Rev. Hist. Pub. Relating to Canada (1916) 21: 172–174.

See also items 5, 12, 17, 21, 23, 25, 83, 333, 380, 383, 389, 832.

MAYAN AGRICULTURE

BABELON, JEAN. (195)

LA VIE DES MAYAS. 250 pp., illus. Paris, Gallimard. 1933. (Le Roman des Peuples, No. 2.)

Aperçu bibliographique, pp. 247–250.

BLOM, FRANS. (196)

COMMERCE, TRADE, AND MONETARY UNITS OF THE MAYA. Smithsn. Inst. Ann. Rpt. 1934: 423–440.

Monetary units included the almond and cacao bean, and much of the trade was in agricultural products. Reprinted from Tulane Univ., Middle Amer. Res. Ser. Pub. 4.

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MAYA CALCULATION AND CONSTRUCTION. Mil. Engin. 27: 1–5. January–February 1935.

The numerical system and calendar of the Mayas and their methods of meeting major engineering problems.

COOK, ORATOR FULLER. (198)

THE SIZE OF MAYA FARMS. Wash. Acad. Sci. Jour. 9: 11–14. January 4, 1919.

DAVIS, EMILY C. (199)

TREE RINGS AND THE MAYAN CALENDAR. Science (n. s.) v. 86, No. 2239, Sup. Nov. 26, 1937.

"Tree rings of the Southwest are now expected to solve the puzzle of the Mayan calendar, enabling archeologists at last to date the ancient civilization that flourished in the American tropics before Columbus."

GAMIO, MANUÉL. (200)

CULTURAL EVOLUTION IN GUATEMALA AND ITS GEOGRAPHIC AND HISTORIC HANDICAPS. (Transl. from the original Spanish by Arthur Stanley Riggs). Art and Archaeol. 22: 202–223; 23: 16–32, 70–78, 129–133, illus. December 1926–March 1927.

Agriculture is one of the phases of cultural evolution considered.

GANN, THOMAS WILLIAM FRANCIS, and THOMPSON, J. ERIC. (201)

THE HISTORY OF THE MAYA, FROM THE EARLIEST TIMES TO THE PRESENT DAY. 264 pp., illus. New York, Charles Scribner's Sons. 1931.

See especially pp. 65, 120 ff., 138, 165, 188, 189, 233, 237; and the bibliography, pp. 255–257.

GRAY, GEORGE W. (202)

A CIVILIZATION WITHOUT A WHEEL. Rotarian 46 (2): 9–12, 48–49, illus., map. February 1935.

A popular account with very little on agriculture.

HOFFMANN, ELEANOR. (203)

DESCENDANTS OF THE MAYANS. South. Workman 59: 21–27, illus. January 1930.

Present Indian conditions in Guatemala.

KIRK, WILLIAM. (204)
SOCIAL CHANGE AMONG THE HIGHLAND INDIANS OF GUATEMALA. Sociol. and Social Res. 23: 321–333. March–April 1939.

The agriculture of the Guatemalan Indians is changing with the rest of their culture.

See also Raymond Stadelman, "Maize Cultivation in Northwestern Guatemala," Carnegie Inst. Washington, Contrib. Amer. Anthrop. and Hist., 33: 83–263, illus., maps. (Washington, June 1940).

MASON J. ALDEN. (205)
THE EGYPT OF AMERICA. Nat. Hist. 28: 394–406, illus., map. July–August 1928.

"A short outline of the Maya, who developed the outstanding aboriginal American civilization, and left sculptured monuments that record their history since before the dawn of the Christian era."

MORLEY, SYLVANUS GRISWOLD. (206)
UNEARTHING AMERICA'S ANCIENT HISTORY; INVESTIGATION SUGGESTS THAT THE MAYA MAY HAVE DESIGNED THE FIRST ASTRONOMICAL OBSERVATORY IN THE NEW WORLD IN ORDER TO CULTIVATE CORN. Natl. Geog. Mag. 60: 99–126, illus. July 1931.

Agriculture, with special attention to corn, pp. 99–106. Twenty-seven photograph and one diagram of Maya ruins.

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YUCATÁN, HOME OF THE GIFTED MAYA. Natl. Geog. Mag. 70: 590–644, illus., map. November 1936.

Decline of agriculture given as cause of collapse of Old Empire. Present income depends on sisal cultivation. Illustrations: good hunting; from 75 to 85 percent of a Maya Indian's diet is corn; papayas fit for a giant's breakfast; a housewife grinds corn the age-old way; tortilla making; ancient Maya planting corn; field of sisal; bale of henequen fiber.

POPENOE, WILSON. (208)
THE USEFUL PLANTS OF COPAN. Amer. Anthrop. 21: 125–138. April–June 1919.

A study of the plants for foodstuffs and other uses cultivated by the ancient Mayas in the Copan River Valley of western Honduras under the following headings: Cereals and vegetables; fruits; beverage plants; plants used for seasoning and flavoring; fiber plants; plants used for coloring and dyeing; fence and hedge plants; miscellaneous useful plants.

RILEY, ROBERT M. (209)
ANCIENT MAYAS BURNED THEIR FORESTS; A PRACTICE THAT MAY HAVE BEEN THE SOURCE OF THEIR DECADENCE. Amer. Forests 38: 442–443, 480, illus. August 1932.

ROYS, RALPH LOVELAND. (210)
THE ETHNO-BOTANY OF THE MAYA. 359 pp. New Orleans, La., Dept. Middle Amer. Res., Tulane Univ. 1931. (Tulane Univ., Middle Amer. Res. Ser. Pub. 2.)

Annotated list of Maya plant names, pp. 213–216; annotated list of Maya fauna names, pp. 327–344; bibliography, pp. 352–359.

Review by Maurice Ries in the Med. Jour. and Rec. 134: 405 (Oct. 21, 1931).

SPINDEN, HERBERT. (211)
ANCIENT CIVILIZATIONS OF MEXICO AND CENTRAL AMERICA. 271 pp., illus. New York. 1928. (Amer. Mus. Nat. Hist. Handbook Ser. No. 3, ed. 3, rev.)

Distribution of agriculture, pp. 67–71; influence of agriculture on Mayan culture, p. 73; invention of agriculture, pp. 45, 51–53, 67, 251; spread and development of agriculture, pp. 63, 70, 250; bibliography, pp. 255–258.

[STEGGERDA, MORRIS.] (212)
PLAGUES OF LOCUSTS, DROUGHT, MAY HAVE DRIVEN OUT MAYAS. Sci. News Letter 33: 314. May 14, 1938.

"New evidence indicates great cities may have been abandoned in weariness over battling plant pests."—Subtitle. A summary of suggestions by Morris Steggerda of the Carnegie Institution.

TAX, SOL. (213)
CULTURE AND CIVILIZATION IN GUATEMALAN SOCIETIES. Sci. Monthly 48: 463–467. May 1939.

Indians of Guatemala, in spite of close physical contact with civilization, retain their ancient cultural patterns.

TEEPLE, JOHN E. (214)
THE LUNAR CALENDAR AND ITS RELATION TO MAYA HISTORY. Amer. Anthrop. 30: 391–407. July–September 1928.

TERMER, FRANZ (215)
DIE MAYAKULTUR ALS GEOGRAPHISCHES PROBLEM. Ibero-Amer. Arch. 5: 72–88. April 1931.

The Mayan culture as a geographical problem. Summary by L. Waibel in Social Sci. Abs. 4: 14486 (September 1932).

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DIE MAYAKULTUR IN YUKATAN UND GUATEMALA. Preuss. Jahrb. 233: 158–171. August 1933.

General article on the Maya culture in Yucatan and Guatemala. Agriculture and landholding, pp. 100–102.

See also items 2, 5, 18, 20, 61, 80, 128, 148, 644, 704.

MICHIGAN

HINSDALE, WILBERT B. (217)
DISTRIBUTION OF THE ABORIGINAL POPULATION OF MICHIGAN. 35 pp., maps. Ann Arbor, Univ. of Mich. Press. 1932. (Mich. Univ. Mus. Anthrop. Occas. Contrib. No. 2.)

Population and food, pp. 6–12; important sources of food (animal; vegetable—herbaceous plants, trees, and shrubs), pp. 12–29.

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THE FIRST PEOPLE OF MICHICAN. 178 pp., illus. Ann Arbor, George Wahr. 1930.

See ch. 5, Medicine, pp. 71–82, especially pp. 77–82; and ch. 10, Indian Corn Culture in Michigan, pp. 142–167. A revision of item 369.

——— (219)
THE INDIANS OF WASHTENAW COUNTY, MICHIGAN. 68 pp., illus. Ann Arbor, George Wahr. 1927.

Food, pp. 20–22; debt to the Indians, pp. 35–36; References, 2d preliminary leaf.

See also items 369, 456, 677.

MINNESOTA

BABCOCK, WILLOUGHBY M. (220)
MINNESOTA INDIAN LIFE. Wis. Archeol. (n. s.) 14: 9–14. September 1934.

Foods used and ways of preparing them, pp. 9–11.

BALMER, F. E. (221)
THE FARMER AND MINNESOTA HISTORY. Minn. Hist. 7: 199–217. September 1926.

The agriculture of the Indians, pp. 200–205.

MILLER, FRED. (222)
FISHING WITH EARLY MINNESOTA INDIANS. Minn. Conserv. No. 68, pp. 4–5, illus. May 1939.

This article lists the various methods by which the Indians caught fish; it also describes the primitive hooks, spears, and nets made by the red men, and how they were used, together with the methods of preserving the fish. With the article appear pictures of hooks, spears, floaters and other Indian fishing equipment found in the collections of the Minnesota Historical Society.

WEYL, CHARLES G. (223)
CLOTH WEAVING OF THE DAKOTA. Wis. Archeol. (n. s.) 3: 22–23. January 1924.

Description of specimens of cloth made by the early Indians of Wisconsin and Minnesota.

WINCHELL, N. H., COLLATOR. (224)
THE ABORIGINES OF MINNESOTA. 761 pp., illus., maps. St. Paul, Minn. Hist. Soc. 1911.

A report based on the collections of Jacob V. Brower and the field surveys and notes of Alfred J. Hill and Theodore H. Lewis. The Dakota Indians, pp. 1–559; The Ojibwa, pp. 580–731. See especially pp. 491–497 on the agriculture, ornaments and food of the Dakota (agricultural implements; vegetable foods not agricultural—rice, bulbous roots, mdo, Indian turnip, berries, maple sugar, tripe-de-roche); pp. 518–559 on the history, treaties, missions, reservations, of the Dakota in Minnesota; pp. 592–596 on the food of the Ojibwa (wildrice; waub-es-see-pin; maple sugar; berries; tripe-de-roche or reindeer moss); and pp. 616–636 on the Ojibwa treaties ceding lands in Minnesota.

See also items 482, 484–489, 492–494, 545, 564, 592, 601, 664–665, 719, 815–816.

MISSOURI RIVER REGION

BERRY, J. BREWTON. (225)
THE MISSOURI INDIANS. Southwest. Social Sci. Quart. 17: 113–124. September 1936.

Social and economic organization, including a brief account of agriculture.

DENIG, EDWIN THOMPSON. (226)
INDIAN TRIBES OF THE UPPER MISSOURI. Edited with notes and biographical sketch by J. N. B. Hewitt. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1928–29) 46: 375–628, illus.

Agriculture, pp. 407–408, 463–464; food, pp. 581-582; horses, p. 412; table of roots, berries, animals, birds, eaten by the Indians of the Upper Missouri, p. 583; paints and dyes, p. 591; bibliography, pp. 627–628.

GILMORE, MELVIN RANDOLPH. (227)
A GLIMPSE AT NEBRASKA INDIAN GEOGRAPHY. Jour. Geog. 13: 179–185. February 1915.

"Besides the wild fruits, nuts, tubers, and seeds which were regularly harvested from the wild growths by the tribes of Nebraska, they had also certain crops which they regularly cultivated. They planted fields of corn, beans, squashes and pumpkins, gourds, watermelons and tobacco."

——— (228)
THE MISSOURI RIVER AND THE INDIANS. Geog. Soc. Phila. Bul. 25: 155–161. October 1927.

The influence of the Missouri as a channel along which coursed the flow of peoples and of aboriginal trade. The last four pages pertain to agriculture.

——— (229)
OLD ASSINIBOIN BUFFALO-DRIVE IN NORTH DAKOTA. Indian Notes 1: 204–211, illus. October 1924.

The drive described is on the north side of the Missouri River, about 12 miles east of Elbowoods, N. Dak.

GRINNELL, GEORGE BIRD. (230)
THE CHEYENNE INDIANS, THEIR HISTORY AND WAYS OF LIFE. 2 v., illus., map. New Haven, Yale Univ. Press. 1923.

For material on agriculture, see 1: 251–254, and also scattered paragraphs on pages indicated in the index under agriculture. For various early foods, see 1: 247–251; for useful plants, see 2: 166–191.

HODGKIN, CARLYLE. (231)
FIRST FARMERS; INDIAN TOWN DISCOVERED BY DR. [EARL H.] BELL DATES AGRICULTURE IN NEBRASKA BACK MANY CENTURIES. Nebr. Farmer 78(16): 1, 19, 22, illus. Aug. 1, 1936.

MANDELBAUM, DAVID G. (232)
BOOM PERIODS IN THE HISTORY OF AN INDIAN TRIBE. Social Forces 16: 117–119. October 1937.

Introduction of the gun and fur trade, of the horse, and of the railroad brought the Plains Crees three distinct periods of exuberant activity.

PRESCOTT, PHILANDER. (233)
FARMING AMONG THE SIOUX INDIANS. U. S. Patent Off., Rpt. on Agr. 1849: 451–455. 1850.

The author's report as superintendent of farming for the Sioux.

SIBLEY, GEORGE. (234)
INDIAN MODE OF LIFE IN MISSOURI AND KANSAS. Mo. Hist. Rev. 9: 43–50. October 1914.

STRONG, W. D. (235)
THE PLAINS CULTURE AREA IN THE LIGHT OF ARCHAEOLOGY. Amer. Anthrop. 35: 271–287. April-June 1933.

WILL, GEORGE FRANCIS. (236)
INDIAN AGRICULTURE AT ITS NORTHERN LIMITS IN THE GREAT PLAINS REGION OF NORTH AMERICA. 20th Internatl. Cong. Americanists, Rio de Janeiro, Proc. (1922) 1: 203–205. 1924.

WILSON, GILBERT LIVINGSTONE. (237)
AGRICULTURE OF THE HIDATSA INDIANS; AN INDIAN INTERPRETATION. 129 pp., illus. Minneapolis, Univ. Minn. Press. 1917. (Minn. Univ. Studies in Social Sci. No. 9.)

This study of the economic life of the American Indian is based largely on data obtained from an expert agriculturist of the Hidatsa tribe, an old woman, born about 1839. It is not "an account merely of Indian agriculture. It is an Indian woman's interpretation of economics; the thoughts she gave to her fields; the philosophy of her labors." The material was collected by the author during the summers of 1912–1915 at Fort Berthold reservation.

1, Tradition; 2, Beginning a Garden; 3, Sunflowers; 4, Corn; 5, Squashes; 6, Beans; 7, Storing for Winter; 8, The Making of a Drying Stage; 9, Tools; 10, Fields at Like-a-Fishhook Village; 11, Miscellanea; 12, Since White Men Came; 13, Tobacco.

The review of this book with the title "Agriculture of the Hidatsa Indians; An Indian Interpretation" in Jour. Home Econ. 11: 168 (April 1919) emphasizes the information which the study gives on characteristic Indian dishes prepared from agricultural products. Also review by Warren Upham in Minn. Hist. Bul. 2: 369–371 (February 1918); and Albert Ernest Jenks, "Agriculture of the Hidasta Indians," in Science 44: 864–866 (Dec. 15, 1916).

WISSLER, CLARK. (238)
MATERIAL CULTURE OF THE BLACKFOOT INDIANS. Amer. Mus. Nat. Hist. Anthrop. Papers 5: 1–175, illus. 1910.

Pp. 20–52 deal with food habits and describe methods of cooking, hunting, types of food, and utensils used. Bibliography.

WOODRUFF, K. BRENT. (239)
MATERIAL CULTURE OF THE TETON DAKOTAS. S. Dak. Hist. Collect. (1934) 17: 605–647.

Animals hunted and uses made of buffalo, pp. 618–622; plants used as food, pp. 622–623; dishes and cooking utensils, pp. 623–624; buffalo hunting, pp. 631–633.

See also items 42, 332, 399–401, 680, 743.

NEW ENGLAND

JACKSON, ERIC P. (240)
EARLY USES OF LAND IN RHODE ISLAND. Geog. Soc. Phila. Bul. 24: 69–87. April 1926.

The early uses of land by the Indians, pp. 69–74.

KINNICUTT, LINCOLN N. (241)
PLYMOUTH'S DEBT TO THE INDIANS. Harvard Theol. Rev. 13: 345–361. October 1920.

Massasoit, Tisquantum (Squanto), Hobomok and what they did for Plymouth. Touches very briefly on Squanto showing Pilgrims how to plant corn.

WILLOUGHBY, CHARLES C. (242)
THE ADZE AND THE UNGROOVED AXE OF THE NEW ENGLAND INDIANS. Amer. Anthrop. 9: 296–306, illus. April–June 1907.

——— (243)
HOUSES AND GARDENS OF THE NEW ENGLAND INDIANS. Amer. Anthrop. 8: 115–132. January–March 1906.

See also the author's chapter on the Wilderness and the Indian in the Commonwealth History of Massachusetts, edited by Albert Bushnell Hart, 1: 127–158 (New York, 1927).

See also items 2–3, 6, 17, 21, 47, 58, 353, 364, 370.

SOUTHEASTERN UNITED STATES

BATTLE, HERBERT B. (244)
THE DOMESTIC USE OF OIL AMONG THE SOUTHERN ABORIGINES. Amer. Anthrop. 24: 171–182. April–June 1922.

Introduction (oils and fats of animal origin; oils and fats of vegetable origin), pp. 171–175; preparation of oils and fats (by rendering; by extraction; by pressing), p. 175; ancient preparation of the oils, pp. 175–177; how the oils and fats were used by the natives (as food; in paints; in leather making or the treatment of skins; for bodily health; in hairdressing; for the rubbing and polishing of ornaments and implements), pp. 177–182; yield of oil from nuts, p. 182.

GRAY, LEWIS CECIL. (245)
HISTORY OF AGRICULTURE IN THE SOUTHERN UNITED STATES TO 1860. Assisted by Esther Katherine Thompson. 2 v., illus. Washington, Carnegie Inst. Wash. 1933. (Carnegie Inst. Wash. Pub. 430.)

See ch. 1, Agriculture before the Coming of the English, pp. 3–13, with discussion on the influence and contributions of native agriculture in the South Atlantic section, native agriculture in the lower Mississippi Valley, and early agriculture of Spanish Florida. See also the pages indicated in the index under names of Indian tribes; bibliographical introduction, pp. 945–951; and list of works cited, pp. 951–1016.

JONES, CHARLES COLCOCK. (246)
ANTIQUITIES OF THE SOUTHERN INDIANS PARTICULARLY OF THE GEORGIA TRIBES. 532 pp., illus. New York, D. Appleton & Co. 1873.

Medicinal plants, p. 34; tenure of property, p. 40; agricultural pursuits, p. 40; town plantations and private gardens, p. 40; public granaries, p. 41; animal and vegetable food, p. 42; agriculture and agricultural implements, pp. 296–320.

SWANTON, JOHN REED. (247)
ABORIGINAL CULTURE OF THE SOUTHEAST. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1924–25) 42: 673–726. 1928.

Agriculture, pp. 691–692; most popular medicines, pp. 710–711. See also pertinent items in the index.

——— (248)
EARLY HISTORY OF THE CREEK INDIANS AND THEIR NEIGHBORS. U. S. Bur. Amer. Ethnol. Bul. 73. 492 pp., maps. 1922.

Agriculture, pp. 63, 75, 359–360. Bibliography, pp. 457–462.

——— (249)
AN INDIAN SOCIAL EXPERIMENT AND SOME OF ITS LESSONS. Sci. Monthly 31: 368–376. October 1930.

The social and governmental experiment undertaken or evolved by the Creek Indians who formerly occupied most of the territory of the present States of Georgia and Alabama. Several paragraphs on their agriculture are included.

SWANTON, JOHN REED. (250)
INDIAN TRIBES OF THE LOWER MISSISSIPPI VALLEY AND ADJACENT COAST OF THE GULF OF MEXICO. U. S. Bur. Amer. Ethnol. Bul. 43. 387 pp., map.

Notes on the agriculture of the Chitimacha, pp. 345–346; Iberville's note on the agriculture of the Houma, p. 286; importance of agriculture among the Natchez, pp. 73–79; Pascagoula agriculture, p. 304; beans, pp. 77, 290, 303, 345; cooking, pp. 303, 315, 357; corn, pp. 73–76, 217, 286, 303, 304, 345, 346, 355, 358; fruits, pp. 77, 282, 286, 303, 317, 346; hominy, pp. 286, 303; medicines of Natchez, pp. 80–86; tobacco, pp. 79, 146, 154, 157, 285–287, 356; turkeys, pp. 73, 289, 317, 329; vegetal foods, pp. 317, 345. See also other pertinent subjects in the index.

——— (251)
SOCIAL ORGANIZATION AND SOCIAL USAGES OF THE INDIANS OF THE CREEK CONFEDERACY. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1924–25) 42: 23–472, illus.

Agriculture, pp. 443–444. Bibliography, pp. 471–472. See also other pertinent items in the index.

See also items 6, 21, 329, 466.

SOUTHWESTERN UNITED STATES

AMSDEN, CHARLES AVERY. (252)
NAVAHO WEAVING: ITS TECHNIC AND HISTORY. Foreword by Frederick Webb Hodge. 261 pp., illus. Santa Anna, Calif., Fine Arts Press in Cooperation with Southwest Mus. 1934.

Review by Lila M. O'Neale in Amer. Anthrop. 36: 611–612 (October–December 1934); and in Pacific Hist. Rev. 3: 454–455 (1934).

ARNOLD, OREN. (253)
A VANISHED EMPIRE OF THE SOUTHWEST. Travel 58: 25–29, 45, illus. November 1931.

"The empire of the Canal Builders—the Forgotten Ones, as the Indians call them—embraced the better parts of the Salt and Gila Valleys in Arizona, a richly cultivated region today as it was in prehistoric times. With the most primitive implements, the Canal Builders made over two hundred miles of canals, reclaimed vast areas of desert and built temples, houses and fortresses."

BARNES, WILL C. (254)
THE PREHISTORIC CORN BELT. Amer. Forestry 33: 604–607, illus. October 1927.

Interesting, especially for its photographs of the cliff dwellings of southwestern United States.

BARTLETT, KATHARINE. (255)
PREHISTORIC PUEBLO FOODS. Museum Notes (Mus. North. Ariz., Flagstaff) 4 (4): 1–4. October 1931.

Summary by Frank H. H. Roberts, Jr., in Social Sci. Abs. 4: 6983 (May 1932).

——— (256)
PUEBLO MILLING STONES OF THE FLAGSTAFF REGION AND THEIR RELATION TO OTHERS IN THE SOUTHWEST. Mus. North. Ariz. Bul. 3, 32 pp. Flagstaff, North. Ariz. Soc. Sci. and Art. January 1933.

BELL, WILLIS H., and CASTETTER, EDWARD F. (257)
THE UTILIZATION OF MESQUITE AND SCREWBEAN BY THE ABORIGINES IN THE AMERICAN SOUTHWEST. N. Mex. Univ. Bul. Biol. Ser. 5, No. 2, 55 pp., map. Albuquerque, Univ. N. Mex. Press. 1937. (Ethnobiol. Studies Amer. Southwest V.)

BEMIS, M. E. (258)
FIRST FARMERS OF ARIZONA. Calif. Cult. 81: 293, 297. June 9, 1934.

The agriculture of the ancient cliff dwellers.

BOWERS, GEORGE BALLARD. (259)
THE FIRST FARMERS IN AMERICA. South. Workman 59: 74–82, illus. February 1930.

The cliff dwellers of the American southwest.

BRAND, DONALD D. (260)
PREHISTORIC TRADE IN THE SOUTHWEST. N. Mex. Business Rev. 4: 202–209. October 1935.

BRYAN, BRUCE. (261)
READING HISTORY FROM THE DIARY OF THE TREES. Amer. Forests 40: 10–14, 44–45, illus. January 1934.

"One of the most amazing scientific achievements of recent years was the discovery and working out of what has come to be known as the Tree Ring Calendar. Approached at first as a useful and desirable means of studying climatic conditions of the past in an endeavor to provide some reasonable method of forecasting those of the future, this research into the indelible records of the Arizona pines led into a most unexpected field. Its far-reaching results filled the scientific world with enthusiastic astonishment."—p. 10.

BURR, WALTER. (262)
CLIFF-DWELLING FARMING. Country Gent. 91(1): 7, 47, illus. January 1926.

The cliff-dwelling farmers of 7,000 years ago and their methods in what is now Mesa Verde Park, Colorado.

CASTETTER, EDWARD F., and BELL, WILLIS H. (263)
THE ABORIGINAL UTILIZATION OF THE TALL CACTI IN THE AMERICAN SOUTHWEST. N. Mex. Univ. Bul. Biol. Ser. 5, No. 1, 48 pp., map. Albuquerque, Univ. N. Mex. Press. 1937. (Ethnobiol. Studies Amer. Southwest 4.)

——— BELL, WILLIS H., and GROVE, ALVIN R. (264)
THE EARLY UTILIZATION AND THE DISTRIBUTION OF AGAVE IN THE AMERICAN SOUTHWEST. N. Mex. Univ. Bul. Biol. Ser. 5, No. 4, 92 pp., maps. Albuquerque, Univ. N. Mex. Press. 1938. (Ethnobiol. Studies Amer. Southwest 6.)

Introduction, pp. 5–10; early history, pp. 10–12; distribution of important species of agave in the southwest, pp. 13–27; agave as food, pp. 27–60; agave as a source of beverage, pp. 60–64; agave as a source of fiber and woven objects, pp. 64–73; miscellaneous uses of agave, pp. 73–77; summary, pp. 78–84; bibliography, pp. 85–92.

——— and OPLER, M. E. (265)
THE ETHNOBIOLOGY OF THE CHIRICAHUA AND MESCALERO APACHE—THE USE OF PLANTS FOR FOODS, BEVERAGES AND NARCOTICS. N. Mex. Univ. Bul. Biol. Ser. 4, No. 5, 63 pp. Albuquerque, Univ. N. Mex. Press. 1936. (Ethnobiol. Studies Amer. Southwest 3.)

——— and UNDERHILL, RUTH M. (266)
ETHNOBIOLOGY OF THE PAPAGO INDIANS. N. Mex. Univ. Bul. Biol. Ser. 4, No. 3, 84 pp. Albuquerque, Univ. N. Mex. Press. 1935. (Ethnobiol. Studies Amer. Southwest 2.)

CLARK, S. P. (267)
ARE THE ORIGINAL DRY-FARMERS; HOPI INDIANS OF ARIZONA HAVE LONG RECORD OF SUCCESSFUL EFFORT. Agr. Rev. 13 (8): 9, illus. October 1921.

——— (268)
LESSONS FROM SOUTHWESTERN INDIAN AGRICULTURE. Ariz. Agr. Expt. Sta. Bul. 125, pp. 229–252, illus. Tucson. 1928.

Introduction; country and the climate of the Hopi; effect of neighboring tribes on the life of the Hopi; Hopi agriculture and the selection of fields (planting methods; protecting the crop; harvesting and storing the corn; Hopi cotton growing; beans an important Hopi crop; melons and squashes; Hopi irrigation; Hopi farming at Moenkopi; fruits in the Hopi country; Zuni Indian gardening; Zuni livestock); the Navajo Indians (Navajo livestock; weaving blankets); prehistoric irrigation; the Papago Indians and their agriculture (harvesting and threshing the wheat; grinding the wheat into flour; storing grain; livestock of Papago Indians); conclusions.

The illustrations show the following: Hopi Indian corn field; a Hopi Indian bean and corn field; corn piled in a house; a Zuni Indian garden; a flock of Navajo Indian sheep; a Navajo Indian homemade cultivator; a Papago Indian plow made from a single piece of mesquite wood; Papago Indians cooperating in harvesting wheat; a Papago Indian threshing floor; winnowing wheat; Papago Indian custom mill 75 miles southwest of Tucson; granaries made of woven grasses; Papago Indian cattle.

COLTON, HAROLD S. (269)
THE RISE AND FALL OF THE PREHISTORIC POPULATION OF NORTHERN ARIZONA. Science (n. s.) 84: 337–343. Oct. 16, 1936.

CUMMINGS, BYRON. (270)
THE TEXTILE FABRICS OF THE CLIFF DWELLERS. Natl. Assoc. Cotton. Ffrs. Trans. (1915) 98: 371–377, illus.

"An abundance of yucca . . . is found in all stages of preparation for spinning. . . . Likewise bundles of cotton, some with the seed still clinging to the fibres, have been found that show the source of the yarn that has been woven into various forms of cloth." References, p. 371.

CUSHING, FRANK H. (271)
THE NATION OF THE WILLOWS. Atlantic Monthly 50: 362–374, 541–559. September, October 1882.

A travel narrative, dealing with the Havasupaí or Kuhnikwe tribe of Indians. This tribe is related to the Zuñis. Their home was in Cataract Creek Canyon which is a branch of the Grand Canyon of the Colorado, and is located about 115 miles north of Prescott, Ariz. The visit took place in 1880. Agriculture is mentioned.

DOUGLASS, ANDREW ELLIOTT. (272)
THE SECRET OF THE SOUTHWEST SOLVED BY TALKATIVE TREE RINGS. Natl. Geog. Mag. 56: 736–770, illus., map. December 1929.

Commented on under the title "'Dating' Old America; Indians Battled Drought in Time of Crisis 600 Years Ago," in Lit. Digest 121 (15): 29 (Apr. 11, 1936).

EASTWOOD, ALICE. (273)
NOTES ON THE CLIFF DWELLERS. Zoe 3: 375–376. January 1893.

The uses of some of the plants of the region as well as the plants formerly cultivated there.

ESTABROOK, EMMA FRANKLIN. (274)
GIVERS OF LIFE; THE AMERICAN INDIANS AS CONTRIBUTORS TO CIVILIZATION. Foreword by Edgar L. Hewett. 101 pp., illus. Albuquerque, New Mex., Univ. New Mex. Press. 1931.

The Pueblo Indians are used as the medium of the author's survey, because their culture, which is in general typical, has come down to the present day with only slight modifications and so can be easily studied. See especially the chapter on the American Indian as plant experimenter and agriculturist, pp. 85–94. References, pp. 95–97; bibliography, pp. 99–101.

FLOOD, FRANCIS A. (275)
FARMING, A WAY OF LIFE. Farmer-Stockman 50: 663, 672, illus. Nov. 15, 1937.

Popular account of Indian agriculture in the Southwest. Illustrations of Navajo women grinding corn on the metate, Indian vegetables ready to be placed in storage pit, and the cliff dwellings of Pueblo Indians. Also printed with the title "Where Farming Began" in Ind. Farmer's Guide 94: 36, 46, 51, illus. (Jan. 15, 1938).

GILMORE, MELVIN R. (276)
VEGETAL REMAINS OF THE OZARK BLUFF-DWELLER CULTURE. Mich. Acad. Sci., Arts, and Letters Papers (1930) 14: 83–102, illus. Ann Arbor. 1931.

The results of an archaeological exploring expedition in the northwest part of Arkansas and the southwest part of Missouri.

HAAS, WILLIAM H. (277)
THE CLIFF-DWELLER AND HIS HABITAT. Assoc. Amer. Geog. Ann. 16: 167–215. December 1926.

The importance of food, pp. 172–175; the importance of corn, pp. 177–178; location of agricultural lands, pp. 195–198; the products of the region, p. 198; as an irrigation farmer, p. 210; area of crop lands, pp. 210–212; food requirements, pp. 214–215. The map by Omar A. Turney on p. 211 shows the prehistoric irrigation canals in the Salt River Valley in the vicinity of Phoenix.

HAEBERLIN, HERMAN KARL. (278)
THE IDEA OF FERTILIZATION IN THE CULTURE OF THE PUEBLO INDIANS. Anthrop. Assoc. Mem. (1916) 3: 1–55.
Thesis, Ph. D., Columbia University. References, pp. 52–55.

HALSETH, ODD S. (279)
PREHISTORIC IRRIGATION IN CENTRAL ARIZONA. Masterkey (Southwest Mus., Highland Park, Los Angeles, Calif.) 5: 165–175, illus. January 1932.

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PREHISTORIC IRRIGATION SYSTEMS REVEALED BY AERIAL SURVEY IN ARIZONA. Prof. Engin. 16 (6): 7–8, 26, illus. June–July 1931.

HAMILTON, J. B. (281)
ANCIENT AMERICAN SYSTEM FOR COLLECTING WATER SUPPLY. Engin. News–Rec. 110: 225, illus. Feb. 16, 1933.
A groove cut in the face of a cliff near Pueblo Bonito, Chaco Canyon National Monument.

HARGRAVE, LYNDON L. (282)
THE INFLUENCE OF ECONOMIC GEOGRAPHY UPON THE RISE AND FALL OF THE PUEBLO CULTURE IN ARIZONA. Museum Notes (Mus. North. Ariz., Flagstaff) 4 (6): 1–3. December 1931.
Summary by Forrest Clements in Social Sci. Abs. 4: 4918 (April 1932).

HARRINGTON, M. R. (283)
ANCIENT SALT MINE NEAR ST. THOMAS, NEVADA. Indian Notes 2: 227–231. July 1925.

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ANCIENT SALT MINES OF THE INDIANS. Sci. Amer. 135: 116–117, illus. August 1926.
Description of a cave in Nevada with peculiar markings made by man, which proved to be a salt mine of the Indians of 2,000 years ago.

——— (285)
ANOTHER ANCIENT SALT MINE IN NEVADA. Indian Notes 3: 221–232, illus. October 1926.

——— (286)
THE "LOST CITY" OF NEVADA. Sci. Amer. 133: 14–16, illus., map. July 1925.
Pueblo Grande de Nevada, the ruins of a village of 15 or 20 centuries ago, belonging to "about the close of the pre-Pueblo period and the beginning of the early Pueblo period," near St. Thomas, Nev. The article refers to the evidences of farming, cotton growing, weaving, dyeing.

HODGE, F. W. (287)
PREHISTORIC IRRIGATION IN ARIZONA. Amer. Anthrop. 6: 323–330. July 1893.
From notes made in 1887–1888 while the author was a member of the Hemenway Archeological Expedition, operating in the Southwest under the directorship of Frank Hamilton Cushing.

HOLDER, CHARLES F. (288)
INDIAN GRANARIES. Sci. Amer. 89 (15): 263, illus. Oct. 10, 1903.
The granaries of the Indians in the West, particularly Arizona and New Mexico. The illustrations show a Chemehuevi Indian reclining under a grass bower, watching his cornfield; a Chemehuevi granary; and a granary on top of a Yuma Indian's house.

HOUGH, WALTER. (289)
ANCIENT PUEBLO SUBSISTENCE. 23d Internatl. Cong. Americanists, New York, Proc. 1928: 67–69.
The deer, antelope, and rabbit formed the chief meat supply, while maize and squash, and, later, beans were the chief cultivated plants.

——— (290)
THE CLIFF DWELLER HOUSEKEEPER. Amer. Indian Mag. 7 (4): 6–10, illus. August 1920.
"With wonderful realism the . . . article raises the curtain of time upon the home life of a people who may have been extinct before Columbus discovered America."
The illustrations show ears of cliff-dweller corn strung on a strip of yucca leaf and hung up for the winter store, a fire bowl, a sandal made from leaves of a yucca plant, and a miller's grinding stone and handstone.

JOHNSON, GAYLORD. (291)
FABRICS WOVEN 1,600 YEARS AGO FOUND UNSTAINED IN ARIZONA CAVE. Pop. Sci. Monthly 119 (6) : 54–55, illus. December 1931.

The wool sashes and other belongings of the Basket Makers No. 3, found by the party of archeologists under the direction of the Carnegie Institution of Washington, D. C.

JUDD, NEIL M. (292)
EVERYDAY LIFE IN PUEBLO BONITA, AS DISCLOSED BY THE NATIONAL GEOGRAPHIC SOCIETY'S ARCHEOLOGICAL EXPLORATIONS IN THE CHACO CANYON NATIONAL MONUMENT, NEW MEXICO. Natl. Geog. Mag. 48: 227–262, illus., map. September 1925.

KIDDER, ALFRED VINCENT. (293)
AN INTRODUCTION TO THE STUDY OF SOUTHWESTERN ARCHEOLOGY, WITH A PRELIMINARY ACCOUNT OF THE EXCAVATIONS AT PECOS. 151 pp., illus., maps. New Haven, Pub. for the Dept. of Archaeol., Phillips Academy, Andover, Mass., by the Yale Univ. Press. 1924. (Southwest. Expedition Papers, No. 1.)

Material on Indian agriculture is included. Bibliography, pp. 137–151.

See also the author's article entitled "American Farmers of 4000 B. C.; A Brief Survey of the Known History of Our Southwestern Aborigines" in Sci. Amer. 137: 22–24, illus. (July 1927). Spanish translation under the title "La Agricultura en América 4000 años a. de J. C." in La Hacienda 22: 231–233, illus. (August 1927).

——— and GUERNSEY, SAMUEL J. (294)
ARCHEOLOGICAL EXPLORATIONS IN NORTHEASTERN ARIZONA. U. S. Bur. Amer. Ethnol. Bul. 65, 228 pp., illus. 1919.

See especially pt. 2, Material Culture, pp. 98 ff.

KNIFFEN, FRED B. (295)
THE PRIMITIVE CULTURAL LANDSCAPE OF THE COLORADO DELTA. Calif. Univ. Pubs. Geog. 5 (2) : 43–66, illus. Berkeley. 1931.

Introduction (the natural setting), pp. 43–44; the cultural stages in the Colorado delta, p. 45; the primitive stage, pp. 46–57.

MACCLARY, JOHN STEWART. (296)
THE FIRST AMERICAN FARMERS. Art and Archaeol. 24: 83–88, illus. September 1927.

The prehistoric cliff dwellers of the Southwest. The illustrations show a granary in which corn and beans were stored against lean years, dams thrown across drainage channels, forming terraces for water conservation, and a group of large earthenware jars used for holding the fruits of the harvest; the mouths of the jars were sealed by stone lids mudded in place.

Article by same author with same title in World Rev. 5: 92–93, illus. (Oct. 24, 1927). It relates to the agriculture of the Basket Makers of the region "within a radius of 200 miles from the point where Colorado, Utah, New Mexico, and Arizona meet." The illustrations show large earthenware jars used in preserving fruit and a granary in which corn and beans were stored.

MARKLEY, MAX C. (297)
ARCHAEOLOGY AS A TOOL FOR USE IN PREDICTING THE PERMANENCY OF AGRICULTURE. Science (n. s.) 86: 492–493. Nov. 26, 1937.

The disappearance of agriculture from the eastern side of the White Mountains in southeastern New Mexico during pre-Spanish times is explained by the use of archaeology.

MARTIN, PAUL S. (298)
DECENTRALIZATION IS OLD IN AMERICAN ECONOMICS. Sci. News Letter 36: 40. July 15, 1939.

The author's findings concerning the dispersion of Indians in Colorado about 860 A. D.

MATTHEWS, WASHINGTON. (299)
NAVAJO WEAVERS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1881–82) 3: 371–391, illus.

Dyeing, weaving processes, and articles woven.

McGee, W. J. (300)
THE BEGINNING OF AGRICULTURE. Amer. Anthrop. 8: 350–375. October 1895.

"A few observations and generalizations made incidentally in the course of an expedition through the little-known region in Arizona and Sonora (Mexico) called by Spanish Americans 'Papagueria,' or land of the Papago Indians. . . . In part the observations recorded herein pertain to subjects concerning which no expert knowledge is claimed; insofar as they relate to plants and animals they are merely such as any intelligent traveler through a region of pronounced peculiarities might be expected to make; but the observed relations of plants, animals, and men, among each other and to their common environment, were studied with care and generalized with some fullness."

Mitchell, Guy E. (301)
MOST ANCIENT OF ALL GRIST-MILLS. Amer. Forests and Forest Life 30: 745, 750, illus. December 1924.

The photograph shows an ancient Indian mill near Yosemite National Park, Calif.

[Provinse, John H.] (302)
TREE RINGS. Science (n. s.) v. 81, No. 2096, Sup. Mar. 8, 1935.

By the use of tree rings archaeologists at the University of Arizona hope to date diseases that plagued prehistoric Americans of the Southwest.

Ray, Cyrus N. (303)
WAS THE AMERICAN MANO AND METATE AN INVENTION MADE DURING PLEISTOCENE TIME? Science (n. s.) 91: 190–191. Feb. 23, 1940.

Discoveries at the Gibson Site, Tex., may indicate that certain grinding implements were invented during pleistocene times.

Reagan, Albert B. (304)
SOME ANCIENT INDIAN GRANARIES. Utah Acad. Sci., Arts, and Letters, Proc. (1934) 11: 39–41, illus.

Stone granaries on certain Arizona and Utah sites.

Russell, Frank. (305)
THE PIMA INDIANS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1904–05) 26: 3–389, illus.

The food supply, pp. 66–83, with paragraphs on preparation of food, plants used for food, medicinal plants, and animals used for food; domestication of animals, pp. 84–86; agriculture, pp. 86–92, with paragraphs on irrigation, division of labor, cereals, and vegetables; agricultural implements, pp. 97–99; household utensils, pp. 99–102.

Setzler, Frank M. (306)
A PREHISTORIC BREWERY. Science (n. s.) v. 87, No. 2269, Sup. June 24, 1938.

The cave in the Big Bend region of Texas, believed to have been a ceremonial brewery, where sotol, a desert lily, was converted into an alcoholic drink.

Stewart, Guy R. (307)
SOIL EXPERT STUDIES IDEAS OF PREHISTORIC INDIANS. Sci. News Letter 36: 391. Dec. 16, 1939.

Summary of the observations of Guy R. Stewart of the U. S. Soil Conservation Service in the Southwest.

Sweet, Stuart L. (308)
A CONSERVATION LESSON FROM THE CLIFF-DWELLERS. Amer. Forests and Forest Life 30: 654–657, 690, illus. November 1924.

"The remarkable story of an ancient reclamation system recently discovered that is solving a modern problem in water conservation in the Mesa Verde National Park." Illustrations show irrigation dams, the great cliff palace of the Mesa Verde, and pictographs on the walls of one of the Mesa Verde canyons.

Thackery, Frank A., and Gilman, M. French. (309)
A RARE PARASITIC FOOD PLANT OF THE SOUTHWEST [*ammobroma sonorae*]. Smithsn. Inst. Ann. Rpt. 1930: 409–416, illus.

Literature cited, p. 416.

THACKERY, FRANK A., and LEDING, A. R. (310)
THE GIANT CACTUS OF ARIZONA. Jour. Hered. 20: 401–414, illus. September 1929.

The use of its fruit and other cactus fruits by the Indians.

THOBURN, JOSEPH B. (311)
ANCIENT IRRIGATION DITCHES ON THE PLAINS. Chron. Okla. 9: 56–62. March 1931.

Prehistoric irrigation works in Arizona and New Mexico.

——— (312)
PREHISTORIC IRRIGATION WORKS. Prof. Engin. 16 (2): 7–8, map. February 1931.

Description of a prehistoric irrigation system in the southwestern part of Clark County, Kans.

TURNEY, OMAR A. (313)
PREHISTORIC IRRIGATION. Ariz. Hist. Rev. 2 (1): 12–52; (2): 11–52; (3): 9–45; (4): 33–73. April 1929–January 1930.

The prehistoric canals in the Salt River Valley.

WALLACE, DAN A. (314)
ANCIENT AMERICAN AGRICULTURE; THE OLD TIME SEARCH FOR RURAL SECURITY. Farmer 56 (15): 5, 17, illus. July 16, 1938.

The agriculture of the Pueblo culture period of the American Southwest, with special attention to irrigation at Casa Grande in Arizona.

See also items 3, 5–6, 18, 37, 344, 391, 403–411, 519, 556, 560–561, 602, 697.

VIRGINIA

BRUCE, PHILIP ALEXANDER. (315)
ECONOMIC HISTORY OF VIRGINIA IN THE SEVENTEENTH CENTURY; AN INQUIRY INTO THE MATERIAL CONDITION OF THE PEOPLE; BASED UPON ORIGINAL AND CONTEMPORANEOUS RECORDS. 2 v. New York and London, Macmillan & Co. 1896.

See ch. 2, Aboriginal Virginia: Its Physical Character, 1: 71–139, and particularly ch. 3, Aboriginal Virginia: Indian Economy, 1: 140–188. Pp. 149–165 of ch. 3 are reprinted in L. B. Schmidt and E. D. Ross, editors, Readings in the Economic History of American Agriculture, pp. 40–49 (New York, Macmillan Co., 1925). Bibliography, 1: xv–xix.

BUSHNELL, DAVID I., JR. (316)
EVIDENCE OF INDIANS OCCUPANCY IN ALBEMARLE COUNTY, VIRGINIA. Smithsn. Misc. Collect. v. 89, No. 7, 24 pp., illus. Washington, D. C. 1933.

Coming of the colonists; evidence of an early period of occupancy; sites and the distribution of various objects; the sources of Hardware River; the Berkeley cache; hunting grounds between the junction of the branches of the Hardware River and the mountains.

MAXWELL, HU. (317)
THE USE AND ABUSE OF FORESTS BY THE VIRGINIA INDIANS. William and Mary Col. Quart. Hist. Mag. 19: 73–104. October 1910.

Note especially pp. 79–86 on land cleared for agriculture. Bibliographical footnotes.

WILLOUGHBY, CHARLES C. (318)
THE VIRGINIA INDIANS IN THE SEVENTEENTH CENTURY. Amer. Anthrop. 9: 57–86, illus. January–March 1907.

Agriculture and food in general, pp. 82–86.

See also items 6, 9, 17, 21, 47, 58, 245.

WISCONSIN

BROWN, CHARLES E. (319)
CHECKLIST OF WISCONSIN INDIAN IMPLEMENTS. Wis. Archeol. (n. s.) 8: 81–94. April 1929.

Sixty-three classes of stone implements, 36 classes of copper implements, 100 classes of silver, lead, bone and other types, and 62 types of wooden implements.

BROWN, CHARLES E. (320)
STONE PESTLES AND MORTARS. Wis. Archeol. (n. s.) 3: 7–13. January 1924.
Pestles in Wisconsin, stone mortars, corn mills, wooden pestles and mortars.

HIBBARD, BENJAMIN HORACE. (321)
INDIAN AGRICULTURE IN SOUTHERN WISCONSIN. Wis. State Hist. Soc. Proc. 1904: 145–155.
Also in Mag. Hist. 1: 97–104. February 1905.

HOFFMAN, WALTER JAMES. (322)
THE MENOMINI INDIANS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1892–93) 14 (1): 11–328, illus. 1896.
Pipes and tobacco, pp. 247–253; furniture and implements, pp. 256–258; products of manufacture, pp. 258–272; food (food in general, gormandism, offensive food, maple sugar, wildrice, berries and snakeroot), pp. 286–292.

KEESING, FELIX M. (323)
THE MENOMINI INDIANS OF WISCONSIN: A STUDY OF THREE CENTURIES OF CULTURAL CONTACT AND CHANGE. 261 pp. Philadelphia, Amer. Phil. Soc. 1939. (Amer. Phil. Soc. Mem. 10.)
Considerable material on agriculture. Reviewed by L[ouise] P[helps] K[ellog] in Wis. Mag. Hist. 23: 366–367 (March 1940).

PACKER, B. G. (324)
ABORIGINAL AND PIONEER AGRICULTURE IN WISCONSIN. Wis. Mag. 1: 3–5, illus. July 1923.

SCHOEWE, CHARLES G. (325)
USES OF WOOD AND BARK AMONG THE WISCONSIN INDIANS. Wis. Archeol. (n. s.) 11: 148–152. July 1932.

SMITH, HURON HERBERT. (326)
ETHNOBOTANY OF THE FOREST POTAWATOMI INDIANS. Milwaukee Pub. Mus. Bul. 7 (1): 1–230, illus. May 9, 1933.
Introduction, pp. 11–14; Forest Potawatomi History, pp. 14–23; Material Culture, pp. 23–24; Religion, pp. 24–31; Potawatomi Ethnobotany (vegetal medicines, medicinal materials, vegetable foods, vegetal fibers, miscellaneous uses of plants), pp. 32–124; Conclusion, pp. 124–125; Authorities Quoted, pp. 126-127; Finding List of Plants (by scientific names; by English names; by Forest Potawatomi names), pp. 128–154.
The Forest Potawatomi of northern Wisconsin are a woodland-dwelling Algonkian tribe closely related to the Ojibway of western Ontario, whom they closely resemble in mode of life.

——— (327)
ETHNOBOTANY OF THE OJIBWE INDIANS. Milwaukee Pub. Mus. Bul. 4 (3): 329–524, illus. May 2, 1932.
Ojibwe Medicines (Ojibwe medicinal materials other than plants; Ojibwe medicinal plants), pp. 348–392; Ojibwe Vegetal Foods (Ojibwe food plants), pp. 393–411; Ojibwe Vegetal Fibers (Ojibwe fiber plants), pp. 411–423; Ojibwe Vegetal Dyes (Ojibwe dye plants), pp. 424–426.

See also items 84, 223, 392, 432, 437, 479, 482, 495, 579, 630–633, 737.

SPECIFIC CROPS AND ANIMALS

BEES

NORDENSKIÖLD, E. (328)
L'APICULTURE INDIENNE. Soc. des Américanistes de Paris Jour. (1929) 21 (1): 169–182, illus., map.
A collection of references to bee culture in pre-Columbian America and published observations of the author upon apiculture among contemporary South American Indians. The map indicates the distribution of the custom. Index bibliographique, p. 182.

See also item 134.

CORN

ANONYMOUS. (329)
FIND PREHISTORIC CORN IN TENNESSEE STONE GRAVES. Jersey Bul. and Dairy World 40: 2588. Oct. 12, 1921.
Brief account of the corn found by W. E. Meyer of the U. S. Bur. Amer. Ethnol. in Indian graves in Davidson County, Tenn.

ANONYMOUS. (330)
INDIANS AS CORN GROWERS. Wallaces' Farmer 44: 1624–1625. Aug. 22, 1919.
A brief sketch in the Boys' Corner section.

ALBES, EDWARD. (331)
MAIZE; THE GREATEST OF AMERICAN FOOD PRODUCTS. Pan Amer. Union Bul. 43: 33–54, illus. July 1916.
Note pp. 33–42 and the 16 illustrations.

ATKINSON, ALFRED, and WILSON, M. L. (332)
CORN IN MONTANA; HISTORY, CHARACTERISTICS, ADAPTATION. Mont. Agr. Expt. Sta. Bul. 107, 128 pp., illus. Bozeman. 1915.
Origin of corn; corn growing of the Northeastern Indians; corn growing of the North Central Indians; corn growing of the Upper Missouri Indians (the Arikara; the Mandan; the Hidatsa); history of early Montana corn growing. Part 3, Classification and Variety History, also has pertinent facts. Bibliographical footnotes.

BATES, ERL A. (333)
IROQUOIS GOLD OR MAIZE. Cornell Countryman 20: 7–9, illus. October 1922.
The picture of the Indian corn house shows a mortar, two baskets of sieves, and corn-carrying basket, "the grandfather of our pack basket."

——— (334)
WHAT THE CORN PLANT TAUGHT THE INDIAN. Cornell Countryman 27: 42–43. November 1929.

BEAUCHAMP, W. M. (335)
INDIAN CORN STORIES AND CUSTOMS. Jour. Amer. Folk-Lore 11: 195–202. July–September 1898.

BEEDE, AARON MCGAFFEY. (336)
LARGE INDIAN CORNFIELDS IN NORTH DAKOTA LONG AGO; AND AN INDIAN DRAMA PETITE FOR SCHOOL CHILDREN. 24 pp., illus. [Bismarck, N. Dak., Tribune Print. 1914.]

BIGGAR, HARVEY HOWARD. (337)
THE OLD AND THE NEW IN CORN CULTURE. U. S. Dept. Agr. Yearbook 1918: 123–136, illus.
Corn and the Indian; kinds of corn grown by the Indians; primitive seed-testing methods; primitive corn-planting methods; Indian cornfields; primitive tools; plants as indicators of the season; seed selection and storing; Indian corn foods; primitive and modern methods of culture.
The illustrations show the types of corn raised by the Indians of the Southwest, an Indian's corn-husking pin made of bear bone, and a scraper made from a deer's jaw and used by the Iroquois Indians for removing green corn from the cob.
Also issued as Yearbook Separate 776. Also in Dakota Farmer 39: 1596–1599 (Oct. 15, 1919); and in abbreviated form in Hoard's Dairyman 58: 380–381, 384–385 (Sept. 26, 1919).

——— (338)
PRIMITIVE METHODS OF MAIZE SEED PREPARATION. Amer. Soc. Agron. Jour. 10: 183–185. April 1918.

——— (339)
TRAILING KING CORN; OLD TRIBESMEN TELL TRUE STORY OF INDIAN MAIZE. Wallaces' Farmer and Iowa Homestead 55 (40): 7, 19, illus. Oct. 4, 1930.

BREWER, WILLIAM H. (340)
HISTORY OF INDIAN CORN; NATURAL HISTORY OF INDIAN CORN. *In* Report on Cereal Production of the United States, U. S. Bur. Census, 10th Census, 1880, 3: 93–96.

BURLISON, W. L. (341)
THE RED MAN'S CORN. Home Geog. Monthly 2 (2): 13–18, illus. August 1932.

C. (342)
INDIAN MEAL. Fraser's Mag. 39: 561–563. May 1849.
Also in Littell's Living Age 22: 265–267 (Aug. 11, 1849). Indian corn as an article of food.

CASSIDY, LOUISE LOWBER. (343)
AMERICA'S ABORIGINAL CORN BELT; PUEBLO INDIANS WERE CORN GROWERS FIVE THOUSAND YEARS AGO. Wallaces' Farmer 51: 1471, 1481, illus. Nov. 12, 1926.

The illustrations show an ancient wooden harrow found in a New Mexico village and a pile of many-colored ears of Indian corn drying in a Pueblo dooryard.

COLLINS, GUY N. (344)
A DROUGHT-RESISTING ADAPTATION IN SEEDLINGS OF HOPI MAIZE. Jour. Agr. Res. 1: 293–301, illus. Jan. 10, 1914.

Introduction, p. 293; morphology of the maize seedlings, pp. 293–295; germination of Navajo maize, pp. 296–298; description of root system, p. 298; field studies of pueblo varieties of maize, pp. 298–300; conclusions, pp. 300–301; literature cited, p. 301.

A study of the maize grown by the Hopi, Zuñi, and Navajo Indians of New Mexico and Arizona, bringing to light an adaptive character that promises to be of economic importance in dry regions where germination is uncertain.

——— (345)
A FOSSIL EAR OF MAIZE; FIRST TANGIBLE EVIDENCE OF THE EXISTENCE OF INDIAN CORN IN GEOLOGIC TIMES. Jour. Hered. 10: 170–172, illus. April 1919.

The illustration shows fossil maize compared with modern maize.

See also the discussion by Roland W. Brown, "The Supposed Fossil Ear of Maize from Cuzco, Peru," in Wash. Acad. Sci., Jour., 24: 293–296 (July 15, 1934).

——— (346)
NOTES ON THE AGRICULTURAL HISTORY OF MAIZE. Amer. Hist. Assoc. Ann. Rpt. (1919) 1: 409–429.

Also in Agr. Hist. Soc. Papers 2: 409–429 (1923).

Much material on corn among the Indians.

——— (347)
THE ORIGIN OF MAIZE. Wash. Acad. Sci. Jour. 2: 520–530. Dec. 19, 1912.

Supplementary statement by the same writer, "Maize: Its Origin and Relationships," in the same publication, 8: 42–43 (Jan. 19, 1918).

——— (348)
PUEBLO INDIAN MAIZE BREEDING; VARIETIES SPECIALLY ADAPTED TO ARID REGIONS DEVELOPED BY HOPIS AND NAVAJOS; THEIR WORK NOT SUFFICIENTLY APPRECIATED; PROBABLY MUCH YET TO BE LEARNED FROM THEM. Jour. Hered. 5: 255–268, illus. June 1914.

The illustrations include a view of a Zuñi plantation of maize in Arizona; one of a field at the base of the first Hopi mesa, near Polacco, Arizona; a close-up of a stalk of maize, the single ear being more than one-half the height of the entire plant; and a single plant of Navajo maize with the leaves and husks removed grown under irrigation at Shiprock, N. Mex.

CURRELLY, C. T. (349)
INDIAN CORN NOW FEEDS THE NATIONS. Farmer's Advocate 64: 1819, 1826, illus. Dec. 12, 1929.

"The American Indian was not so much a warrior and hunter as a farmer who has made an outstanding contribution to the agricultural progress of the world."—Subtitle.

The illustrations include views of Indian corn from the southwestern United States about 1,000 years old, now in the Royal Ontario Museum, and a pottery figure of a Mexican god with ears of corn represented in his headress, about 1,000 years old, and now in the Royal Ontario Museum.

CUSHING, FRANK HAMILTON. (350)
ZUÑI BREADSTUFF. 673 pp., illus. New York, Museum of the American Indian, Heye Foundation. 1920. (Indian Notes and Monog., v. 9.)

1, Creation, and the Origin of Corn; 2, The Origin of the Dragonfly and of the Corn Priests, or Guardians of the Seed; 3, Land-Law and Labor; 4, Corn-Raising, or the "Decay of the Seed"; 5, Corn-Raising, or the Regeneration of the Seed; 6, J'-no-te-kwea-wen-J'-tâ-we, or the "Food of the Ancients"; 7, Na'-na-kwea-wen-J'-tâ-we, or the "Food of the Grandfathers"; 8, "The Young Men Who Were Fond of Parched Corn and Sweet Gruel, or the Four

CUSHING, FRANK HAMILTON—Continued.

Awkward Suitors"; 9, Ta-a J-ta-we, or the "Food of the, Seed of Seeds"; 10, He-we J-ta-we, or the Wafer Foods; 11, Khia J-tâ-we, or Wheat Food; 12, Hu-mu-a K'ia-na-kwe, or the Crooner Bands; 13, The Story of the Younger Hunter; 14, How He Learned to Hunt; 15, How He Was Divorced; 16, How He Twice Returned; 17, About Some Indian Meals; 18, More Indian Meals; 19, Corn Dances and Festivals.

The contents of this book were first published as a series of articles in the Millstone of Indianapolis, a trade magazine that long since ceased publication, in its issues extending from volume 9, January 1884, to volume 10, August 1885. Later an attempt was made to reprint the articles in condensed form in Milling, of Chicago, but only the first nine chapters thus appeared, extending from volume 3, No. 2, July 1893, to volume 4, No. 4, March 1894, when their publication ceased. Review by A. L. Kroeber in Amer. Anthrop. 23: 479 (October–December 1921).

DAVENPORT, HELEN W. (351)

MONDAMIN, THE SPIRIT OF THE INDIAN CORN. New England Mag. (n. s.) 29: 239–246, illus. October 1903.

DE KRUIF, PAUL HENRY. (352)

HUNGER FIGHTERS. 377 pp., illus, New York, Harcourt, Brace & Co. 1928.

See the Maize Finders; Ancient and Anonymous, pp. 169–175, for an account of the domestication of maize.

DELABARRE, EDMUND BURKE, AND WILDER, HARRIS H. (353)

INDIAN CORN HILLS IN MASSACHUSETTS. Amer. Anthrop. 22: 203–225, illus., map. July–September 1920.

The remains of small mounds or hills in which the Indians planted their maize and other crops. See also item 364.

DIGUET, LÉON. (354)

LE MÄIS ET LE MAGUEY CHEZ LES ANCIENNES POPULATIONS DU MEXIQUE. Soc. des Américanistes de Paris Jour. (1910) 7: 5–35, illus.

Conclusions and bibliography, pp. 34–35.

EARLE, ALICE MORSE. (355)

INDIAN CORN IN COLONIAL TIMES. Chautauquan 26: 584–590. March 1898.

Chiefly instruction of the whites by the Indians in the cultivation of corn and its preparation as food.

EAST, EDWARD M. (356)

A CHRONICLE OF THE TRIBE OF CORN. Pop. Sci. Monthly 82: 225–236, illus. March 1913.

An attempt to trace the exact path of the evolution of maize. Agrees with many of the conclusions of Montgomery and Collins and attempts to present only the probable way in which certain important jumps were made.

ERWIN, A. T. (357)

A RARE SPECIMEN OF ZEA MAYS. VAR. SACCHARATA [FROM THE AZTEC RUIN, NEW MEXICO]. Science (n. s.) 79: 589. June 29, 1934.

——— (358)

SWEET CORN—ITS ORIGIN AND IMPORTANCE AS AN INDIAN FOOD PLANT IN THE UNITED STATES. Iowa State Col. Jour. Sci. 8: 385–389. April 1934.

Early literature on Susquehannah or papoon corn; archeological evidence; sacred corn; genetic aspect; literature cited.

FLETCHER, ALICE C., and LA FLESCHE, FRANCIS. (359)

THE OMAHA TRIBE. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1906) 27: 17–672, illus.

The Quest for Food, pp. 261–312, contains material on the ritual of the maize, cultivation of maize, names of parts, and preparations of maize. Cooking and Foods, pp. 340–342. Some curative plants, pp. 584–587.

FURNAS, ROBERT W. (360)

CORN; ITS ORIGIN, HISTORY, USES, AND ABUSES. 26 pp. Lincoln, Nebr. 1886.

See especially pp. 9–13 on the origin of corn.

GILMORE, MELVIN RANDOLPH. (361)
ARIKARA COMMERCE. Indian Notes 3: 13–18, illus. January 1926.

One illustration shows an Indian woman roasting corn to dry for winter use; another, braided strings of seed corn curing on a scaffold.

——— (362)
GREATER BREEDERS THAN REID OR LEAMING. Wallaces' Farmer 54: 726, 734. May 10, 1929.

"American Indian holds the record in developing the Mid-West's greatest crop."—Subtitle.

[GREGORY, CLIFFORD V.] (363)
FARMING THROUGH THE AGES; THE STORY OF INDIAN CORN. Prairie Farmer 101: 119, 139, illus. Jan. 26, 1929.

The pictures show a drawing of corn, or "Turkie Wheat," made in 1597, a Zapotecan urn with ears of corn on its sides, a wooden Indian hoe, and corn found in Indian ruins of the Basket-Maker era in Arizona.

HALLOWELL, A. I. (364)
INDIAN CORN HILLS. Amer. Anthrop. 23: 233. April–June 1921.

The remnants of Indian agriculture found in the vicinity of Mohegan, Conn. A "footnote" revision of item 353.

HARRINGTON, M. R. (365)
SOME SENECA CORN FOODS AND THEIR PREPARATION. Amer. Anthrop. 10: 575–590, illus. October-December 1908.

"The principal native methods of corn preparation still in use among the Seneca Indians, as told me by the people themselves during my various sojourns among them on their reservations in western New York, without any attention to treat the subject from the historical standpoint or to make a compilation from various authors."

HARSHBERGER, JOHN W. (366)
MAIZE: A BOTANICAL AND ECONOMIC STUDY. Pa. Univ. Bot. Lab. Contrib. 1 (2): 75–202, illus. Philadelphia. 1893.

1, Botanical, pp. 75–89; 2, Origin, pp. 90–153; 3, Geographical Distribution, pp. 154–158; 4, Chemical, pp. 159–170; 5, Agriculture-physiological, pp. 171–176; 6, Utility, pp. 177–188; 7, Economic Considerations, p. 189–198; 8, Future, pp. 199–200. Footnotes and bibliography at the end of certain of the chapters.

See also the same author's article "Maize, or Indian Corn" in Cyclo. Amer. Agr., 2: 398–402.

HENDRY, GEORGE W. (367)
ARCHAEOLOGICAL EVIDENCE CONCERNING THE ORIGIN OF SWEET MAIZE. Amer. Soc. Agron. Jour. 22: 508–514. June 1930.

The author concludes that sweet maize was derived through mutation from an older endosperm type or types, and that such mutation occurred in at least one instance in the Peruvian highlands before 1534 A. D.; that in this instance it seems probable that the sweet mutant first appeared in a variety of the floury type; and that a distinct group of sweet varieties, possessing characteristics similar to the Huanrachuco variety and possibly of similar genesis, is to be found under cultivation among the Indians of the arid Southwest, and probably in Peru.

Photograph of the Huanrachuco ear with sections of representative kernels, p. 509. Literature cited, pp. 513–514.

HEN-TOH, WYANDOT. (368)
MON-DAH-MIN, AND THE RED MAN'S WORLD OLD USES OF INDIAN CORN AS FOOD. Jour. Home Econ. 10: 444–451. October 1918.

HINSDALE, WILBERT B. (369)
INDIAN CORN CULTURE IN MICHIGAN. Mich. Acad. Sci., Arts, and Letters, Papers (1927) 8: 31–49, illus.

The illustration is of an old Indian corn-field in Haynes Township, Alcona County, Mich.

HOSKINS, T. H. (370)
AN INDIAN ON INDIAN CORN. Gard. and Forest 8: 23. Jan. 2, 1895.

The views of Peol Susup, a member of the Penobscot tribe, on their reserve on the Penobscot River, above Bangor, Maine, concerning Indian corn.

HUDSON, PETER J. (371)
CHOCTAW INDIAN DISHES. Chron. Okla. 17: 333–335. September 1939.

Detailed recipes of the various ways the Choctaw Indians prepare corn.

KELLERMAN, W. A. (372)
THE PRIMITIVE CORN. Meehans' Monthly 5: 44. January 1895.

"Speculation on the origin of Indian corn."

KEMPTON, J. H. (373)
MAIZE AND MAN. Jour. Hered. 17: 32–51, illus. February 1926.

There are 18 illustrations, including reproductions of photographs of the following: prehistoric vases decorated with maize or corn, its use as a decorative motif emphasizing the plant's importance to the ancient aborigines; an Aztec terra cotta ceremonial urn showing the season's history of the maize plant from the planting to the harvest; a clay whistle made by the Maya Indians; prehistoric ears of maize; a plant of *Tripsacum pilosum*, a North American cousin of maize; plants of Gama grass (*Tripsacum lanceolatum*), a remote ancestor of maize; plants of the annual teosinte (*Euchlaena mexicana*), relative of maize; Jala maize which has the largest plants of any known variety; Cuzco maize which has the largest kernels.

See also the article by the same author with Wilson Popenoe, "Teosinte in Guatemala," Carnegie Inst. Washington, Contrib. Amer. Archaeol., 23: 199–217, illus. (June 1937).

KEMPTON, J. H. (374)
MAIZE—OUR HERITAGE FROM THE INDIAN. Smithsn. Inst. Ann. Rpt. 1937: 385–408, illus., maps.

Introduction, pp. 385–388; history, pp. 388–394; birthplace of maize, pp. 394–396; theories of origin, pp. 396–408.

——— (375)
MAIZE, THE PLANT-BREEDING ACHIEVEMENT OF THE AMERICAN INDIAN. *In* Old and New Plant Lore: A symposium, Smithsn. Sci. Ser., 11: 319–349, illus. New York. 1931.

The domestication of plants as a measure of civilization, pp. 319–328; the origin of maize, pp. 329–348; selected bibliography, p. 349. The 18 illustrations are excellent.

LACY, MARY G. (376)
CORN, OUR OLDEST INHABITANT. Wallaces' Farmer 44: 2517. Dec. 19, 1919.

[LANMAN, CHARLES.] (377)
GREEN-CORN CEREMONIES OF THE CHEROKEES. Mag. Hist. 19: 89–92. August-September 1914.

LAWRENCE, D. H. (378)
THE DANCE OF THE SPROUTING CORN. Theatre Arts Mag. 8: 447–457, illus. July 1924.

The corn dance of a Rio Grande pueblo. This account appears under the title "Indianische Mysterien; 1, Der Tanz des spiessenden Korns," in Neue Rundschau 45(1): 79–94 (January 1934).

LINTON, RALPH. (379)
THE SIGNIFICANCE OF CERTAIN TRAITS IN NORTH AMERICAN MAIZE CULTURE. Amer. Anthrop. 26: 345–349. July-September 1924.

The maize culture of eastern United States differed in several particulars from the maize cultures of the Southwest and Mexico, and the article shows that the traits peculiar to the United States were either developed independently after the acquisition of maize or were derived from some older food complex which did not center around maize.

LORD, RUSSELL. (380)
MEN OF EARTH. 298 pp. illus. London, New York, Toronto, Longmans, Green & Co. 1931.

See pp. 13–23 for material on agriculture, especially corn, among the Iroquois.

MANGELSDORF, P. C., and REEVES, R. G. (381)
THE ORIGIN OF INDIAN CORN AND ITS RELATIVES. Tex. Agr. Expt. Sta. Bul. 574, 315 pp., illus. College Station, Tex. May 1939.

Botanical Relationships of Maize, pp. 10–34; Previous Evidence on the Origin of Maize, pp. 34–62; Previous Theories on the Origin of Maize, pp. 62–70; New Evidence from Cytogenetic Studies, pp. 70–203; The Origin of Teosinte, pp. 203–221; The Origin of Maize, pp. 221–267; The Origin of *Tripsacum*, pp. 267–268; Theoretical Phylogeny of the American Maydeae, pp. 268–270; Relationship of the American Maydeae to the Andropogoneae, pp. 271–272; Maize in Relation to Culture and Civilization (arrival of man in America; ancient cultures and civilizations—the Andean, the middle American, others; maize, agriculture, and the archaic culture—the origin of American agriculture, primitive agriculture in South American lowlands, geographical features in relation to domestication, possibility of an early indigenous agriculture in middle America, the spread of maize and agriculture), pp. 273–302; Conclusions, pp. 302–307; Literature Cited, pp. 308–315.

Review by E. D. Merrill in Geog. Rev. 30: 172–173 (January 1940).

MCNAIR, JAMES B. (382)
INDIAN CORN. Field Mus. Nat. Hist., Chicago, Bot. Leaflet 14, 33 pp., illus. Chicago. 1930.

Origin, geographic distribution and varieties, pp. 2–13; use by the American Indian, pp. 14–18; modern industrial and experimental products, pp. 19–33. Note the photograph of the ancient Peruvian jar, p. 4, and that of a preconquest Mexican maize almanac, pp. 16–17.

MEAD, CHARLES W. (383)
INDIAN CORN OR MAIZE. Nat. Hist. 21: 408–413, illus. July 1921.

Description of how corn was planted, ground, and prepared by the Indians. The illustrations show an Iroquois woman pounding maize into meal; a metate and handstone; a grinding device used in Peru and Bolivia; and an ear of corn from a pre-Columbian grave in Peru.

MESSEDAGLIA, LUIGI. (384)
IL MAIS E LA VITA RURALE ITALIANA, SAGGIO DI STORIA AGARIA. 446 pp., illus., map. Piacenza, Federazione italiana dei consorzo agrari. 1937.

See ch. 2, Generalitâ sul mais il mais nell'antica America; ch. 3, Cristoforo Colombo e il mais; ch. 4, I nomi del mais; ch. 5, Il grano turco; perchè turco? Bibliographical note at end of each chapter.

MILLSPAUGH, CHARLES, F. (385)
INDIAN CORN. Chautauquan 31: 338–343, illus. July 1900.

N., H. B. (386)
PROGENITORS OF THE GOLDEN EAR. Christian Sci. Mont. Mag. May 25, 1938. p. 13.

The attempts of archaeologists to find the American origin of cultivated corn.

NEVILLE, RUSSELL T. (387)
PREHISTORIC FOLKS OF AMERICA. Prairie Farmer 100: 1422, illus. Oct. 13, 1928.

"Growing corn a thousand years before Christ."

NUTTALL, ZELIA. (388)
DOCUMENTARY EVIDENCE CONCERNING WILD MAIZE IN MEXICO. Jour. Hered. 21: 217–220. May 1930.

Attention is called to the statement made on page 21 of the Chevalier Boturini's Idea de una Nueva Historia General de la America Septentrional to the effect that he found wild maize growing in forests on the tierra caliente of Mexico and urges the reliability of this report of the comparatively late survival in the wild state of an ancestor of cultivated maize.

Bibliographical footnotes.

See also the same writer's "Wilder Mais in Mexiko," in Ztschr. f. Ethnol. (1927) 59 (3–6): 252–254.

PARKER, ARTHUR CASWELL. (389)
IROQUOIS USES OF MAIZE AND OTHER FOOD PLANTS. N. Y. State Mus. Bul. 144, 119 p., illus. Albany, Univ. State of N. Y. 1910.

A valuable scientific ethnobotanical study. Pt. 1, Maize, pp. 9–88: 1, Maize or Indian Corn in History, pp. 9–15; 2, Early Records of Corn Cultivation. pp. 15–20; 3, Iroquois Customs of Corn Cultivation, pp. 21–36; 4, Ceremonial and Legendary Allusions to Corn, pp. 36–39; 5, Varieties of Maize Used by the Iroquois and Other Eastern Indians, pp. 41–44; 6, Corn Cultivation Terminology, pp. 44–45; 7, Utensils Employed in the Preparation of Corn for Food, pp. 45–58; 8, Cooking and Eating Customs, pp. 59, 65; 9, Foods Prepared from Corn, pp. 66–80; 10, Uses of the Corn Plant, pp. 80–88.

Pt. 2, Notes on Certain Food Plants Used by the Iroquois, pp. 89–110; 11, Beans and Bean Foods, pp. 89–90; 12, Squash and Other Vine Vegetables, pp. 90–92; 13, Leaf and Stalk Foods, p. 93; 14, Fungi and Lichens, pp. 93–94; 15, Fruit and Berrylike Foods, pp. 94–99; 16, Food Nuts, pp. 99–102; 17, Sap and Bark Foods, pp. 102–104; 18, Food Roots, pp. 104–109; List of authorities quoted, pp. 110–113.

The illustrations are excellent and include views of the following: Hoe blades; husking pins; corn mortars; baskets of various kinds; roasting frame; storage barrels, pits and cribs; corn picking and husking; ceremonials; masks of shreds of braided husk; husk moccasins.

RIPPERGER, HENRIETTA. (390)
NOW COME THE DAYS FOR SWEET CORN. N. Y. Times Mag. Aug. 5, 1934, p. 14.

"The recipes of the Indian, whose gift it was, are still followed by the white man."—Subtitle.

STEECE, HENRY M. (391)
CORN CULTURE AMONG THE INDIANS OF THE SOUTHWEST. Nat. Hist. 21: 414–424. July–August 1921.

This description of the agricultural methods of the Pueblo and the nomadic Indians of Arizona and New Mexico, is reprinted in Indian School Jour. 22 (3): 9–19, illus. (Chilocco, Okla., October 1922).

The illustrations show the following: Charred corn from pit in prehistoric communal dwelling on mesa north of Los Alamos Cañon, N. Mex.; hill of corn at Zuñi Pueblo, N. Mex.; agricultural implements of the natives of Laguna Pueblo, the hoes having been fashioned from old shovels and the handles made of piñon; the Heppatinna, a Zuñi shrine in the midst of a large Indian cornfield, the structure being consecrated to the center of the earth over which spot it is supposed to stand; a Navajo's corn crop; a Hopi Indian demonstrating his method of corn planting; Laguna Indian husking corn into a sacking apron; Pima granaries at Sacaton, Ariz.; corn drying on the house tops at San Felipe Pueblo, N.M.; corn in a dooryard at Laguna; field of Hopi corn and melons at the foot of the First Mesa, Polacca, Ariz., produced without irrigation; exterior view of a kiva or estufas, underground rooms where the secret fraternities hold their ceremonials; Hopi Indians making bread.

STICKNEY, GARDNER P. (392)
THE USE OF MAIZE BY WISCONSIN INDIANS. Parkman Club Pub., 13: 63–87. [Milwaukee, Wis., Printed for the Parkman Club by E. Keogh. 1897.]

Bibliographical footnotes.

STURTEVANT, E. LEWIS. (393)
INDIAN CORN. N. Y. State Agr. Soc. Trans. (1877–82) 33: 37–74.

Bibliography, pp. 39–40; antiquity of its culture, pp. 42–46; mythology, pp. 47–49; original varieties, pp. 55–59; Indian cultivation, pp. 66–68; products, pp. 68–69.

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INDIAN CORN AND THE INDIAN. Amer. Nat. 19: 225–234. March 1885.

Agricultural products other than corn are included.

THONE, FRANK. (395)
A CORRIDOR FOR CORN. Sci. News Letter 27: 419. June 25, 1935.

Mr. R. Gilmore's suggestion that agriculture spread from Mexico to the eastern United States by way of "a belt of oak-hickory forest that reaches westward along the scarp of the Edwards Plateau almost to Del Rio on the Rio Grande."

TINDALL, CORDELL. (396)
A GIFT FROM THE GODS; THAT'S THE INDIAN VERSION OF THE ORIGIN OF CORN. Mo. Ruralist 78 (22): 10, illus. Oct. 30, 1937.

"Really, since the dawn of history agriculture has advanced as methods of corn growing having improved. . . . It cannot definitely be proved, but many scientists think that corn was the first cultivated cereal."

The illustrations show an Aztec urn decorated with ears of corn, annual teosinte, and ears of Navaho corn.

WEATHERWAX, PAUL. (397)
THE EVOLUTION OF MAIZE. Torrey Bot. Club Bul. 45: 309–342. August 1918.

References, pp. 340–342. Review by J. H. Kempton in Wash. Acad. Sci. Jour. 9: 3–11 (Jan. 4, 1919).

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THE STORY OF THE MAIZE PLANT. 247 pp., illus., maps. Chicago, Univ. Chicago Press. 1923.

See 1, Introduction, pp. 1–3; 2, Names and Relationships, pp. 4–10; 3, History and Geographical Distribution, pp. 11–21; 26, Maize in Aboriginal America (food supply and civilization; maize areas in America; origin of maize culture; evolution of maize culture; varieties grown by the Indians; agricultural engineering; harvesting and storage; uses; maize and religion; America's gift to mankind), pp. 197–216; 27, Maize in American Life, pp. 217–225; Bibliography, pp. 226–235.

WENZ, ALFRED. (399)
IN THE HEART OF THE CORN COUNTRY. Dakota Farmer 36: 1068–1070, illus. Oct. 15, 1916.

The corn growing of the Mandan Indians in the Upper Missouri Valley.

WILL, GEORGE FRANCIS. (400)
CORN FOR THE NORTHWEST. 158 pp., illus. St. Paul, Minn., Webb Book Pub. Co. 1930.

See especially 3, Brief History of Corn Growing, pp. 18–22; and 5, History of Aboriginal Corn Growing in the Northwest, pp. 29–34; References, pp. 154–156. Photographs of aboriginal agricultural tools and products, p. 18; Arikara Indians preparing corn for drying, p. 20; Indian woman roasting corn beside her cornfield, p. 21; typical Mandan and Arikara corn ears, p. 30; Ft. Berthold village, about 1870, showing the earth lodges and corn scaffolds, p. 33.

——— and HYDE, GEORGE E. (401)
CORN AMONG THE INDIANS OF THE UPPER MISSOURI. 323 pp., illus. St. Louis, Mo., William Harvey Miner Co. 1917. (Little Histories of North American Indians, No. 5.)

Acknowledgements; Introduction; 1, The upper Missouri Indians (1, migrations and early history; 2, The earth-lodge village; 3, agriculture); 2, Planting and Cultivation (1, spring work; clearing and planting the ground; 2, hoeing and weeding; 3, the patches, acreage, and yields); 3, Harvest (1, the return from the summer hunt; 2, the green-corn harvest; 3, the ripe-corn harvest; 4, storing the crop; 5, yields); 4, Corn as food (1, methods of preparing corn; 2, utensils); 5, Corn as an article of trade (1, early inter-tribal trade; 2, trade with the whites); 6, The sacred character of corn (1, the corn and the buffalo; 2, corn origin myths); 7, corn ceremonies (1, ceremonial organization; 2, sacred corn; 3, spring, summer, and fall ceremonies; 4, various ceremonies, beliefs, and practices); 8, Varieties.

The illustrations show the following: Set of Hidatsa agricultural implements; ears of various varieties of corn raised by the Indians; plants of various varieties of corn raised by the Indians; Mandan squash; rawhide bowl and stone mortar; bone hoe; baskets of the Mandans, Hidatsa, and Arikaras; Arikara woman threshing corn on the roof of her house.

An appreciation by Clark Wissler, "Indian Corn as a World Food," Amer. Mus. Jour. 18: 25–29, illus. (January 1918); and a review by William Trimble in Miss. Val. Hist. Rev. 4: 531–532 (March 1918).

WISSLER, CLARK. (402)
ABORIGINAL MAIZE CULTURE AS A TYPICAL CULTURE-COMPLEX. Amer. Jour. Sociol. 21: 656–661. March 1916.

Reprinted under the title "Some Permanent Influences of Aboriginal Cultivation" in L. B. Schmidt and E. D. Ross, eds., Readings in the Economic History of American Agriculture (New York, 1925), pp. 49–52. Also reprinted in condensed form in Lit. Digest 52: 1277 (May 6, 1916).

See also items 2–3, 5–9, 12, 18–20, 23–24, 29–30, 32, 35, 37, 45–47, 49–50, 54–58, 61, 65, 69, 74, 90–95, 101–105, 107, 109, 112, 114, 131, 134, 136, 151–152, 188–190, 193, 206–207, 217–218, 224, 227, 237, 240–241, 250, 254, 268, 275, 277, 289–290, 296, 315, 518–519, 541, 550–551, 556–557, 571, 596, 623, 630, 644, 649, 672.

COTTON

BAILEY, VERNON. (403)
THE WILD COTTON PLANT (*Thurberia thespesioides*) IN ARIZONA. Torrey Bot. Club. Bul. 41: 301–306. May 1914.

Description of the wild cotton plant, *Thurberia thespesioides*, found in Arizona, giving its zonal range and a list of other plants generally associated with it.

CRAWFORD, M. D. C. (404)
THE HERITAGE OF COTTON, THE FIBRE OF TWO WORLDS AND MANY AGES. 244 pp., illus. New York and London, G. P. Putnam's Sons. 1931.

See especially ch. 4, The New World, pp. 30–45; and ch. 5, Peru, pp. 46–61. Bibliography, pp. 233–237. Ed. 1, 1924.

HANSON, HERBERT C. (405)
DISTRIBUTION OF ARIZONA WILD COTTON (*Thurberia thespesioides*). Ariz. Agr. Expt. Sta. Tech. Bul. 3, pp. 49–59, illus. Tucson. 1923.

Introduction, p. 49; description of Arizona wild cotton, pp. 50–51; previous investigations, pp. 51–52; distribution of *Thurberia*, pp. 52–55; description and distribution of the wild cotton boll weevil, p. 55; map of the southern part of Arizona showing the known distribution of Arizona wild cotton and the wild cotton boll weevil, pp. 56–57; conclusion, p. 58. Bibliography, p. 59.

HAURY, EMIL W., and CONRAD, CARL M. (406)
THE COMPARISON OF FIBER PROPERTIES OF ARIZONA CLIFF-DWELLER AND HOPI COTTON. Amer. Antiquity 3: 224–227. January 1938.

Prehistoric (fourteenth century) cliff-dweller raw cotton compared with modern Hopi cotton. Commented on under the title "Prehistoric Cotton Analyzed in Bureau's Cotton Laboratory" in [U. S.] B[ur.] A[gr.] E[con.] News 36 (5): 2 (Mar. 1, 1937).

KEARNEY, THOMAS H. (407)
COTTON PLANTS, TAME AND WILD. Jour. Hered. 21: 195–210. May 1930.

Introduction; domesticated in prehistoric times; the beginnings of European contact with cotton; what cotton plants are like; development and structure of the seed hairs; biological significance of the seed hairs; geographical distribution of *Gossypium;* classification of the cultivated forms; wild species of *Gossypium;* origin of the modern commercial cottons; literature cited.

LEWTON, FREDERICK LEWIS. (408)
THE COTTON OF THE HOPI INDIANS: A NEW SPECIES OF *gossypium*. Smithsn. Inst. Misc. Collect. v. 60, No. 6, 10 pp., illus. 1912. (Pub. No. 2146.)

The antiquity of cotton culture in the Southwest; references to cotton by the first Spanish explorers; evidence of former cultivation by the Hopi Indians and the Pima Indians; and the modern uses and cultivation of cotton by the Hopis.

Commented on in an article entitled "An Early Type of Cotton Raised in the United States by the Hopi Indians" in Sci. Amer. 107: 442 (Nov. 23, 1912). See also the article on "Early Cotton of the Hopi Indians" in Lit. Digest 45: 1009 (Nov. 30, 1912).

MCDONALD, R. K. (409)
TEXAS GREW COTTON A THOUSAND YEARS AGO; RECORDS INDICATE THAT THE STAPLE WAS PRODUCED AND WORN BY THE INDIANS BEFORE EUROPEANS CAME OVER. Farm and Ranch 47 (4): 1, 3, 23. Jan. 28, 1928.

McGregor, J. C. (410)
PREHISTORIC COTTON FABRICS OF ARIZONA. Museum Notes (Mus. North. Ariz., Flagstaff) 4 (2) : 1–4, illus. August 1931.

Bibliography, p. 4. Summary by Katherine Bartlett in Social Sci. Abs. 4 : 16001 (October 1932).

Reagan, Albert B. (411)
ANCIENT COTTON OF THE SOUTHWEST. South. Workman 56 : 426-429. September 1927.

Vaillant, George C. (412)
AN EARLY OCCURRENCE OF COTTON IN MEXICO. Amer. Anthrop. 41 : 170. January–March 1939.

Watt, Sir George. (413)
THE WILD AND CULTIVATED COTTON PLANTS OF THE WORLD ; A REVISION OF THE GENUS *gossypium*, FRAMED PRIMARILY WITH THE OBJECT OF AIDING PLANTERS AND INVESTIGATORS WHO MAY CONTEMPLATE THE SYSTEMATIC IMPROVEMENT OF THE COTTON STAPLE. 406 pp., illus. London, etc. Longmans, Green & Co. 1907.

Discovery of cotton in America, pp. 17–18; species, races, etc., of cotton in America, pp. 65, 70, 73, 98, 100–101, 117–118, 123–124, 156–157, 160, 162, 165, 167, 169–170, 181, 183, 194–196, 201, 204–211, 214–215, 217–219, 224, 226–239, 241, 252, 254, 256, 259–265, 268, 272, 275–290, 296, 302–310 ; indigenous cotton in America, pp. 17–18, 169–172, 182, 192, 204–206, 208, 210, 257, 267, 324.

Zaitzev, G. S. (414)
A CONTRIBUTION TO THE CLASSIFICATION OF THE GENUS *gossypium* l. Trudy Prikl. Bot., Genet., i Selek. (Bul. Appl. Bot., Genet., and Plant Breeding) 18 (1) : 1–65, illus., map. Leningrad. 1927.

The diversity of cotton forms, their geographical distribution, and their phylogenetic relations. Russian text, pp. 1–38. English text, pp. 39–65.

See also items 5, 9, 20, 22, 24, 37, 49, 90, 134, 143, 148, 151, 162, 177, 268, 270, 286, 292, 294, 516–517.

DOGS

Allen, Glover M. (415)
DOGS OF THE AMERICAN ABORIGINES. Harvard Univ., Mus. Compar. Zool. Bul. 63 (9) : 431–517, illus. Cambridge, Mass. 1920.

The information recorded by the early travelers on the appearance of the dogs of the American aborigines and the characteristics of the various breeds that can be distinguished considered under the following subheads: Origin of the domestic dog; origin of American dogs; breeds of American aboriginal dogs; summary. The bibliography, pp. 504–517, gives "the more important papers on the origin of the dog, and on prehistoric dogs of the New World, as well as references to the aboriginal dogs of America."

Cabrera, Ángel. (416)
LOS PERROS DOMÉSTICOS DE LOS INDÍGENAS DEL TERRITORIO ARGENTINO. 25th Internatl. Cong. Americanists, La Plata, Proc. (1932) 1: 81–93, illus. Buenos Aires. 1934.

Roe, F. G. (417)
FROM DOGS TO HORSES AMONG THE WESTERN INDIAN TRIBES. Roy. Soc. Canada, Trans. (ser. 3) 33 (2) : 209–275. May 1939.

Extensive bibliographical footnotes.

See also items 12, 20–21, 24, 134, 156, 428, 742.

HORSES

Cardoso, Anìbal (418)
BREVES NOTICIAS Y TRADICIONES SOBRE EL ORIGEN DE LA "BOLEADORA" Y DEL CABALLO EN LA REPUBLICA ARGENTINA. Buenos Aires Mus. Nac. de Hist. Nat. An. 28 : 153–181. 1916.

Denhardt, Robert M. (419)
SPANISH HORSES AND THE NEW WORLD. Historian 1 : 5–23. Winter 1938.

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THE INDIAN ACQUIRES THE HORSE. West. Horseman 2 (6) : 13, 24. November-December 1937.

DOBRIZHOFFER, MARTIN. (421)
AN ACCOUNT OF THE ABIPONES, AN EQUESTRIAN PEOPLE OF PARAGUAY. 3 v. London, J. Murray. 1822.

Account of the South American horse complex. Translated from the Latin by Sara Coleridge.

GRINNELL, GEORGE BIRD. (422)
WILD HORSES AND THE INDIANS. Forest and Stream 71: 209–210, 248–249, 290–291. Aug. 8, 15, 22, 1908.

HAINES, FRANCIS. (423)
THE NORTHWARD SPREAD OF HORSES AMONG THE PLAINS INDIANS. Amer. Anthrop. 40: 429–437, map. July–September 1938.

Bibliography, pp. 436–437.

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WHERE DID THE PLAINS INDIANS GET THEIR HORSES? Amer. Anthrop. 40: 112–117. January–March 1938.

Contends that Indians acquired horses from the settlement at Santa Fe rather than from strays of Coronado's and DeSoto's expeditions. See item 426.

STONE, ARTHUR L. (425)
THE ABORIGINAL HORSETRADER. Red Man 7: 19–24. September 1914.

The horses raised by the Indians on the rich bluejoint grass of the western Montana valleys.

SWANTON, JOHN R. (426)
THE SURVIVAL OF HORSES BROUGHT TO NORTH AMERICA BY DE SOTO. Amer. Anthrop. 41: 170–171. January–March 1939.

Evidence in substantiation of the view in item 424 that the Indians did not acquire horses from the De Soto expedition.

TURNEY-HIGH, HARRY. (427)
THE DIFFUSION OF THE HORSE TO THE FLATHEADS. Man 35: 183–185. December 1935.

A tradition of the Flatheads, interior Salish, regarding the capture of their first horses in the middle of the eighteenth century.

WILSON, GILBERT LIVINGSTONE. (428)
THE HORSE AND THE DOG IN HIDATSA CULTURE. Amer. Mus. Nat. Hist. Anthrop. Papers 15 (2): 125–311, illus. New York. 1924.

During the period 1908–18, the author spent from 1 to 2 months of each year among the Hidatsa Indians, collecting for the Museum and gathering information as to their culture. This study contains only the portion of his data bearing upon, or associated with, the dog and horse culture complexes of the tribe.

The section on Horse Culture, pp. 141–196, considers the subject under the following subheadings: Origin; ideas concerning horses; the colt; castration; stallions; training; summer pasturing and herding; winter care of horses; care of horses on the warpath; protecting pack horses from magpies; horsegear; names for horses.

The section on Dog Culture, pp. 196–228, under the following subheadings: Origin; the puppy; castration; feeding; kennels; the village dogs; dogs as property; gathering wood; collecting wood from the river; fetching firewood and game by bull-boat; training a dog; names and descriptions of dogs; children ride on a dog travois; making a dog travois; dog travois shelter tent.

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THE INDIAN AND HIS HORSE. Farmer 37: 8, 19, 68, 72, 118, 174, 189, 240, 256. Jan. 4, 11, 18, 25, Feb. 1, 1919.

A series of tales on the origin, breeding, care, and training of horses among the Indians in the early days, told by Tseca-matseitcic, or Wolf Chief, to Gilbert L. Wilson, arranged under the following headings: 1, The birth of a colt; 2, training a colt; 3, tending the herd and making of bridles; 4, caring for the herd in the winter camp; 5, use of horses in warfare.

WISSLER, CLARK. (430)
AMERICAN INDIAN SADDLES, BORROWED, TOGETHER WITH OTHER FEATURES OF HORSE CULTURE FROM THE SPANISH COLONIZATION, IN THE FIRST HALF OF THE SIXTEENTH CENTURY. Amer. Mus. Jour. 16 (8) : 496–499, illus. December 1916.

"Wrapped up in their histories is the whole story of bringing the horse to the New World and in part his domestication in the Old." The illustrations show a Shoshone Indian saddle, a saddle being made in an Indian camp, and an Indian travois, a primitive vehicle consisting of two trailing poles bearing a net or cross bar for a load.

——— (431)
THE DIFFUSION OF HORSE CULTURE AMONG THE NORTH AMERICAN INDIANS. Natl. Acad. Sci. Proc. 1: 254–256. April 1915.

——— (432)
THE INDIAN AND THE HORSE. Amer. Indian Mag. 7 (4) : 20–26, illus. August 1920.

The origin of the horse in America and the manner in which the wild herds bred from the horses of Coronado and De Soto were utilized by the Indians. The illustrations show the following: Old Spanish bits found among the Navajo and the Crow; a woman's saddle used by the Blackfoot; a beaded saddle cloth of buffalo hide from the Teton-Dakota; a man's saddle from the Crow Indians; a finely carved saddle of wood used by the Menomini Indians; Plains Indians in camp, showing a saddle in the making in the foreground, and horses and buffalo in the distance, from a painting by George Catlin in 1833, the original being in the Mills Collection; a pad saddle used by the Dakota Indians; a woman's saddle from the Wind River Shoshone; a Thompson Indian saddle from British Columbia; a saddle frame; a crupper for a woman's saddle; a drawing, "Moving Camp before the Day of the Horse," by F. N. Wilson; a sketch of a Spanish mount from a drawing by an Aztec in the time of Cortez; drawings showing how the Indian made his stirrup after the old Spanish model.

——— (433)
THE INFLUENCE OF THE HORSE IN THE DEVELOPMENT OF PLAINS CULTURE. Amer. Anthrop. 16: 1–25. January–March 1914.

The material of this article is reprinted in Alfred Louis Kroeber and Thomas Talbot Waterman, eds., Source Book on Anthropology, pp. 252–259 (Calif. Univ. Syllabus Ser., No. 118, Berkeley, Univ. Calif. Press, 1920).

See also items 5, 24, 134, 226, 232, 417, 742.

MAPLE SUGAR

CHAMBERLAIN, A. F. (434)
THE MAPLE AMONGST THE ALGONKIAN TRIBES. Amer. Anthrop. 4: 39–43. January 1891.

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MAPLE SUGAR AND THE INDIANS. Amer. Anthrop. 4: 381–383. October 1891.

HENSHAW, H. W. (436)
INDIAN ORIGIN OF MAPLE SUGAR. Amer. Anthrop. 3: 341–351, illus. October 1890.

WOJTA, J. F. (437)
A VISIT TO THE INDIAN SUGAR-BUSH CEREMONIALS. Wis. Archeol. 11: 172–175. July 1932.

Ceremonials; the appointed day; the feast; change of drums; dancing; sugaring; customs of Indian tribes.

See also items 12, 24, 58, 217, 224, 322, 601, 674.

POTATOES

ANONYMOUS. (438)
NEW FIELD FOR THE OLD POTATO. N. Y. Herald Tribune, July 22, 1934.

Editorial on the work of Russian scientists in developing a potato for Arctic Siberia and on their debt to the Indians of the western Andes.

BALLIVIÁN, MANUEL VICENTE, and CEUALLOS-TOVAR, WALTER. (439)
NOTICIA HISTÓRICA Y CLASIFICACIÓN DE LA PAPA DE BOLIVIA. 22 pp., illus. La Paz, Bolivia. 1914.

Historical and descriptive account of the cultivation, manner of growth, habitat, uses and varieties of the potato. Reviewed under the title, "Geographical Features of Potato Production in Bolivia," in Geog. Rev. 4: 318 (October 1917).

FUESZ, WILHELM. (440)
WER HAT DIE KARTOFFEL NACH EUROPA GEBRACHT DIE EINFUHRUNG DER KARTOFFEL IN EUROPA. Gesell. f. Gesch. u. Lit. der Landw. Jahrb. (Göttingen) 37 (4): 49–55, illus. 1938.

JUZEPCZUK, S. W., and BUKASOV, S. M. (441)
A CONTRIBUTION TO THE QUESTION OF THE ORIGIN OF THE POTATO. U. S. S. R. Cong. Genet. Plant and Animal Breeding Proc. 3: 593–611. Leningrad. 1929.

Russian text, pp. 593–610; bibliography, p. 610; English summary, pp. 610–611. The potato originated in two centers: the Peru-Bolivian plateau and southern Chile.

LAUFER, BERTHOLD. (442)
THE AMERICAN PLANT MIGRATION; PT. 1, THE POTATO. 132 pp., illus. Chicago, 1938. (Field Mus. Nat. Hist., Chicago, Pub. 418, Anthrop. Ser., v. 28, no. 1.)

Introduction, pp. 9–11; botanical origin of the potato, pp. 12–18; early history of the potato in South America, pp. 19–26; the potato in the West Indies, p. 27; introduction of the potato into North America, pp. 28–39; the potato in Spain, Italy, and Central Europe, pp. 40–45; the potato in Great Britain, pp. 46–58; the potato in France, pp. 59–65; the potato; Germany, Scandinavia, and eastern Europe, pp. 66–68; the potato in China, pp. 69–70; the potato in Japan and Korea, pp. 80–83; the potato in Central Asia and Siberia, pp. 84–87; the potato in Persia, the Near East, and the Caucasus, p. 88; the potato in Africa, p. 89; the potato in India, Burma, Siam (Thailand), and Indo-China, pp. 90–94; the potato in Malayan and Oceanic Regions, pp. 95–101; Bibliography, pp. 112–125.

The illustrations show: Distributions of potato varieties cultivated by the South American Indians; potato-form vessels from Chimbato, Peru; wood-engraving of potato plant and tubers; potato plant showing branch with blossoms and tubers; John Gerard holding spray of potato plant; sketch of potato plant.

Review in Geog. Rev. 29: 335–336 (April 1939).

LAWSON, ALEXANDER, and MOON, H. P. (443)
CLAY ADJUNCT TO POTATO DIETARY. Nature 141: 40. Jan. 1, 1938.

The Quechua Indians on the Capachica Peninsula near Puno dip potatoes in an aqueous suspension of clay, consisting of kaolin and possibly coumarin, before eating.

PATRÓN, PABLO. (444)
LA PAPA EN EL PERÚ PRIMITIVO. Soc. Geog. de Lima Bol. 11: 316–324. July–December 1902.

Bibliographical footnotes.

RYBIN, V. A. (445)
KARYOLOGICAL INVESTIGATIONS ON SOME WILD GROWING AND INDIGENOUS CULTIVATED POTATOES OF AMERICA. Trudy Prikl. Bot., Genet., i Selek. (Bul. Appl. Bot., Genet., and Plant Breeding) 20: 655–720, illus. Leningrad. 1929.

Introduction; Literary data concerning the cytology of the potato; results of cytological investigation of wild-growing potatoes; results of cytological investigation of American local cultivated potatoes. Russian text, pp. 655–710; English text, pp. 711–720. Technical; no conclusion as to origin. Also in U. S. S. R. Cong. Genet. Plant and Animal Breeding Proc. (1929) 3: 467–477, with English summary, pp. 476–477.

SAFFORD, WILLIAM EDWIN. (446)

THE POTATO OF ROMANCE AND OF REALITY. Jour. Hered. 16: 112–126, 174–185, 217–230, illus. April–June 1925.

The potato of romance; testimony from prehistoric tombs; true history of the potato; potatoes cultivated by the Indians of southern Chile; introduction of the potato into culture; the potato in Prussia and France; the potato in North America; search for the wild form; summary.

The 31 illustrations show: Sir Walter Raleigh, legendary introducer of the potato into Europe, depicted in the act of giving the potato to the Irish; John Gerard holding in his hand a flowering branch of *Solanum tuberosum*, which he called *Battata Virginiana sive Virginianorium & Pappas*, pretending to have received from Virginia the tuber from which it was propagated, he being responsible for the transfer of the name "potato" from *Ipomoea batatas* to *Solanum tuberosum* and for the confusion of the latter with the Apenauk of Virginia; the original potato, now called the sweetpotato; the first published illustration of *Solanum tuberosum* from John Gerard's Herbal (1597); the Virginia potato or Apenauk; Apenauk roots or Indian potatoes; Moray or "white chunyo"; ancient foods found with Peruvian mummies; potato vases; Indians drying potatoes for "chunyo"; oldest drawings of the potato—drawing received by Charles de L'Ecluse from Philippe de Sivry, January 26, 1588, original in Plantin-Moretus Museum at Antwerp; the Great Elector, Frederick William, with his consort, inspecting potatoes planted by his order in the Berlin Lustgarten; Frederick the Great visiting a potato field planted in obedience to his decree; four scenes portraying the measures taken by Parmentier to introduce potato culture into France.

Reprinted in slightly abridged form in Smithsn. Inst. Ann. Rept. 1925; 509–532.

SALAMAN, REDCLIFFE N. (447)

THE POTATO IN ITS EARLY HOME AND ITS INTRODUCTION INTO EUROPE. Roy. Hort. Soc. Jour. 62: 61–77, 112–123, 153–162, 253–266, illus., map. February, March, April, June 1937.

Detailed account, based mainly on pottery remains for the early history and a careful examination of all records for the introduction into Europe. Excellent illustrations. The author believes that a "potato religion" existed among the Indians.

Summary of the study under the title "'Potato Spirit' Believed Ancient Indian God," Sci. News Letter 35: 151, 159, illus. (Mar. 11, 1939). Review in Geog. Rev. 29: 335–336 (April 1939). Detailed criticism by S. Linné under the title "Potato Problems; The Potato in Ancient and Present Times in America, and Its Introduction into Europe" in Nature 143: 12–16, illus. (Jan. 7, 1939).

SWANTON, JOHN R. (448)

NOTE ON THE ABORIGINAL NAME "AJE." Wash. Acad. Sci. Jour. 6: 136–137. Mar. 19, 1916.

The name "age" or "aje" was applied to all kinds of potatoes by various Indian tribes.

TAYLOR, NORMAN. (449)

THE POTATO. Amer. Mercury 28: 347–351. March 1933.

The article shows that "from the plunder of Peru came the first potato" and that "neither Sir Walter Raleigh in 1586 nor Sir Francis Drake in 1580 brought the potato from Virginia to England or Ireland, for it did not grow in Virginia at that time."

See also items 18, 20, 74, 90, 101–103, 105, 107, 112, 136, 147–148, 151–152, 173, 517, 630, 701.

TOBACCO

CHEVALIER, AUGUSTE. (450)

LES ORIGINES DU TABAC ET LES DÉBUTS DE SA CULTURE DANS LE MONDE. 21 pp. Paris Éditions de la Revue Internationale des tabacs. 1927.

Découverte du tabac; le tabac au point de vue botanique; classification et hybridation; la culture et l'usage du tabac chez les Indiens; les débuts de la culture européenne en Amérique; mode de culture et de préparation du tabac aux Antilles au XVII^{e} siècle; les débuts du tabac en Océanie; les débuts de la culture en Asie; l'origine du tabac en Afrique; introduction du tabac en Europe et spécialement en France; conclusions; bibliographie.

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DALE, GEORGE IRVING. (451)
THE EARLIEST KNOWN MENTION OF TOBACCO AND ITS USE. Hispania 8: 134–135. March 1925.

An extract from Gonzalo Fernández de Oviedo y Valdés, La Historia General y Natural de las Indias (Seville, 1535), which is the earliest known account of the use of tobacco. The brief introductory statement is based on an account of the book in the Mo. Bot. Gard. Bul., December 1924.

DAM, CORNELIA H. (452)
TOBACCO CHEWING ON THE NORTHWEST COAST. Amer. Anthrop. 35: 146–150.

DIXON, ROLAND B. (453)
TOBACCO CHEWING ON THE NORTHWEST COAST. Amer. Anthrop. 35: 146–150. January–March 1933.

The alleged chewing of tobacco with lime by the Haida and Tingit of northern British Columbia has been used by diffusionists as evidence of trans-Pacific culture contact. Investigation throws doubt on the fact; the plant was probably not a tobacco at all, though its identification remains obscure.

——— (454)
WORDS FOR TOBACCO IN AMERICAN INDIAN LANGUAGES. Amer. Anthrop. 23: 19–49. January–March 1921.

DOUGLAS, FREDERIC H. (455)
AMERICAN INDIAN TOBACCO; VARIETIES, CULTIVATION, METHODS OF USE. Denver Art Mus. Dept. Indian Art Leaflet 22. 4 pp., map. Denver. April 1931.

DUSTIN, FRED. (456)
INDIAN PIPES COLLECTED IN SAGINAW COUNTY, MICHIGAN. Mich. Acad. Sci., Arts, and Letters Papers (1930) 14: 35–46, illus. Ann Arbor. 1931.

ERNST, A. (457)
ON THE ETYMOLOGY OF THE WORD TOBACCO. Amer. Anthrop. 2: 133–141. April 1889.

"The development, with some necessary corrections, of a note . . . sent to the International Congress of Anthropology, held at New York in the month of June 1888."

GILMORE, MELVIN RANDOLPH. (458)
ARIKARA ACCOUNT OF THE ORIGIN OF TOBACCO AND CATCHING OF EAGLES. Indian Notes 6: 26–33. January 1929.

——— (459)
SOME COMMENTS ON "ABORIGINAL TOBACCOS." Amer. Anthrop. 24: 480–481. October–December 1922.

A commentary on item 471.

GRIMES, KATHARINE ATHERTON. (460)
THE STORY OF TOBACCO. South. Agr. 61 (9): 7, 35; (10): 12, 21; (11): 16–17, illus. September, October, November 1931.

Pt. 1, The Indian's Smoke of Incense; Pt. 2, A Pagan Becomes Civilized; Pt. 3, The Indian Weed Goes to Market.

Pictures, accompaying the first installment, show the following: Pipehead from Ohio mound; steatite pipe from Georgia; town of Secoton, N. C., drawn by John White, Roanoke Island, 1586, with a tobacco field at the left just below the center; elephant pipe, Iowa; Toucan pipe of the Mound Builders; deerskin tobacco pouch of the Pima tribe.

HARRINGTON, JOHN PEABODY. (461)
TOBACCO AMONG THE KARUK INDIANS OF CALIFORNIA. U. S. Bur. Amer. Ethnol. Bul. 94. 284 pp., illus. 1931.

Karuk and English text. Bibliography, pp. 14–34. Commented on in an article entitled "Cultivation and Use of Tobacco by Tribe of Nonagricultural Indians is Described," in U. S. Daily 7 (113): 2 (July 15, 1932).

HILL-TOUT, CHARLES. (462)
THE "MOSES COULEE" PIPE. Roy. Soc. Canada, Trans. (ser. 3) 29 (2): 219–224, illus. 1935.

Description of a pipe from a cave in Moses Coulee of the Columbia River region of Washington.

LAUFER, BERTHOLD. (463)
INTRODUCTION OF TOBACCO INTO EUROPE. Field Mus. Nat. Hist., Chicago, Anthrop. Leaflet 19, 66 pp. Chicago. 1924.

Introduction and early cultivation of tobacco in England, pp. 3–21; the great tobacco controversy in England, pp. 22–33; use of tobacco in England, pp. 33–48; tobacco in France, Portugal, Spain, and Italy, pp. 48–57; tobacco in central and northern Europe, pp. 57–58; tobacco in Russia and Turkey, pp. 59–65.

LINTON, RALPH. (464)
USE OF TOBACCO AMONG NORTH AMERICAN INDIANS. Field Mus. Nat. Hist., Chicago, Anthrop. Leaflet 15, 27 pp., illus. Chicago. 1924.

The illustrations show the different types of American Indian tobacco pipes. Bibliographical references, p. 27.

LOWIE, ROBERT H. (465)
THE TOBACCO SOCIETY OF THE CROW INDIANS. Amer. Mus. Nat. Hist. Anthrop. Papers 21 (2): 101–200, illus. New York. 1919.

"On my first visit to the Crow in 1907 I began to take notes on the Tobacco society and in the course of subsequent visits succeeded in accumulating considerable material on the subject. The greater portion of this information was secured at Lodge Grass, Montana; however, a fair amount of check data was obtained in other districts of the Reservation. Continued investigation would surely have added to my knowledge of detail, but it seems that the information here presented suffices to afford an understanding of the essential principles underlying the organization."

MACLEOD, W. C. (466)
THE CHEWING OF TOBACCO IN SOUTHEASTERN NORTH AMERICA. Amer. Anthrop. 32: 574–575. July–September 1930.

MASON, J. ALDEN. (467)
USE OF TOBACCO IN MEXICO AND SOUTH AMERICA. Field Mus. Nat. Hist., Chicago, Anthrop. Leaflet 16, 15 pp., illus. Chicago. 1924.

The use of tobacco in the pre-Columbian and later days by the aboriginal tribes of Mexico and South America. The six illustrations show tobacco pipes.

MCGUIRE, JOSEPH DEAKINS. (468)
PIPES AND SMOKING CUSTOMS OF THE AMERICAN ABORIGINES, BASED ON MATERIAL IN THE U. S. NATIONAL MUSEUM. U. S. Natl. Mus. Rpt., 1897, pt. 1, pp. 351–645, illus. 1899.

MORICE, A. G. (469)
SMOKING AND TOBACCO AMONG THE NORTHERN DENÉS. Amer. Anthrop. 23: 482–488. October–December 1921.

Strong grounds for believing that the use of tobacco was unknown to the northern tribes of Canada before the advent of the whites.

PHILHOWER, CHARLES A. (470)
INDIAN PIPES AND THE USE OF TOBACCO IN NEW JERSEY. N. J. Archaeol. Soc. Leaflet 3, 17 pp., illus. Westfield, N. J. 1934.

SETCHELL, WILLIAM ALBERT. (471)
ABORIGINAL TOBACCOS. Amer. Anthrop. 23: 397–414, map. October–December 1921.

The different species and their distribution in aboriginal America. Commented on in item 459.

SHETRONE, HENRY CLYDE. (472)
NICOTIANA: AN ETHNOLOGIC, HISTORIC AND LITERARY NOVELTY. Ohio State Archaeol. and Hist. Quart. 46: 81–102, illus. January 1937.

Introduction, pp. 82–83; the botany of tobacco, pp. 83–84; tobacco and the American Indian, pp. 84–86; tobacco goes abroad, pp. 86–89; tobacco and the colonists, pp. 89–90; tobacco commercially considered, pp. 90–91; various forms of use, pp. 92–96; tobacco and health, pp. 96–98; prehistoric use of tobacco, pp. 98–100; tobacco in literature, pp. 100–102.

SIMMS, S. C. (473)
CULTIVATION OF "MEDICINE TOBACCO" BY THE CROWS—A PRELIMINARY PAPER. Amer. Anthrop. 6: 331–335. April–June 1904.

Although announced as a preliminary report it has remained without a sequel.

SINGER, CHARLES. (474)
THE EARLY HISTORY OF TOBACCO. Quart. Rev. 219: 125–142. July 1913.

Columbus' first sight of the plant, pp. 125–127; the Indians' habit of smoking, pp. 128–130; Jacques Cartier, p. 130; André Thenet, p. 131; his "Singularitez de la France Antarctique," pp. 131–135; process of "curing" and "fermentation," p. 134; introduction into France and Italy, p. 135; medicinal properties of the herb, pp. 136, 141; works on, pp. 137–139; narcotic properties, p. 139; introduction into England, p. 140; use as a disinfectant, p. 141; amongst native races, p. 142.

SKINNER, ALANSON. (475)
A SENECA ANTIQUE TOBACCO PIPE. Indian Notes 2: 231–232, illus. July 1925.

——— (476)
SOME SENECA TOBACCO CUSTOMS. Indian Notes 2: 127–130. April 1925.

STAHL, GÜNTHER. (477)
ZIGARRE; WORT UND SACHE. Ztschr. f. Ethnol. (1930) 62: 45–111, illus.

Einleitung: Abschnitt, Tabakrauchrollen im vorkolumbischen Amerika; Abschnitt, Einführung der Rauchrolle in Europa; Abschnitt, Herkunft und Ableitungen des Wortes Zigarre; Abschnitt, Einführung des Wortes Zigarre für die Rauchrolle Anhang: Anfänge der Zigarrenfabrikation in Deutschland. Schluss. Abbildungsverzeichnis. Literaturverzeichnis.

Summary by Herbert Baldus in Social Sci. Abs. 4: 116 (January 1932).

WEST, GEORGE A. (478)
TOBACCO, PIPES AND SMOKING CUSTOMS OF THE AMERICAN INDIANS. 994 pp., illus., maps. Milwaukee, Wis., The Trustees. 1934. (Milwaukee Pub. Mus. Bul. 17, 2 pts.)

Foreword, pp. 21–23; Acknowledgments, pp. 25–28; Introduction (discovery of tobacco; the name "tobacco"; Indian names for tobacco; introduction of tobacco into Europe), pp. 29–35; The Conquest of Tobacco (Europe; Russia; Turkey and the onward march of tobacco), pp. 37–46; Use of Tobacco by the American Indians as a Medicine, pp. 47–51; Cultivation and Use of Tobacco by the American Indians (species of tobacco used or cultivated by the Indians in America; offerings of tobacco in a dry state; smoke offerings and other uses of tobacco; snuff; tobacco chewing among the American Indians; tobacco chewing among the Eskimo), pp. 53–103; Blends and Substitutes for Tobacco, pp. 105–116; Aboriginal Trade Routes, pp. 117–120; Present Production and Disposition of Tobacco in the United States, pp. 121–122; Myths Relating to Tobacco, pp. 123–124; General Pipe Areas, pp. 125–126; Classification of Aboriginal Smoking Pipes, pp. 127–303; Modern Pipes and Smoking Customs, pp. 305–328; Aboriginal Pipe Materials, pp. 329–331; Methods of Manufacture of Aboriginal Pipes, pp. 333–352; Myths—Tobacco Pipe, pp. 353–354; Distribution of Aboriginal Pipes, pp. 355–378; Summary, pp. 379–388; Conclusion, pp. 389–390; Bibliography, pp. 391–409; Finding List for Pipes by Localities where Found or Collected, pp. 453–466; Finding List for Pipes by Collections and Collectors, pp. 467–477.

Reviews by Frances Densmore in Minn. Hist. 15: 453–454 (December 1934); and T. F. McIlwraith in Canad. Hist. Rev. 19: 84–85 (March 1938).

——— (479)
USES OF TOBACCO AND THE CALUMET BY WISCONSIN INDIANS. Wis. Archeol. 10: 5–64, illus. March–June 1911.

Bibliographical footnotes and four illustrations.

WIENER, LEO. (480)
THE PHILOLOGICAL HISTORY OF "TOBACCO" IN AMERICA. 21st Internatl. Cong. Americanists, Göteborg, Proc. 1924: 305–314, maps. 1925.

See also items 3, 5–7, 9, 12, 18, 20, 22–26, 47, 49, 65, 74, 90–95, 101–103, 105, 112 134, 190, 224, 227, 237, 246, 250, 322, 555, 557, 655, 742, 748, 823.

WILDRICE

ANONYMOUS. (481)
HOW THE INDIANS HARVEST WILD RICE. Sci. Amer. 108 (16): 365. Apr. 19 1913.

Brief statement based on a report from the American consul at Kingston, Ont., devoted to an account of the wildrice (*Zizania aquatica*), along the shores of Rice Lake, a few miles north of Cobourg.

ANONYMOUS. (482)
OUR COVER PICTURE. Farmer 50 (18) : 20. Sept. 17, 1932.

How the Indians of Minnesota and Wisconsin harvest wildrice.

ALBES, EDWARD. (483)
RICE IN THE AMERICAS. Pan Amer. Union Bul. 44: 137–160, illus. February 1917.

Note especially pp. 139–143 on the wildrice (*Zizania aquatica*), indigenous to North America, and an important item in the domestic economy of various Indian tribes. Illustrations showing wildrice tied in bunches or sheaves, a drying rack used to cure the grain after its collection from the fields, and a stave-lined threshing hole for treading out grain.

BROWN, EDGAR, and SCOFIELD, CARL S. (484)
WILD RICE: ITS USES AND PROPAGATION. U. S. Dept. Agr. Bur. Plant Indus. Bul. 50, 24 pp., illus. 1903.

See especially: Introduction; distribution and habitat of the plant; life history and natural propagation; botanical description; varieties; diseases; harvesting the seed; preparation of the seed for food purposes; the food value of rice. Part of this article is reprinted with the same title In Sci. Amer. Sup. 56: 23268–23269 (Oct. 31, 1903).

CARLSON, E. J. (485)
INDIAN RICE CAMPS WHITE EARTH RESERVATION. Indians at Work 2 (7): 16–23, illus. Nov. 15, 1934.

The Indian rice camps of the White Earth Reservation are described. The article is of value chiefly for its descriptions of the processes of gathering, parching, hulling, and winnowing the rice, and for the accompanying pictures of these operations.

CATES, J. SIDNEY. (486)
THE HIGHEST PRICED CEREAL; EPICURES SAY WILD RICE IS THE ONLY THING TO EAT WITH ALL SORTS OF GAME. Country Gent. 89 (38) : 10, 29. Sept. 20, 1924.

HOUGH, DONALD. (487)
AN ANCIENT HARVEST IN OUR OWN NORTHWEST. Travel 43 (2) : 24–26, 48, illus. June 1924.

The wild rice of the Minnesota lakes; the Chippewas as a link with America's past; and primitive methods in gathering the Indian's winter food. The illustrations show a Chippewa Indian boy poling a boat through a rice slough while an old squaw bends the long stalks over the gunwales and beats the kernels into the boat with two short sticks; a camp of the rice harvesters; one of the grass granaries constructed to shelter the bags of grain kept for winter use; groups of Indians threshing wild rice; an old squaw winnowing the rice to remove chaff.

HUBER, ALBERT. (488)
WILD RICE HARVEST. Indians at Work 4: 17–19, illus. Oct. 1, 1936.

Modern methods of harvesting and sale through the Chippewa Indian Cooperative Marketing Association in Minnesota.

JENKS, ALBERT ERNEST. (489)
THE WILD RICE GATHERERS OF THE UPPER LAKES; A STUDY IN AMERICAN PRIMITIVE ECONOMICS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1897–98) 19 (2) : 1013–1137., illus., maps. 1900.

1, Botany; 2, Habitat (introduction; habitat according to States; habitat in the wild-rice district; foreign habitat) ; 3, Indians; 4, Production (introduction; sowing and other early care; tying; curing and drying; threshing; winnowing; storing; property right in wild rice; amounts of wild rice harvested) ; 5, Consumption (nutrition; ways of preparing wild rice for food; periods of consumption) ; 6, General Social and Economic Interpretations (the wild rice moon; wild rice in ceremonials and in mythology as found in Indian traditions; dependence of the Indian on wild rice; dependence of the white man on wild rice; Indian population of the wild-rice district) ; 7, Influence of Wild Rice on Geographic Nomenclature; Bibliography, pp. 1126–1133.

JENKS, ALBERT ERNEST—Continued.

The noteworthy illustrations show the following: Wildrice bed in Lac Courte Oreille River; a narrow bed of wildrice tied in bunches or sheaves; sickle-shaped sticks used to draw the stalks within reach for tying; wildrice field after the harvest; drying rack for grain; a section of a drying rack; a stave-lined threshing hole for treading out the grain; wildrice kernels before threshing; threshing wildrice by means of a churndasher-like stick; Indian woman winnowing wildrice; wildrice kernels after threshing and winnowing; birchbark mococks in which the grain is carried; birchbark winnowing tray.

Also issued separately, Washington, 1901, as thesis (Ph. D), University of Wisconsin. Review by Alexander F. Chamberlain in Rev. Hist. Pubs. Relating to Canada 7: 180–181.

JENNESS, DIAMOND. (490)
WILD RICE. Canad. Geog. Jour. 2: 477–482, illus. June 1931.

Photographs of the wild rice gathering, its drying, its threshing, and its winnowing. Summary by Lawrence J. Burpee in Social Sci. Abs. 3: 14915 (October 1931).

LLOYD, TREVOR. (491)
WILD RICE IN CANADA. Canad. Geog. Jour. 19: 289–299, illus. November 1939.

The activities of the Chippewas at Lac du Bois near Winnipeg receive special attention. The illustrations show steps in the rice harvest.

REAGAN, ALBERT B. (492)
WILD OR INDIAN RICE. Ind. Acad. Sci. Proc. 1919: 241–242.

Observations of the author at Nett Lake, Minn., where he had charge of the Bois Fort Indian Reservation as superintendent and special disbursing agent from 1909 to 1914.

RIEMER, CHARLOTTE. (493)
WILD RICE. Nat. Mag. 15: 198–199. March 1930.

A legend concerning the discovery of the food value of wildrice.

STICKNEY, GARDNER P. (494)
INDIAN USE OF WILD RICE. Amer. Anthrop. 9: 115–122, illus. April 1896.

TITUS, WILLARD H. (495)
OBSERVATIONS ON THE MENOMINEE INDIANS. Wis. Mag. Hist. 14: 93–105, 121–132. September, December 1930.
Gathering wild rice, p. 131.

See also items 3, 5, 9, 12, 83, 91, 103, 224, 322, 545, 601, 659, 672.

WILD TURKEYS

ANONYMOUS. (496)
TURKEYS ARE NATIVE AMERICANS. El Palacio (Santa Fe) 23: 576. 1927.

SCOTT, JAMES E. (497)
WHAT WE OWE THE WILD TURKEY. Amer. Forests and Forest Life 30: 661–662, illus. November 1924.

WRIGHT, ALBERT HAZEN. (498)
EARLY RECORDS FOR THE WILD TURKEY. Auk 31: 334–358, 463–473; 32: 61–81, 207–224, 348–366. July 1914–July 1915.

Synopsis of references to the wild turkey in literature from the earliest times to about 1870.

ZIMMER, JOHN T. (499)
THE WILD TURKEY. Field Mus. Nat. Hist., Chicago, Zool. Leaflet 6. 15 pp., illus. Chicago. 1924.

See also items 112, 250.

AGRICULTURE ON INDIAN RESERVATIONS IN THE UNITED STATES

ANONYMOUS. (500)
INDIAN AGRICULTURAL FAIRS. Red Man 8 (4). December 1915.

The entire number is devoted to the subject indicated by the title.

ANONYMOUS. (501)
INDIAN ALLOTTEE ACQUIRES FULL EQUITABLE ESTATE. Mich. Law Rev. 19: 222–223. December 1920.

——— (502)
INDIAN COOPERATIVES. Christian Sci. Monit. Mag. May 25, 1938, p. 15.
Indian cooperatives encouraged by Indian Reorganization Act.

——— (503)
INDIAN FAIRS. Outlook 111: 591–592. Nov. 10, 1915.
Indian fairs as related to the progress that modern Indians are making in agriculture. The first Indian fair was held on the Crow Reservation in Montana in the fall of 1905; in 1915, nearly 100 fairs were held. Picture of an Indian exhibitor and exhibits at an agricultural fair, p. 108.

——— (504)
INDIAN FORESTS. Amer. Forestry 36: 223. April 1930.
An editorial on the forested lands belonging to the Indians.

——— (505)
INDIAN FORESTS. Amer. Forests 41: 504–507, illus. September 1935.
Indian forestry; forests for Indian workers; the Indian as a forester; the Indian C. C. C.; and Indian rehabilitation.

——— (506)
IRRIGATION WORK IN THE INDIAN BUREAU. Engin. News-Rec. 110: 712–714, illus. June 1, 1933.
"On Indian reservations in the West there are a number of reclamation projects operated by the Bureau of Indian Affairs for the purpose of helping the Indian to become self-supporting."—Subtitle.

——— (507)
LAND TENURE AND THE ORGANIZATION OF AGRICULTURE IN INDIAN RESERVATIONS IN THE UNITED STATES. Internatl. Rev. Agr. Econ. [Rome] 8 (5): 63–76. May 1917.

——— (508)
THE NAVAJO FAIR. Red Man 7: 129–132. December 1914.
Extracts are reprinted under the title "Navajo Fair," in Pan. Amer. Union Bul. 41: 400–405, illus. (September 1915). The fair described is held at the Government school and agency on the San Juan River in New Mexico. Every community in a reservation of about 6,000 square miles contributed toward the display. The blankets served as a background for the many and varied other exhibits—fruits, grains, vegetables, baskets, and the beautifully wrought work of the Navajo silversmiths.

——— (509)
A NEW TRAIL FOR THE INDIAN. Amer. Forests 40: 263. June 1934.
Editorial on the Wheeler-Howard "Indian Rights" bill (S. 2755; H. R. 7902), including statements concerning the ownership and management of land among the Indians.

——— (510)
SEVERALTY BILL AND INDIAN LANDS. Outlook 81: 1045. Dec. 30, 1905.

ABBOTT, F. H. (511)
AGRICULTURAL PROGRESS AMONG INDIANS. Redman 4: 313–318. April 1912.

ALLEN, EDGAR P. (512)
THE INDIAN AS A LUMBER BARON. Amer. Indus. 23 (12): 27–29, illus. July 1923.
"Some of the largest timber sales ever made by the United States Government, and at the highest prices, have been from Indian reservations in the last twelve years—many for 1,000,000 feet."—Subtitle.

BARNES, WILL C. (513)
ARE INDIAN AND BUFFALO DISAPPEARING TOGETHER? Amer. Cattle Prod. 20 (2): 1–3; (3): 6–7, illus. July, August 1938.
"An understanding report of the red man's struggle for existence."—Editor.

BEAGLEHOLE, ERNEST. (514)
NOTES ON HOPI ECONOMIC LIFE. 88 pp. New Haven, Yale Univ. Press. 1937. (Yale Univ. Pubs. Anthrop. 15.)

Household, kin and clan (bilateral kin group, the clan group), pp. 5–9; ownership and control of property (personal property, group ownership, land ownership), pp. 10–17; economic organization (division of labor, education, specialization, seasonal calendar of work, economic cycle, organization of work, work psychology), pp. 18–32; agriculture (natural phenomena and weather lore, choice and preparation of land, planting and cultivation, harvesting, ritual in agriculture), pp. 33–48; secondary productive activities (hunting and herding, gathering of natural products, salt, pigments, wood, craft activities, house building), pp. 49–59; foods and their preparation (methods, recipes), pp. 60–71; distribution of native wealth through ceremony and exchange (personal ceremonial, birth and naming, initiation, marriage, death, religious ceremonial, gifts and forfeits, trade), pp. 72–86; bibliography, pp. 87–88.

Abstract under title "Family and Clan in Hopi Economics" in Nature 139: 763 (May 1, 1937).

BLAKELY, C. H. (515)
MADE-TO-ORDER FARMERS; 1, THE SIOUX INDIAN AND THE GOVERNMENT. Dakota Farmer 42: 348–349. May 1, 1922.

"The destiny, past and future, of those tribes of the Sioux Nation located upon the Rosebud and Pine Ridge Reservations," along the western part of the southern border of South Dakota.

BLANCHARD, C. J. (516)
UNCLE SAM PAYS A DEBT TO INDIANS: AN IRRIGATION SYSTEM FOR THE PIMAS OF ARIZONA. Amer. Rev. of Reviews 65: 622–624, illus. June 1922.

The construction of a diversion dam on the Gila River at Florence, Ariz., completed in 1922 for the irrigation of 62,000 acres, 35,000 of which belong to the Pimas. The illustrations show: a Pima Indian family and their home in the Gila Valley, Ariz.; the diversion dam across the Gila River at Florence, Ariz., an automobile engine as motive power for a narrow-gage railway; a Pima Indian with his mule team, cultivating Egyptian long-staple cotton in Arizona.

BOWERS, GEORGE BALLARD. (517)
CALIFORNIA MISSION INDIANS. South. Workman 54: 15–20, illus. January 1925.

The Mission Indians of California, including information on their agriculture. The illustrations include an Indian potato farm; an Indian vineyard on the Pala Reservation; a peach orchard; a cotton field in San Diego County; an alfalfa field.

——— (518)
THE ORIGINAL DRY-FARMERS OF THE SOUTHWEST. South. Workman 58: 453–458, illus. October 1929.

The present day agriculture of the Hopis. The illustrations show the harvesting of corn, planting corn at a school, and peach orchards on the farm of a modern Hopi.

BRYAN, KIRK. (519)
FLOOD-WATER FARMING. Geog. Rev. 19: 444–456, illus. July 1929.

"Flood-water farming is practiced in the more remote areas of the Southwest and was more prevalent in the early days of settlement than at present . . . this paper consider[s] the geographical relationships of the practice of flood-water farming and . . . the decline in acreage in relation to recent changes in stream channels. This complex relationship has also an anthropological importance since flood-water farming was one of the important sources of livelihood of the prehistoric sedentary Indians of the Southwest."

Modern flood-water farming; fields below escarpments; fields at the "arroyo mouth"; fields in main valleys; contrast between Indian and Spanish farming; effect of the recent epicycle of erosion; dry farming of beans as a new industry. There are three views of cornfields in Gutierrez Cañyon, Sandia Mountains, Bernalillo County, N. Mex.; one of a bean field near Sedillo, Bernalillo County; two of fields in Arroyo en Medio.

BUNTIN, MARTHA. (520)
BEGINNING OF THE LEASING OF THE SURPLUS GRAZING LANDS ON THE KIOWA AND COMANCHE RESERVATION. Chron. Okla. 10: 369–382. September 1932.
In 1881 and 1882 P. B. Hunt, U. S. Indian agent for the Kiowa, Comanche, and Wichita tribes, leased surplus grazing lands in exchange for beef to feed the Indians, Congress having provided insufficient appropriations for that purpose.

CHUBBUCK, LEVI. (521)
INDIAN BOARDING SCHOOLS AND AGRICULTURAL EDUCATION. 5 pp. Washington, Govt. Print. Off. 1911.
Memorial relative to Indian boarding schools and agricultural stations. Ordered to be printed for the use of the Committee on Indian Affairs, Feb. 16, 1911.

——— (522)
TEACHING AGRICULTURE IN INDIAN SCHOOLS. Native Amer. 14: 151–152. Mar. 8, 1913.

COHEN, FELIX S. (523)
ANTHROPOLOGY AND THE PROBLEMS OF INDIAN ADMINISTRATION. Southwest. Social Sci. Quart. 18: 171–180. September 1937.
The anthropologist and Indian administrator should work together on such problems as education, administrative areas, economic activities, land tenure, inheritance, health, art, and recreation.

COLLIER, JOHN. (524)
INDIAN REORGANIZATION. Rural Amer. 14 (8): 8–9. November 1936.
Summary of work accomplished under the Indian Reorganization Act.

——— (525)
INDIANS AT WORK. Survey Graphic 23: 260–265, 297, 299, 300–302, illus. June 1934.
A plea for the Wheeler-Howard bill, and the Indian's response to new policies.

——— (526)
INDIANS, INC. Survey 63: 519–523, 547–549. Fem. 1, 1930.
The allotment policy.

——— (527)
NEEDS IN ADMINISTRATION OF INDIAN PROPERTY. Natl. Conf. Social Work Proc. 1932: 627–639.
Historical survey of governmental policies toward Indian land.

——— (528)
THE OWNERS OF A GOLDEN LAND. Rural Amer. 14 (1): 8, 9. January 1936.
Brief description of the Wind River and Navajo Reservations.

——— (529)
PUEBLO LANDS. Survey 65: 548–549. Feb. 15, 1931.
Effects of the Pueblo Land Act of 1924.

——— SHEPARD, WARD, AND MARSHALL, ROBERT. (530)
THE INDIANS AND THEIR LANDS. Jour. Forestry 31: 905–910. December 1933.

COLLISSON, CHARLES F. (531)
[AGRICULTURE ON THE FORT BERTHOLD, NORTH DAKOTA RESERVATION.] Minneapolis Tribune, June 22, July 6, 13, 20, 1924.

COOK, SOLOMON. (532)
THE MOHAWK INDIAN. Cornell Countryman 36: 113. April 1939.
The activities of the Mohawk Indians in their present home along the St. Lawrence River near St. Regis.

COOLIDGE, DANE, and COOLIDGE, MARY ROBERTS. (533)
THE NAVAJO INDIANS. 316 pp., illus. Boston, Houghton Mifflin Co. 1930.
Note the section on economic life. Reviewed by J. Frank Dobie in Miss. Val. Hist. Rev. 18: 73–74 (June 1931).

COOLIDGE, MARY ROBERTS. (534)
THE RAIN-MAKERS: INDIANS OF ARIZONA AND NEW MEXICO. 326 pp. New York, Houghton Mifflin Co. 1929.
See especially ch. 6, Fields, Food, and Stock, pp. 47–52. Reviewed by John Tate Lanning in So. Atlantic Quart. 28: 219–220 (April 1929).

[Cowan, John L.] (535)
BEDOUINS OF THE AMERICAN DESERT. Amer. Rev. of Reviews 45: 489–490, illus. April 1912.

The Navajos, especially their rugs. A summary of article by John L. Cowan in Out West (Los Angeles).

Dabb, Edith Manville. (536)
AMERICAN INDIANS NEED MISSIONARY AGRICULTURISTS. World Agr. 2: 114. July 1921.

Also available in slightly expanded form as an article entitled "Missionary Agriculturists Needed for American Indians" in South. Workman 51: 378–381 (August 1922). The author was the secretary for Indian schools of the National Y. W. C. A.

Dawes, Henry L. (537)
THE INDIAN TERRITORY. Independent 52: 2561–2565. Oct. 25, 1900.

The purpose for which the commission to the Five Civilized Tribes was created, and the "present condition" of their work.

Donaghy, James A. (538)
FITTING THE INDIAN IN. Nor'-West Farmer 48 (8): 5, 17. Apr. 20, 1929.

What the Indians on some of the large reserves in Alberta are doing.

Dory, William. (539)
THE APACHES OF THE HIGHLANDS. South. Workman 51: 472–477. October 1922.

Brief review of the Apaches since the Civil War.

——— (540)
THE MESCALERO APACHES PRESENT CONDITIONS. South. Workman 51: 413–419, illus. September 1922.

Draper, W. R. (541)
THE INDIAN AS A FARMER. Harper's Weekly 45: 725, illus. July 20, 1901.

The illustrations show a Delaware Indian farmer; Comanche Indian boys hoeing a melon patch; the Seger Industrial School Colony, Oklahoma Territory; and Washita and Caddo Indians clearing a cornfield.

——— (542)
THE RECONSTRUCTION OF THE INDIAN TERRITORY. Outlook 68: 444–447. June 22, 1901.

"The curtain will soon be rung down on what has been termed by many the greatest human tragedy of the end of the century. Within two years the Indians of the Five Civilized Tribes will be entirely stripped of their identity as a people, their laws abolished, and their lands divided into small tracts."

Dwight, Ben. (543)
RELATIONSHIPS BETWEEN INDIAN HOMES AND SCHOOLS. Natl. Conf. Social Work Proc. 1933; 677–685.

It is necessary that farming be used as the cornerstone for the reconstruction program among the Choctaw Indians.

Eastman, Elaine Goodale. (544)
YANKEE SCHOOLMISTRESS AMONG THE SIOUX. Rural New Yorker 91: 547–548, 563–564, 579–580, 599, 601, 615–616, 631–632, 647–648, 675–676. June 11–Aug. 6, 1932.

The hunter essays to farm, pp. 599, 601; ranch life in the sand hills, pp. 631, 632.

Eggestine, Adelia L. (545)
CHIPPEWA INDIANS IN RURAL MINNESOTA. Pub. Health Nursing 24: 89–94, illus. February 1932.

The State public-health plan; the clinic at the wildrice harvest, life in the rice camp; teaching by example; lay group aids Indian service; and the ineffectiveness of the white man's medicine.

Elliott, W. J. (546)
POSSIBILITIES FOR THE RED MAN. Nor'-West Farmer 55 (5): 15, 18. May 1936.

Craft work is urged to supplement agriculture, which the western Canadian Indians find difficult.

ELLIOTT, W. J. (547)
SCHOOLS FOR RED CHILDREN. Nor'-West Farmer 54 (12) : 9, 12, illus. December 1935.

Indian schools in western Canada teach farming and related occupations.

FARIS, C. T. (548)
THE INDIAN AS A WOOL GROWER. Natl. Wool Grower 15 (11) : 23–25, illus. November 1925.

The article states that approximately 10 percent of the Indian population of today is engaged in the sheep industry and that the Navajos take the lead in numbers and production. The illustrations show: Navajo owner-herder and his sheep; one of the Navajo designs; ewes on the Jicarilla Apache winter range.

FLETCHER, ALICE C. (549)
LANDS IN SEVERALTY TO INDIANS; ILLUSTRATED BY EXPERIENCES WITH THE OMAHA TRIBE. Amer. Assoc. Adv. Sci. Proc. (1884) 33: 654–665.

FLOOD, FRANCIS A. (550)
FIRST FARMERS OF AMERICA. Farmer-Stockman 50: 631, 658, illus. Nov. 1, 1937.

Description of the present lands of the Navajo, Hopi, and Pueblo Indians. Also in Ind. Farmers' Guide 93: 712, 719, illus. (Dec. 4, 1937). The illustration shows an Indian woman shucking corn near Cuya Mengue, N. M.

——— (551)
HOPIS LIVE ON SAND AND HOPE. Farmer-Stockman 50: 693, 710, illus. Dec. 1, 1937.

Present-day Hopi farming practices with illustrations showing corn cultivation and an orchard. Also under the title "Living on Sand and Hope" in Ind. Farmers' Guide 94: 84, 85, illus. (Feb. 12, 1938), with illustrations showing corn drying, corn planting, a cornfield, and a corn hill.

——— (552)
I'D LIKE TO BE A NAVAJO. Farmer-Stockman 50: 716, 737, 739, illus. Dec. 15, 1937.

Present-day agricultural conditions on the Navajo Reservation with illustrations showing a hogan and sheep. Also in Ind. Farmers' Guide 94: 193, 209, illus. (Mar. 26, 1938), with illustrations showing sheep and goats, and the drying of meat.

——— (553)
PUEBLOS ARE PEOPLE. Farmer-Stockman 51: 7, 27, illus. Jan. 1, 1938.

Also in Ind. Farmers' Guide 94: 304, illus. (May 21, 1938).

FORBES-LINDSAY, C. H. (554)
THE NORTH AMERICAN INDIAN AS A LABORER; HIS VALUE AS A WORKER AND A CITIZEN. Craftsman 14: 146–157. May 1908.

For an extensive comment on this article, see "Redskin as Laborer and Agriculturist," Amer. Rev. of Reviews 37: 728–729 (June 1908).

FORDE, CYRIL DARYLL. (555)
ETHNOGRAPHY OF THE YUMA INDIANS. 278 pp., illus. Berkeley, Univ. Calif. Press. 1931. (Calif. Univ. Pubs. Amer. Archaeol. and Ethnol. v. 28, No. 4.)

Agriculture, pp. 107–112; planted grasses, p. 113; landownership, p. 114; gathered seeds and fruits, pp. 115–116; tobacco, p. 117; hunting, p. 118; fasts, p. 118; fishing, p. 119. Mainly concerns present-day life.

——— (556)
HOPI AGRICULTURE AND LAND OWNERSHIP. Roy. Anthrop. Inst. Jour. (1931) 61: 357–405, illus.

Introduction, pp. 357–358; phonetic note, p. 358; physical conditions, pp. 358–366; village lands and boundaries, pp. 366–367; clan lands, pp. 367–383; Zuñi landholding, pp. 383–384; agricultural seasons and calendar, pp. 384–389; cultivation and crops, pp. 389–395; magic and ritual in cultivation, pp. 395–399; conclusion, p. 399.

Plate 42 includes three pictures of Hopi cornfields; plate 43, a picture of a typical corn clump, one of a bean plot, and one of a squash vine with an individual windbreak; plate 44, a picture of an irrigated garden, and one of chile and onion beds.

Commented on in Scot. Geog. Mag. 48: 294 (Sept. 15, 1932). Summary by J. R. Swanton in Social Sci. Abs. 4: 16025 (October 1932).

GIFFORD, E. W. (557)
THE COCOPA. Calif. Univ., Pubs. Amer. Archaeol. and Ethnol. 31 (5): 257–334, illus. Berkeley, Calif. 1933.

The tribes of the Yuman family, situated around the head of the Gulf of California. Habitat and neighbors, pp. 260–262; agriculture (maize, beans, cucurbits, other plants), pp. 263–267; gathering and hunting (fish, meat, salt, tobacco), pp. 267–270; material culture, pp. 270–280; bibliography, pp. 323–324.

——— (558)
THE KAMIA OF IMPERIAL VALLEY. U. S. Bur. Amer. Ethnol. Bul. 97, 94 pp., illus. 1931.

Agriculture, pp. 5, 21–25; fishing, pp. 25–26; hunting, pp. 26–27; cooking and eating, pp. 27–28.

GOODWIN, GRENVILLE. (559)
THE SOCIAL DIVISIONS AND ECONOMIC LIFE OF THE WESTERN APACHE. Amer. Anthrop. 37: 55–64, map. January-March 1935.

The life of the Apaches about 1850 and brief consideration of the phases of that life that have continued to the present.

GREGORY, HERBERT E. (560)
THE NAVAJO COUNTRY. U. S. Geol. Survey Water-Supply Paper 380, 219 pp., illus., maps. 1916.

A geographic and hydrographic reconnaissance of parts of Arizona, New Mexico, and Utah. Bibliography, pp. 199–208. See the index under agriculture and irrigation.

HARSHBERGER, JOHN W. (561)
CHANGES IN THE HABITS OF THE HOPI INDIANS, ARIZONA. Geog. Soc. Phila. Bul. 24: 39–45. January 1926.

The last three pages have observations on the changes that are taking place in Hopi agriculture.

HASKETT, BERT. (562)
STAMPING OUT ANIMAL DISEASES ON INDIAN RESERVATIONS. Producer; The Natl. Live Stock Monthly 12(2): 5, 9. July 1930.

HERITAGE, WILLIAM. (563)
FORESTRY ACCOMPLISHMENTS IN THE INDIAN SERVICE IN THE LAKE STATES Jour. Forestry 37: 717–718. September 1939.

——— (564)
FORESTRY, PAST AND FUTURE, ON INDIAN RESERVATIONS IN MINNESOTA. Jour. Forestry 34: 648–652. July 1936.

The Grand Portage, White Earth, Nett Lake, and Red Lake Indian Reservations and forestry.

HERMSTEAD, OSCAR. (565)
INDIANS JOIN FARM BUREAU; REALIZING THAT GOVERNMENT AID WILL NOT LAST FOREVER, THEY WELCOME BETTER FARMING IDEALS. Dakota Farmer 43: 166–167. Feb. 15, 1923.

The Promise Indian Farmers' Club in the northwestern portion of Dewey County, S. Dak., the joining by six of their group of the Dewey County Farm Bureau, and the agriculture practiced by these Indians.

HEYWOOD, JAMES. (566)
ON THE APTITUDE OF THE NORTH AMERICAN INDIANS FOR AGRICULTURE. Roy. Statis. Soc. Jour. 33: 456–462. December 1870.

HILL, WILLARD WILLIAMS. (567)
THE AGRICULTURAL AND HUNTING METHODS OF THE NAVAHO INDIANS. 194 pp., illus., maps. New Haven, Yale Univ. Press. 1938. (Yale Univ. Pubs. Anthrop. 18.)

Introduction (territory, annual cycle, daily round), pp. 11–19; Agriculture (field location, ownership, preparation for planting, planting, cultivation, harvesting, storage, crop utilization, nonfood plants, introduced plants, summary), pp. 20–51; Agricultural Ritual (observances and beliefs, minor rituals, major ceremonies, rain ceremony, summary), pp. 52–95; Hunting (mythological background, education in ritual hunting, ritual hunting, summary), pp. 96–166; Nonritual Hunting (summary), pp. 167–176; Conclusion (the ritualization of everyday behavior, Navaho culture in relation to neighboring cultures), pp. 177–190; Bibliography, pp. 191–193.

Review by J. W. Hoover in Geog. Rev. 30: 318 (April 1940).

HILL, WILLARD WILLIAM. (568)
NOTES ON PIMA LAND LAW AND TENURE. Amer. Anthrop. 38: 586–589. October–December 1936.

HODGSON, W. O. (569)
THE INDIVIDUAL INDIAN FARM. Red Man 7: 32–35. September 1914.

"The Pima, Papago, and Maricopa Indians, who live in this country and who are the particular subjects of this article, are primarily farmers and stock raisers. . . .

"Last year authority was granted by the Indian Office in Washington for sixty acres of the school farm at Sacaton to be divided up into ten-acre fields. This unit of ten acres was deemed advisable because in all probability when the Indians receive their allotments in severalty, each allotment will consist of a ten-acre tract of tillable land."

HOOVER, J. W. (570)
THE INDIAN COUNTRY OF SOUTHERN ARIZONA. Geog. Rev. 19: 38–60, illus. January 1929.

Pimería, land of the Pimas and Papagos; the Gila River and its changed character; the terraces of the Gila River in relation to Pima culture; economic conditions of the Pimas; the Mohave Indians; the Papago and the Papagueria; the mountain country and peoples.

See also the author's article entitled "Navajo Nomadism" in Geog. Rev. 21: 429–445, illus. (July 1931).

——— (571)
NAVAJO LAND PROBLEMS. Econ. Geog. 13: 281–300, illus. July 1937.

"Eastward from the Grand Canyon of the Colorado in Arizona, the Navajo realm stretches to the 108th meridian in New Mexico, and from the Little Colorado River northward to the San Juan River in Southern Utah. The solid block of Navajo reservation area includes 25,000 square miles or 16,000,000 acres. . . . The real Navajo country—the country occupied chiefly by Navajo—comes nearer to 28,000 square miles, an area larger than Ireland.

"Incongruously this vast area set aside for the Navajo Indians, with a density of population of about two per square mile, is overcrowded, though it appears vacant.

"The Indian population of the reservation area is estimated to include 46,000 or more Navajo, about 3,000 Hopi, and 100 Piute. The entire white population comprises not more than 2,000 traders, missionaries, teachers, and other government employees."

The land problems incident to this situation are discussed under the following headings: The land; vegetation associations; economic adjustments of the Navajo to their land; the problem of erosion; causal factors of the accelerated erosion; rehabilitation of Navajo lands, the Navajo Erosion Control Project; utilization of vegetation cover; rodent control; reduction of Navajo flocks; cooperative, protective, and highway projects; improvement of Navajo stock; recourse to farming; remunerative employment.

A map delineates the Navajo Indian Reservation and illustrations show a typical hogan, a flock of sheep, a cornfield, a farming community, examples of erosion, and examples of efforts to check erosion.

——— (572)
TUSAYAN: THE HOPI INDIAN COUNTRY OF ARIZONA. Geog. Rev. 20: 425–444, illus. July 1930.

Fields and crops are considered on pp. 434–440. Other subjects included are: The villages; the mesas; water and fuel supplies; arts; movements of population, past and present; bibliographical footnotes. Summary by Charles M. Davis in Social Sci. Abs. 3: 14935 (October 1931).

HOUGH, WALTER. (573)
THE PATIENT PIMAS. Home Geog. Monthly 1 (12): 7–12, illus. June 1932.

——— (574)
SEMINOLES OF THE FLORIDA SWAMPS. Home Geog. Monthly 2 (3): 7–12, illus. September 1932.

INSTITUTE FOR GOVERNMENT RESEARCH. (575)

THE PROBLEM OF INDIAN ADMINISTRATION; REPORT OF A SURVEY MADE AT THE REQUEST OF HONORABLE HUBERT WORK, SECRETARY OF THE INTERIOR, AND SUBMITTED TO HIM FEBRUARY 21, 1928. 872 pp. Baltimore, Johns Hopkins Press. 1928. (Its Studies in administration.)

The report of the survey made by Lewis Meriam, technical director; Ray A. Brown, Henry Roe Cloud, Edward Everett Dale, Emma Duke, Herbert R. Edwards, Fayette Avery McKenzie, Mary Louise Mark, W. Carson Ryan, Jr., and William J. Spillman, who spent 7 months in field work and 8 months in office work investigating present conditions among the Indians.

Agriculture, grazing and stock farming, and irrigation of Indian lands are considered on pp. 488-515.

For comment on this report, see John Collier, "Hammering at the Prison Door," in Survey 60: 389, 402–405 (July 1, 1928); and Francis Fisher Kane, "East and West: The Atlantic City Conference on the American Indian" in Survey 61: 472–474 (Jan. 15, 1929). This conference of "over eighty men and women, representing practically all the Indian defense associations in the country, as well as the church organizations, . . . approved the Meriam report." The article entitled "Economic Situation of the American Indians" in the U. S. Bur. Labor Statis. Monthly Labor Rev. 27: 699–703 (October 1928) is a summary-review of the report.

KINNEY, J. P. (576)

THE ADMINISTRATION OF INDIAN FORESTS. Jour. Forestry 28: 1041–1052. December 1930.

Historical background of the policy toward Indian lands; present policies and problems in administering the forests owned by the Indians; the administration of grazing on Indian lands.

——— (577)

A CONTINENT LOST—A CIVILIZATION WON; INDIAN LAND TENURE IN AMERICA. 366 pp., illus. map. Baltimore, Johns Hopkins Press. 1937.

1, Indian Land Tenure Policy during the Colonial Period, pp. 1–26; 2, The Agitation for the Removal of the Indians, 1776–1832, pp. 27–80; 3, Early Indications of an Allotment Policy, 1633–1832, pp. 81–102; 4, Experimentation with an Allotment Policy, 1833–1871, pp. 103–162; 5, The Acceptance of a General Allotment Policy, 1872–1887, pp. 163–213; 6, Allotment Purpose Defeated by Lease and Sale, 1888–1909, pp. 214–248; 7, The Development of Reservation Resources, 1910–1936, pp. 249–321; 8, The Past, the Present, and the Future, pp. 322–343; Bibliography, pp. 345–349; Appendix (map showing tribes of North America; table showing total area of Indian lands, 1871–1933; table showing areas of restricted lands on Indian reservations).

The volume is reviewed as follows: Joseph A. Batchelor in Amer. Econ. Rev. 27: 546–547 (September 1937); Randolph C. Downes in Miss. Val. Hist. Rev. 24: 252 (September 1937); Paul Wallace Gates in Amer. Hist. Rev. 43: 635–636 (April 1938); Alban W. Hoopes in Social Studies 29: 131 (March 1938); Rupert N. Richardson in Southwest Hist. Quart. 42: 150–152 (October 1938); H. A. Smith in Jour. Forestry 35: 601–604 (June 1937).

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E. C. W. ON INDIAN RESERVATIONS. Jour. Forestry 31: 911–913. December 1933.

The Emergency Conservation Work made substantial physical improvements on Indian land.

——— (579)

AN INDIAN TRIBE PRACTICES FORESTRY; ON THE MENOMINEE RESERVATION FOREST PRACTICE HAS BROUGHT RESULTS. Amer. Forests and Forest Life 34: 532–534, illus. September 1928.

The Menominee Reservation consists of 10 townships along the Wolf River and its tributaries and the south branch of the Oconto River, 50 miles northwest of Green Bay, Wis.

The illustrations show an area left after the selective cutting of 1926 on the Menominee Reservation was completed; the nursery and seedbeds on the reservation; spruce transplants in the Menominee nursery.

La Farge, Oliver. (580)
THE AMERICAN INDIAN'S REVENGE. Current Hist. 40: 163–168. May 1934.
Background of the Wheeler-Howard Bill. The Indians were becoming more and more dependent on Government relief.

——— (581)
REVOLUTION WITH RESERVATIONS. New Repub. 84: 232–234. Oct. 9, 1935.
Under Commissioners C. J. Rhoads and John Collier, the Bureau of Indian Affairs has reversed many previous policies.

Leigh, W. R. (582)
A DAY WITH A NAVAHO SHEPHERD. Scribners Mag. 71: 334–343, illus. March. 1922.
A Navaho boy's work in herding sheep and goats.

Leupp, F. E. (583)
INDIAN LAND TROUBLES AND HOW TO SOLVE THEM. Amer. Rev. of Reviews 42: 468–472. October 1910.

Lipps, Oscar Hiram. (584)
HISTORY OF THE ART OF WEAVING AMONG THE NAVAJOS. Red Man 7: 58–63. October 1914.
"The art of weaving is comparatively a new art among the Navajos . . . he learned it from the Pueblos and since the introduction of sheep into his country by the Spaniards. It is certainly not more than three hundred years since he began to weave, if that long."

——— (585)
LAWS AND REGULATIONS RELATING TO INDIANS AND THEIR LANDS. 91 pp. Lewiston, Idaho, Lewiston Printing and Binding Co. 1913.
1. Laws and Regulations; 2, Digest of Decisions Relating to Indian Affairs; 3, Classified List of Nez Percé Indians.

Luomala, Katharine. (586)
NAVAHO LIFE OF YESTERDAY AND TODAY. 115 pp., processed, illus. Berkeley, Calif. U. S. Natl. Park Serv. 1938.
Hunting, pp. 43–47; Food, pp. 48–51; Agriculture, pp. 52–56; Livestock, pp. 57–85; Bibliography, pp. 104–115. Reviewed by J. W. Hoover in Geog. Rev. 30: 318 (April 1940).

Marshall, Robert. (587)
ECOLOGY AND THE INDIANS. Ecology 18: 159–161. January 1937.
"The ecology of most Indian reservations is not only a zoological and botanical problem, but it is also fundamentally influenced by the dominant economic problem of how to make all of the United States yield all of its citizens a reasonable standard of living."—p. 161.

Mason, J. Alden. (588)
THE PAPAGO HARVEST FESTIVAL. Amer. Anthrop. 22: 13-25 January-March 1920.
Description of the Vigita or harvest festival of the Papago Indians of the Santa Rosa Valley, held the last of November, supposedly every 4 years.

McKenzie, Fayette Avery. (589)
THE INDIAN IN RELATION TO THE WHITE POPULATION OF THE UNITED STATES. 117 pp, Columbus, Ohio, The Author. 1908.
1, Historical Review; 2, Indian Status: Past and Present: Policy for the Future; 3, Results of Citizenship; 4, Trust Funds; 5, Education: Kinds of Schools; 6, Educational Policy; 7, Results of Non-reservation School; 8, Voluntary Agencies; 9, Mission and Settlement Work; 10, The Problem. Thesis (Ph. D.), Pa. Univ.

McLean, Mary. (590)
A VISIT TO PRIMITIVE FARMERS. Farmers Advocate and Home Mag. 65: 1192 Aug. 7, 1930.
Report on the comments of Mary McLean, who spent many years among the Hopi Indians of Arizona.

Meacham, Lotta Allen. (591)
THE CROW INDIAN FAIR. Independent 65: 656-658. Sept. 17, 1908.
The Crow Indian Industrial Fair on the reservation in Montana.

MERIAM, LEWIS B., RYAN, W. CARSON, JR., LA DU, BLANCHE L., BRONSON, RUTH MUSKRAT. (592)
STATE AND LOCAL COOPERATION WITH THE NATIONAL GOVERNMENT IN SOCIAL AND EDUCATIONAL WORK FOR THE INDIANS. Natl. Conf. Social Work Proc. 1931: 606–645.

Statement of the problem, by Lewis B. Meriam, pp. 606–616; Cooperation in Indian education, by W. Carson Ryan, Jr., pp. 617–625; What Minnesota is doing for the Indians, by Blanche L. La Du, pp. 626–636; The Indians' attitude toward cooperation, by Ruth Muskrat Bronson, pp. 637–645.

MERRITT, EDGAR B. (593)
THE AMERICAN INDIANS AND THE GOVERNMENTAL INDIAN ADMINISTRATION. U. S. Off. Indian Affairs Bul. 12, 18 pp. 1926.

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See pp. 4, 26, 103, 164. Bibliography, pp. 179–186. Plate 20 is of two views of floodwaters following a rain.

SCHMECKEBIER, LAURENCE F. (603)
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Unusual foods of the Mexican Indians, especially corn affected by black rust.

BUSHNELL, DAVID I. (650)
THE CHOCTAW OF BAYOU LACOMB, ST. TAMMANY PARISH, LOUISIANA. U. S. Bur. Amer. Ethnol. Bul. 48, 35 pp., illus., map. 1909.

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"The following list of plants used by the North-American Indians inhabiting the country east of the Mississippi River was compiled during a course given to students of Radcliffe College in 1899–1900, at the Peabody Museum, by Dr. Frank Russell of the Department of American Archaeology and Ethnology of Harvard University." The English common names are given; they are arranged according to their uses under the name of the Indian tribe. List of the works from which the information was obtained, pp. 9–10.

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PLANTS USED BY THE INDIANS OF MENDOCINO COUNTY, CALIFORNIA. U. S. Dept. Agr., Div. Bot., Contrib. U. S. Natl. Herbarium 7 (3): 295–408, illus. Washington. 1902.

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PLANTAS TINTÓREAS DE ARAUCANIA. Rev. Chilena de Hist. Nat. (1929) 33: 364–374, illus.

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AN INTRODUCTORY DISCOURSE, DELIVERED BEFORE THE LITERARY AND PHILOSOPHICAL SOCIETY OF NEW YORK ON THE FOURTH OF MAY, 1814. 143 pp. New York, David Longworth. 1815.

See the following: Note 32, pp. 127–128, on food plants used by Indians; note 33, pp. 128–131, on wildrice; note 34, pp. 132–133, on wheat; note 35, pp. 133–134, on fodder grasses; notes 36 and 37, pp. 134–138, on geographical distribution and introduction of plants.

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DIRECTIONS FOR COLLECTING SPECIMENS AND INFORMATION ILLUSTRATING THE ABORIGINAL USES OF PLANTS. U. S. Natl. Mus. Bul. 39, pt. J, 8 pp. 1895.

General remarks; material to be collected; description of specimens, and notes; aboriginal uses of plants.

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WOKAS, A PRIMITIVE FOOD OF THE KLAMATH INDIANS. U. S. Natl. Mus. Ann. Rpt. 1902: 725–739, illus.

A detailed record of the methods used by the Indians in harvesting and preparing their crop of wokas, or waterlily seed, on Klamath Marsh which contains about 10,000 acres of a solid growth of wokas.

The illustrations include views of the following: A wokas gatherer's camp; wokas gatherer's boat and pole; 1 day's harvest of two women; wokas on a mealing stone; wokas drying pile and implements; Indian extracting wokas seeds.

DAHLGREN, B. E. (663)
CACAO. Field Mus. Nat. Hist., Chicago, Bot. Leaflet 4, 14 pp., illus. Chicago. 1923.

"Long before the discovery of the American continent, cacao was used and cultivated from Mexico to Ecuador. It is thus a distinctly American contribution to the world's food resources."

DENSMORE, FRANCES. (664)
CHIPPEWA CUSTOMS. U. S. Bur. Amer. Ethnol. Bul. 86, 204 pp., illus., map. 1929.

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USES OF PLANTS BY THE CHIPPEWA INDIANS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1926–27) 44: 274–397, illus. 1928.

Most of the monograph is devoted to plants used as food and medicine, plants used as dyes, plants used as charms, and plants used in useful and decorative arts.

Review by T. F. McIlwraith in Canad. Hist. Rev. 10: 361 (December 1929); and Willoughby M. Babcock in Minn. Hist. 10: 440–441 (December 1929).

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THE VALUE OF INSECTS TO THE CALIFORNIA INDIANS. Sci. Monthly 38: 181–186, illus. February 1934.

Insects eaten by the Indians, both in the past and at present.

FEWKES, JESSE WALTER. (667)
A CONTRIBUTION TO ETHNOBOTANY. Amer. Anthrop. 9: 14–21. January 1896.

A fragment of a study originally undertaken by J. G. Owens and J. Walter Fewkes on the foods and resources of the Hopi Indians.

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Classified plant list, pp. 179–203; Navaho foods, pp. 204–220; sheep raising, pp. 257–259; agriculture, pp. 259–270.

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PLANT NAMES OF INDIAN ORIGIN. Gard. and Forest 9: 250–253, 262–263, 282–283, 292–293, 302–303. June 24, July 1, 15, 22, 29, 1896.

GILMORE, MELVIN RANDOLPH. (670)
DISPERSAL BY INDIANS A FACTOR IN THE EXTENSION OF DISCONTINUOUS DISTRIBUTION OF CERTAIN SPECIES OF NATIVE PLANTS. Mich. Acad. Sci., Arts, and Letters, Papers (1931) 13: 89–94.

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THE GROUND BEAN AND ITS USES. Indian Notes 2: 178–187, illus. July 1925.

The scientific name of the ground bean is *Falcata comosa*.

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INDIAN FOOD PRODUCTS FROM NATIVE WILD PLANTS. Good Health 61(9): 18–19, 46; (10): 12–13, 28, illus. September, October 1926.

The article deals largely with wildrice (*Zizania aquatica*); seeds of wild sunflower (*helianthus annuus*); ground bean (*Falcata comosa*); and all kinds of native nuts.

Summary under the title "Corn as the Indians Cooked It" in Lit. Digest 90(8): 29, illus. (Aug. 21, 1926). One illustration shows green ears, still in their husks, being laid on a bed of willow poles; the other, the roasting process.

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THE INDIAN GARDEN. Indian Notes 3: 209–213, illus. July 1926.

The American Ethnobotanical Garden was begun in 1925 by the Museum of the American Indian, Heye Foundation, on a tract of land given by Archer M. Huntington in the Bronx near Pelham Bay Park at the suggestion and under the direction of Dr. Gilmore. The University of Michigan is developing a similar botanical museum. It is known as the Ethnobotanical Museum.

GILMORE, MELVIN RANDOLPH. (674)
INDIAN LORE AND INDIAN GARDENS. 39 pp., illus., maps. Ithaca, N. Y., Published under the auspices of the Coordinating Council on Nature Activities by the Slingerland-Comstock Co. 1930.

The Indian Garden, pp. 27–28; native plants as used by Indians, pp. 32–33; nuts and seeds, pp. 34–35; native wild fruits, pp. 35–36; plants used for making tealike beverages, p. 36; sugar sources, p. 37; plants used for perfumes, p. 37; plants used for dyes and stains, p. 38; fiber plants, p. 38; gums and resins, p. 38; some plant remedies, p. 38; and the list of useful books for understanding Indian life, p. 39.

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INDIANS AND CONSERVATION OF NATIVE LIFE. Torreya 27: 97–98. November–December 1927.

The fundamental difference in the attitude of mind of white people and of Indians with regard to the indigenous fauna and flora.

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A LIVING OUTDOOR MUSEUM. Mus. Work 3: 144–153. February 1921.

A proposal for outdoor museums or gardens with the natural growths of the region. Special attention is given to plans for a park for the grounds of the State Capitol at Bismarck, N. Dak.

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SOME CHIPPEWA USES OF PLANTS. Mich. Acad. Sci., Arts., and Letters, Papers (1932) 17: 119–143.

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SOME NATIVE NEBRASKA PLANTS WITH THEIR USES BY THE DAKOTA. Nebr. Stat. Hist. Soc. Collect. (1913) 17: 358–370.

The result of inquiry among the Oglala Dakota on Pine Ridge Reservation, August 1912.

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A STUDY IN THE ETHNOBOTANY OF THE OMAHA INDIANS. Nebr. State Hist. Soc. Collect. (1913) 17: 314–357.

Economic plants by families, pp. 337–349; plants arranged according to uses among the Omaha, pp. 349–353; bibliography on economic botany of American aborigines, pp. 353–357. Thesis, M. A., Nebr. Univ., June 1909.

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USES OF PLANTS BY THE INDIANS OF THE MISSOURI RIVER REGION. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1911–12) 33: 43–154. 1919.

This monograph is an attempt to ascertain the relation of the native people of the plains to one phase of their indigenous physical environment. The region specially represented is Nebraska, and the Teton, Dakota, Omaha, Ponka, and Pawnee localities. Bibliography, pp. 153–154. Also issued separately. For a review see A. L. Kroeber in Amer. Anthrop. 22: 384–385 (October-December 1920); and O. A. Stevens, "Uses of Plants by the Indians," in Science 52: 99–101 (July 30, 1920).

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VEGETAL REMAINS OF THE OZARK BLUFF-DWELLER CULTURE. Mich. Acad. Sci., Arts, and Letters, Papers (1930) 14: 83–102, illus.

Part of the findings of the archaeological explorations conducted on the upper course of the White River in Carrol and Benton Counties in Arkansas, and on the Elk River in McDonald County, in the southwest corner of Missouri in the spring and summer of 1922 and the early part of 1923 by the Museum of the American Indian, New York. List of the species of seed-bearing plants in taxonomic order by families from the lower to the higher, pp. 93–102.

GODDARD, PLINY EARLE. (682)
LIFE AND CULTURE OF THE HUPA. 88 pp., illus. Berkeley, Univ. Press. 1903. (Calif. Univ. Pub., Archaeol. and Ethnol., v. 1, No. 1.)
See pp. 21–32 on food.

GORE, JAMES HOWARD. (683)
TUCKAHOE, OR INDIAN BREAD. Smithsn. Inst. Ann. Rpt. 1881: 687–701, illus.
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The fruit of the giant cactus supplied the Papago and Pima Indians with a variety of edible products.

HARMS, HERMANN. (686)
ÜBERSICHT DER BISHER IN ALTPERUANISCHEN GRÄBERN GEFUNDENEN PFLANZENRESTE. *In* Festschrift Eduard Seler, pp. 157–186, illus. Stuttgart, Strecker und Schroder. 1922.

HARRIS, GEORGE HENRY. (687)
THE INDIAN BREAD ROOT OF THE SENECAS. 8 pp. Waterloo, N. Y., Observer Electric Print. 1890.

Probably *Arum triphyllum*.

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ROOT FOODS OF THE SENECA INDIANS. Rochester Acad. Sci. Proc. 1: 106–117, illus. January 1889–June 1891.

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PHYTOGEOGRAPHIC INFLUENCES IN THE ARTS AND INDUSTRIES OF AMERICAN ABORIGINES. Geol. Soc. Phila. Bul. 4: 137–153. April 1906.

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THE PURPOSES OF ETHNO-BOTANY. Bot. Gaz. 21: 146–154. March 1896.

"To the World's Fair in 1893 was brought a unique collection of objects obtained through the liberality of Mr. Hazzard by the Wetherill brothers in the Mancos cañon, Colorado. Never before in the history of American archaeology had such a complete series of objects been brought together for study and comparison. The University of Pennsylvania was fortunate in securing through the efforts of Mr. Culin the loan of the entire collection, which stands unrivalled in showing a large series of interesting things; plant products in the form of food, dress, and household utensils being very largely represented. It is to the description of the plants and plant products that this article is directed." The article is also in Amer. Antiquarian Soc. Proc. (1896) 18: 73–81.

HASKIN, LESLIE L. (691)
FRONTIER FOOD; IPO, OR YAMPA, SUSTAINED THE PIONEERS. Nature Mag. 14: 171–172, illus. September 1929.

The illustration shows a statue of Sacagawea, the Indian woman guide of Lewis and Clark, in Portland, Oreg. She introduced the carums and was the first to disclose the tastiness of these plants to white men. The fruit of three species of Umbelliferae, *Carum kelloggii*, *C. gairdneri*, and *C. oreganum*, was used by Klamath Indians, who originally called it "kash."

HAVARD, VALERY. (692)
DRINK PLANTS OF THE NORTH AMERICAN INDIANS. Torrey Bot. Club Bul. 23: 33–46. Feb. 29, 1896.

The plants are considered under the following heads: Those yielding alcoholic liquors; those yielding stimulating, exhilarating, or intoxicating principles other than alcohol; and those furnishing palatable juices, or, by infusion, pleasant beverages more or less used to quench thirst.

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THE FOOD PLANTS OF THE NORTH AMERICAN INDIANS. Torrey Bot. Club Bul. 22: 98–123. Mar. 27, 1895.

HERRERA, FORTUNATO L. (694)
FITOLATRÍA INDÍGENA; PLANTAS Y FLORES SIMBÓLICAS DE LOS INKAS. Inca 1: 440–446. April–June 1923.

HOUGH, WALTER. (695)
THE ENVIRONMENTAL INTERRELATIONS IN ARIZONA. Amer. Anthrop. 11: 133–155. May 1938.

List of plants utilized by Hopi Indians arranged according to uses, pp. 142–150; systematic list of species, pp. 152–155.

HOUGH, WALTER. (696)
THE HOPI IN RELATION TO THEIR PLANT ENVIRONMENT. Amer. Anthrop. 10: 33–44. February 1897.

The plants, considered and later enumerated, are grouped into a number of classes, according to their uses for food, house building, dress and adornment, domestic life, arts, agriculture and forage, medicine, religion, and folklore.

HRDLIČKA, ALÉS. (697)
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JOYCE, T. A. (698)
YERBA MATÉ; THE TEA OF SOUTH AMERICA. Pan-Amer. Mag. 33: 307–328, illus. November–December 1921.

Historical inquiry into the origin and use of yerba maté. Bibliography, pp. 327–328.

LABARRE, WESTON. (699)
NATIVE AMERICAN BEERS. Amer. Anthrop. 40: 224–234. April–June 1938.

Indian use of plant substances in the past and present for undistilled alcoholic liquors.

LAMPMAN, BEN HUR. (700)
SAVAGE GARDENS, NATURE'S CROP FOR HER NUT-BROWN CHILDREN. Nature Mag. 12: 32–34, illus. July 1928.

The *Sagittaria latifolia*, or arrowhead, the famous wapatoo of the Multnomah Indians. Its tubers were used for food.

LAUFER, BERTHOLD. (701)
THE AMERICAN PLANT MIGRATION. Sci. Monthly 28: 239–251. March 1929.

A careful statement of the significance of plant cultivations in the development of mankind. In reference to the United States, the author recognizes four strata of plant cultivations: (1) Those peculiar to the aborigines of America, subsequently adopted by the white settlers, who also succeeded in cultivating wild species of North America; (2) plants introduced from England in colonial times; (3) American plants introduced from the West Indies in the seventeenth and eighteenth centuries; (4) numerous plants brought over from China and Japan from the eighteenth century onward to the present day. Detailed attention is given to the potato and the pineapple.

LEA, FRANK T. (702)
INDIAN BREAD MAKERS IN YOSEMITE. Overland 64: 24–26, illus. July 1914.

A brief account of the process of collecting and preparing acorns for food by the Yosemite Indians, a process which has been followed perhaps for centuries. The illustration shows one of the Indian bread makers posing in her cabin.

LLOYD, JOHN URI. (703)
ORIGIN AND HISTORY OF ALL PHARMACOPOEIAL VEGETABLE DRUGS, CHEMICALS, AND PREPARATIONS WITH BIBLIOGRAPHY. VEGETABLE DRUGS. v. 1, 449 pp., illus. Cincinnati, Caxton Press. 1921.

Prepared under the auspices of and published by the American Drug Manufacturers' Association, Washington, D. C. Consult table of contents and index for references to pertinent material. Bibliography, pp. 357–424.

LOESENER, THEODOR. (704)
ÜBER MAYA-NAMEN UND NUTZANWENDUNG YUCATEKISCHER PFLANZEN. *In* Festschrift Eduard Seler, pp. 321–343. Stuttgart, Strecker und Schröder. 1922.

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CONTRIBUCIÓN AL ESTUDIO DE LOS PRODUCTOS VEGETALES QUE SE ENCUENTRAN EN LOS "RESTOS DE COCINA" PRECOLOMBINOS DE TAMBO INGA. Asoc. Peruana Para Prog. Cien. Arch. (1921) 1: 118–130, illus.

Bibliografía, p. 130.

MARIE-VICTORIN, FRÈRE. (706)
L'IDENTITE DU POGLUS (*Heracleum Lanatum* MICHX.). Nat. Canad. 46: 121–124. December 1919.

MASON, OTIS TUFTON. (707)
MIGRATION AND THE FOOD QUEST: A STUDY IN THE PEOPLING OF AMERICA. Smithsn. Inst. Ann. Rpt. 1894: 523–539.

MASON, ROBERT LINDSAY. (708)
TREE MYTHS OF THE CHEROKEES. Amer. Forests and Forest Life 35: 259–262, 300, illus. May 1929.

MEJÍA XESSPE, M. T. (709)
KAUSAY-ALIMENTACIÓN DE LOS INDIOS. Wira Kocha 1: 9–24. January 1931. Summary by L. L. Bernard in Social Sci. Abs. 3: 14975 (October 1931).

MERRIAM, C. HART. (710)
THE ACORN, A POSSIBLY NEGLECTED SOURCE OF FOOD. Natl. Geog. Mag. 34: 129–137, illus. August 1918.

Most of the article is devoted to the use and preparation of acorns by the Indians.

MILDBRAED, J. (711)
VON DEN BULUS GENUTZTE WILDWACHSENDE PFLANZEN DES SÜDKAMERUNER WALDLANDES. 43 pp. Leipzig and Berlin, Wilhelm Engelmann. 1913. ([Berlin] K. Bot. Gart. u. Mus. Notizbl., app. 27. October 1913).

MORTON, F. S. (712)
THE ALASKAN INDIANS' BILL OF FARE. Rural New Yorker 76 (4417): 234. Feb. 17, 1917.

The diminishing Aleuts; wild vegetables; fish and meat; seaweed and berries; drying fish; housing conditions; a luxury in food.

MOSELEY, EDWIN LINCOLN. (713)
SOME PLANTS THAT WERE PROBABLY BROUGHT TO NORTHERN OHIO FROM THE WEST BY INDIANS. Mich. Acad. Sci., Arts, and Letters, Papers (1931) 13: 169–172.

NEWBERRY, J. S. (714)
FOOD AND FIBER PLANTS OF THE NORTH AMERICAN INDIANS. Pop. Sci. Monthly 32: 31–46. November 1887.

PALMER, EDWARD. (715)
PLANTS USED BY THE INDIANS OF THE UNITED STATES. Amer. Nat. 12: 593–606, 646–655. 1878.

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PITTIER DE FABRÉGA, HENRY F. (716)
ETHNOGRAPHIC AND LINGUISTIC NOTES ON THE PAEZ INDIANS OF TIERRA ADENTRO, CAUCA, COLOMBIA. Amer. Anthrop. Assoc. Mem. 1: 301–356, illus. map. June 1907.

Food, cultivated and other useful plants, pp. 321–324.

POPENOE, WILSON. (717)
BATIDO AND OTHER GUATEMALAN BEVERAGES PREPARED FROM CACAO. Amer. Anthrop. 21: 403–409, illus. October–December 1919.

POWERS, STEPHEN. (718)
ABORIGINAL BOTANY. Calif. Acad. Sci. Proc. (1873–74) 5: 373–379.

"All the forms of the vegetable world which the aborigines use for medicine, food, textile fabrics, ornaments, etc." are considered as coming under the word botany as employed in this paper.

See also ch. 38, Aboriginal Botany, pp. 419–431, of the same author's Tribes of California (Washington, Govt. Printing Off., 1877), issued by the Department of the Interior's United States Geographical and Geological Survey of the Rocky Mountain Region as v. 3 of his Contributions to North American Ethnology.

REAGAN, ALBERT B. (719)
PLANTS USED BY THE BOIS FORT CHIPPEWA (OJIBWA) INDIANS OF MINNESOTA. Wis. Archeol. 7: 230–248. July 1928.

REAGAN, ALBERT B. (720)
PLANTS USED BY THE HOH AND QUILEUTE INDIANS. Kans. Acad. Sci. Trans. (1934) 37: 55–70.

"The Hoh and Quileute Indians . . . live on the west side of the Olympic peninsula, about due west of Seattle, Wash. The Quileutes occupy the village of La Push, which is near Mora, at the mouth of the Quillayute river, five miles down the coast from Cape Johnson and thirty-six miles down the coast southwest of Cape Flattery, while the Hohs live in the Indian village of Hoh at the mouth of the Hoh river, near Destruction Island, twelve miles southwest of La Push. These Indians were great users of the plants of the region in the old days, and still do use some of them."—p. 55.

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PLANTS USED BY THE WHITE MOUNTAIN APACHE INDIANS OF ARIZONA. Wis. Archeol. 8: 143–161. July 1929.

The present-day situation.

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VARIOUS USES OF PLANTS BY WEST COAST INDIANS. Wash. Hist. Quart. 25: 133–137. April 1934.

Use of kinnikinick, an intoxicating herb; cascara sagrada bark used as medicine; salmon berry sprouts used in courting ceremonies long ago; pit baking; preparing various foods; various uses of cedar, other than that of canoe manufacture; the canoes; eating rootstalks of the horsetail plant; foxglove flowers for decorative purposes.

ROBBINS, WILFRED WILLIAM, HARRINGTON, JOHN PEABODY, and FREIRE-MARRECO, BARBARA.
ETHNOBOTANY OF THE TEWA INDIANS. U. S. Bur. Amer. Ethnol. Bul. 55, 124 pp., illus. 1916.

Bibliography, pp. 119–120.

RUSBY, HENRY H. (724)
BEVERAGES OF VEGETABLE ORIGIN. N. Y. Bot. Gard. Jour. 5: 79–86. April 1904.

Beverages made by the Indians from plants.

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[WILD FOODS OF THE UNITED STATES.] Country Life [Garden City, N. Y.] 9: 718–719, 752, 754; 10: 66–69, 202–204, 220, 222, 224, 328–330, 340, 342, 344, 346, 348, 436–438, 448, 450, 452, 533–535, 564, 566, 598, 600, 602, 604; 11: 82, 84, 86, 88, 90, 92, 94, 456, 458, 546, illus. April 1906–March 1907.

The titles of the installments vary. The subject is considered by the month in which the food plants are prominent. There are many illustrations.

RYDBERG, PER A. (726)
PLANTS USED BY ANCIENT AMERICAN INDIANS. N. Y. Bot. Gard. Jour. 25: 204–205. July 1924.

Notes on the collections made by M. R. Gilmore.

SAFFORD, WILLIAM EDWIN. (727)
AUNONA DIVERSIFOLIA, A CUSTARD APPLE OF THE AZTECS. Wash. Acad. Sci. Jour. 2: 118–125. Mar. 4, 1912.

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"CHENOPODIUM NUTTALLIAE," A FOOD PLANT OF THE AZTECS. Wash. Acad. Sci. Jour. 8: 521–527. Sept. 19, 1918.

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Cosmos Sulphureus, THE XOCHIPALLI OR FLOWER PAINT OF THE AZTECS. Wash. Acad. Sci. Jour. 8: 613–620. Nov. 19, 1918.

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THE REDISCOVERY OF THE XOCHINACAZTLI OF THE AZTECS, WITH NOTES ON MEXICAN ANNONACEAS. Science 33: 470. Mar. 24, 1911.

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THE SACRED EAR-FLOWER OF THE AZTECS: XOCHINACAZTLI. Smithsn. Inst. Ann. Rpt. 1910: 427–431, illus.

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SACRED FLOWERS OF THE AZTECS. Volta Rev. 14: 87–93, illus. May 1912.
Also revised and reprinted separately.

SAFFORD, WILLIAM EDWIN. (733)
USE OF NUTS BY THE ABORIGINAL AMERICANS. North. Nut Growers' Assoc. Rpt. (1923) 14: 54–60.

SAUNDERS, CHARLES FRANCIS. (734)
THE YUCCA AND THE INDIAN. Amer. Bot. 17: 1–3. February 1911.

SEARS, PAUL B. (735)
NATURAL VEGETATION IN RELATION TO THE MOUND BUILDERS AND LATER INDIANS. Okla. Acad. Sci. Proc. (1928) 8: 12–15.

The conclusions in this paper are due to work by two students, Anna Shephard and Mabel E. Bridges.

SHEA, AGNES. (736)
CONSERVATION OF FOOD AMONG THE INDIANS. Overland Monthly (ser. 2) 72: 441–442. November 1918.

SMITH, HURON HERBERT. (737)
ETHNOBOTANY OF THE MENOMINI INDIANS. 174 pp. illus. Milwaukee, Wis., Published by order of the Trustees. 1923. (Milwaukee Pub. Mus. Bul., v. 4, No. 1.)

Foreword, pp. 8–9; introduction, pp. 10–14; Menomini vegetal medicines, pp. 14–20; Menomini medicinal plants, pp. 21–58; Menomini vegetal foods, pp. 59–60; Menomini food plants, pp. 60–72; Menomini vegetal fibers, pp. 72–73; Menomini fiber plants, pp. 73–77; Menomini vegetal dyes, pp. 77; Menomini dye plants, pp. 77–79; miscellaneous uses of plants, pp. 79–82; finding list of plants by scientific name, pp. 83–92; by English name, pp. 92–102.

Review under the title "Uses of Native Plants by the Menomini," in Wis. Archeol. 3: 24–26 (January 1924).

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ETHNOBOTANY OF THE MESKWAKI INDIANS. 177–326 pp., illus. Milwaukee, Wis., Published by order of the Trustees. 1928. (Milwaukee Pub. Mus. Bul., v. 4, No. 2.)

Vegetal medicines; medicinal materials; vegetal foods; food plants; vegetal fibers; fiber plants; vegetal dyes; dye plants; miscellaneous use of plants; finding list of plants, pp. 275–302. The Meskwaki reservation is in Tama County, Iowa.

SPARKMAN, PHILIP STEDMAN. (739)
THE CULTURE OF THE LUISEÑO INDIANS. Calif. Univ. Pubs. Amer. Archaeol. and Ethnol. 8(4): 187–234. Berkeley, Univ. Press. 1908.

Vegetable food, pp. 193–197; articles made of plant fibers, pp. 202–203; plants used by the Luiseños, pp. 228–234.

SPINDEN, HERBERT JOSEPH. (740)
THE NEZ PERCÉ INDIANS. Amer. Anthrop. Assoc. Mem. 2(3): 165–274. November 1908.

Food and its preparation, pp. 200–207, includes material on camas, pouse, other roots, berries, and famine foods. Bibliography, pp. 272–274.

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ON THE GREATER USE OF INDIAN FOODS. Amer. Mus. Jour. 17(3): 189. March 1917.

A note written on the occasion of the campaigns to change food habits during the World War.

STEEDMAN, ELSIE VIAULT, EDITOR. (742)
ETHNOBOTANY OF THE THOMPSON INDIANS OF BRITISH COLUMBIA; BASED ON FIELD NOTES BY JAMES A. TEIT. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1927–28) 45: 441–552.

Introduction; plants used as medicines, pp. 455–477; plants used as food, pp. 477–492; plants or parts of plants chewed; plants made into nonmedicinal drinks; plants used for smoking; plants used in manufacture; plants used in making dyes and paints; plants used as scents; plants used for purification; plants used as charms; plants concerning which there are special beliefs; plants mentioned in mythology; poisonous plants; plants used especially as horse and dog medicines; plants used as food by animals; alphabetical list of families with genera and species; alphabetical list of genera and species; index.

STEVENS, ORIN A. (743)
USES OF PLANTS BY THE INDIANS. Science 52: 99–101. July 30, 1920.

A summary based on item 680.

STEVENSON, MATILDA COXE. (744)
ETHNOBOTANY OF THE ZUÑI INDIANS. U. S. Bur. Amer. Ethnol. Ann. Rpt. (1908–09) 30: 31–102, illus.

Introduction, pp. 35–38; medical practices and medicinal plants, pp. 39–64; edible plants, pp. 65–76; use of plants in weaving, pp. 77–79; use of plants in dyeing, p. 80; use of plants in basketry, p. 81; use of plants in pottery decoration, p. 82; use of plants for the toilet, p. 83; use of plants in folklore, pp. 84–85; clan names and other names derived from plants, p. 86; ceremonial uses of plants, pp. 87–100; list of plants, pp. 101–102.

A summarizing review under the title "Ancient Botany of the Zuñi Indians" in Sci. Amer. Sup. 82: 197 (Sept. 23, 1916).

STOUT, A. B.
VEGETABLE FOODS OF THE AMERICAN INDIANS. N. Y. Bot. Gard. Jour. 15: 59–60. March 1914.

STOWE, GERARD C. (746)
PLANTS USED BY THE CHIPPEWA. Wis. Archeol. (n.s.) 21: 8–13. April 1940.

Plants as medicine; plants as food; seasonings; vegetables; plants used as dyes; plants used as charms.

SWANTON, JOHN R. (747)
CATAWBA NOTES. Wash. Acad. Sci. Jour. 8: 623–629. Nov. 19, 1918.

SWEETSER, ALBERT RADDIN. (748)
WILD PLANTS OF THE NORTHWEST COAST. Oreg. Hist. Quart. 33: 51–59. March 1932.

"These notes consist of edited compilations from various sources. . . . Their purpose is simply to put into a form, easily available . . . a bit of the history of some of our common wild plants, the origin of their names, and some of the uses to which they were put by the Indians and early settlers."

Cow-parsnip (*Heracleum*), pp. 51–54; tobacco, pp. 54–56; kinnikinick, pp. 56–58; Oregon tea, yerba buena, pp. 58–59.

TAYLOR, WILLIAM A. (749)
THE FRUIT INDUSTRY, AND THE SUBSTITUTION OF DOMESTIC FOR FOREIGN-GROWN FRUITS. U. S. Dept. Agr. Yearbook 1897: 305–344, illus.

See especially Fruits Found and Used by the Early Colonists, pp. 305–307. This section is reprinted in U. S. Dept. Agr. Yearbook 1925: 110–111. See also Cultivation of Native Fruits, pp. 307-308.

TESCHAUER, CARLOS. (750)
ALGUMAS NOTAS SOBRE ETHNOLOGIA E "FOLKLORE" NA FLORA E AVIFAUNA DO BRASIL. [Rio de Janeiro] Mus. Nac. Arch. (1919) 22: 221–230.

TORREY, JOHN. (751)
OBSERVATIONS ON THE TUCKAHOE OR INDIAN BREAD OF THE SOUTHERN STATES . . . Med. Repository 21: 34–44. New York. 1821.

TRIMBLE, HENRY. (752)
SOME INDIAN FOOD PLANTS. Amer. Jour. Pharm. 60: 593–595; 61: 4–6, 556–558; 62: 281–282, 598–600; 63: 525–527. 1888–1891.

Pt. 1, *Shepherdia argentea*; Pt. 2, *Lewisia rediviva*; Pt. 3, *Peucedanum eurycarpum*; Pt. 4, *Peucedanum canbyi*; Pt. 5, California soap plant, *Chlorogalum pomeridianum*; Pt. 6, *Carum gairdneri*.

TRUMBULL, J. HAMMOND. (753)
WORDS DERIVED FROM INDIAN LANGUAGES OF NORTH AMERICA. Amer. Philol. Assoc. Trans. 3: 19–32. 1872.

A considerable number of plant and cooking words are included.

TURNEY-HIGH, HARRY. (754)
COOKING CAMAS AND BITTER ROOT. Sci. Monthly 36: 262–263. March 1933.

The ways the Interior Salish tribe of Flatheads in western Montana prepared their staple vegetable foods, the root of the camas (*Quamasia quamash*) and the bitterroot (*Lewisia rediviva*).

URBINA Y ALTAMIRANO, MANUEL. (755)
RAÍCES COMESTIBLES ENTRE LOS ANTIGUOS MEXICANOS. Mus. Nac. Mex. An. (ser. 2) 3:117–190. 1906.

WAUGH, FREDERICK WILKERSON. (756)
SOME NOTES ON ETHNO-BOTANY. Ottawa Nat. 31:27–29. May 1917.

WILL, GEORGE F. (757)
ADVENTURES IN PRESERVING AND IMPROVING INDIAN FOOD PLANTS. N. and S. Dak. Hort. 9:78, 82–84. July 1936.

Also with title "George F. Will's Studies of Indian Agriculture" in Dakota Farmer 56:438–440 (Sept. 12, 1936).

WILSON, TOM. (758)
THE USE OF WILD PLANTS AS FOOD BY INDIANS. Ottawa Nat. 30:17–21. May 1916.

WITTMACK, LUDWIG. (759)
DIE NUTZPFLANZEN DER ALTEN PERUANER. 7th Internatl. Cong. Américanists, Berlin, Proc., 1888:325–348.

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ÜBER BOHNEN AUS ALTERPERUANISCHEN GRÄBEN. Bot. Ver. der Brandenb. Verhandl. (1879) 21(1): 176–184.

Bibliographical footnotes.

WOLF, FREDERICK A. (761)
THE FRUITING STAGE OF THE TUCKAHOE, *pachyma cocas*. Elisha Mitchell Sci. Soc. Jour. 38:127–137, illus. September 1922.

History; distribution; description of sclerotia; origin of sclerotia; formation and structure of the sporophore; summary; and literature cited. "The name tuckahoe is of Indian origin and was applied by them to all edible roots and tubers. It has come to be used by botanists, however, to include only certain subterranean fungous growths or sclerotica . . . Pine root tissues are always included within this tuckahoe and it is apparently parasitic upon the roots of pine."—p. 135.

YANOVSKY, ELIAS. (762)
FOOD PLANTS OF THE NORTH AMERICAN INDIANS. U. S. Dept. Agr. Misc. Pub. 237. 83 pp. 1936.

Foreword, p. 1; introduction, pp. 1–2; plants, pp. 2–64; literature cited, pp. 65–68; index, pp. 69–83.

"This publication is a summary of the records of food plants used by the Indians of the United States and Canada which have appeared in ethnobotanical publications during a period of nearly 80 years. This compilation, for which all accessible literature has been searched, was drawn up as a preliminary to work by the Bureau of Chemistry and Soils on the chemical constituents and food value of native North American plants."—Foreword.

Comment by Frank Thone under the title "Indian Market-Basket" in Sci. News-Letter 32:222–223 (Oct. 2, 1937).

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ANALYSES OF SOME INDIAN FOOD PLANTS. Assoc. Off. Agr. Chem. Jour. 21:648–665. November 1938.

Contribution 138 from the Carbohydrate Research Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture.

MEDICINAL PLANTS

ANONYMOUS. (764)
PEYOTES; DATOS PARA SU ESTUDIO. Inst. Méd. Nac. Mex. An. 4: 203–214, illus. 1900.

ALBES, EDWARD. (765)
QUININE: A SOUTH AMERICAN GIFT TO HUMANITY. Pan. Amer. Union Bul. 42: 61–78, illus. January 1916.

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ARCHER, W. ANDREW. (766)
THE DENTAL PLANT OF THE CITARÁ INDIANS IN COLOMBIA. Wash. Acad. Sci. Jour. 24:402–404. Sept. 15, 1934.

The Citará Indians use the "querá" plant to blacken their teeth.

BEALS, CARLETON. (767)
THE DRUG EATERS OF THE HIGH ANDES. Travel 70(2): 29–31, 40, illus. December 1937.

Use of cocaine by Indians of Peru and Bolivia.

BLAIR, THOMAS S. (768)
HABIT INDULGENCE IN CERTAIN CACTACEOUS PLANTS AMONG THE INDIANS Amer. Med. Assoc. Jour. 76: 1033–1034. Apr. 9, 1921.

The mescal button or peyote.

BRAUBACH, CHARLES. (769)
MEDICINAL PLANTS OF THE AZTECS WHICH ARE STILL IN COMMON USE IN MEXICO. Pharm. Assoc. Jour. 14: 498–505. June 1925.

The vernacular names are used.

BROOKS, HARLOW (KISHKA TANU). (770)
THE MEDICINE OF THE AMERICAN INDIAN. N. Y. Acad. Med. Bul. (ser. 2) 5: 509–537. June 1929.

Medicinal plants, pp. 525–531.

BURHAM, H. M. (771)
PHARMACY OF THE RED MEN. Maine Pharm. Assoc. Proc. 1916: 31–33.

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