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MUSEUM OF NORTHERN ARIZONA

Bulletin No. 15

ETHNOBOTANY OF THE HOPI

BY

ALFRED F. WHITING

NORTHERN ARIZONA SOCIETY OF SCIENCE AND ART

FLAGSTAFF

June, 1939

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Printed in the United States of America.
Entered as second-class matter Feb. 18,
1931, at the Postoffice at Flagstaff, Ari-
zona, under the Act of August 24, 1912.

plains the results of cross-pollination which takes place along the borders of adjacent fields.

Although the Hopi do not understand the real reason for these mixtures they refuse to plant any kernels from an ear of corn which they consider to be a mixture, thus maintaining their varieties in a more or less pure state. They are also keen to note differences in the quality, season, or other desirable characters, and seed corn is often selected with these factors in mind. These varieties are virtually hereditary within the household and great care is taken that no viable seed should leave the house except for a ceremonial blessing in the kiva or to be planted in the fields.³

Plants Cultivated by the Hopi

Plants cultivated since prehistoric times:

Corn	<i>Zea mays</i>	Page 67
Squash	<i>Cucurbita moschata</i>	" 93
Bean (kidney)	<i>Phaseolus vulgaris</i>	" 82
Tepeary	<i>Phaseolus acutifolius latifolius</i>	" 80
*Cotton	<i>Gossypium hirsutum</i>	" 84

Plants of doubtful origin, possibly introduced in Pre-Spanish times:

Sunflower	<i>Helianthus</i> sp.	Page 97
Gourd	<i>Lagenaria vulgaris</i>	" 93
Lima bean	<i>Phaseolus lunatus</i>	" 81
Aztec bean	<i>Phaseolus multiflorus</i>	" 81

Plants introduced after the coming of the Spanish:

†Onion	<i>Allium cepa</i>	Page 70
†Chili peppers	<i>Capiscum annuum</i>	" 88
Watermelon	<i>Citrullus vulgaris</i>	" 92
Peaches	<i>Prunus persica</i>	" 79
†Wheat	<i>Triticum sativum</i>	" 66

Plants introduced by the Mormons:

†Safflower	<i>Carthamus tinctorius</i>	Page 95
Turban squash	<i>Cucurbita maxima</i>	" 93
†Sorghum	<i>Sorghum vulgare</i>	" 66
Probably other fruits and vegetables.		

Plants of recent introduction:

†Coxcomb	<i>Amaranthus cruentus</i>	Page 74
†Peanut	<i>Arachis hypogaea</i>	" 79
†Beet	<i>Beta vulgaris</i>	" 73

³ For a further discussion of Hopi agriculture see C. Daryl Forde, 1931; Whiting, 1936, 1937; Titiev, 1938.

†Cauliflower	<i>Brassica oleracea botrytis</i>	Page 76
†Cabbage	<i>Brassica oleracea capitata</i>	" 76
†Turnip	<i>Brassica rapa</i>	" 86
†Coriander	<i>Coriandrum sativum</i>	" 93
Melon	<i>Cucumis melo</i>	" 93
†Cucumber	<i>Cucumis sativus</i>	" 86
†Carrot	<i>Daucus carota</i>	" 86
*†Fennel	<i>Foeniculum officinale</i>	" 97
Jerusalem artichoke	<i>Helianthus tuberosus</i>	" 97
†Lettuce	<i>Lactuca sativa</i>	" 97
†Tomato	<i>Lycopersicon esculentum vulgare</i>	" 89
†Pea	<i>Pisum sativum</i>	" 83
†Radish	<i>Raphanus sativus</i>	" 77
Potato	<i>Solanum tuberosum</i>	" 90

Fruits:

Apple	<i>Malus sylvestris</i>	Page 79
Almond	<i>Prunus amygdalus</i>	" 79
Apricot	<i>Prunus armeniaca</i>	" 79
Cherry	<i>Prunus</i> sp.	" 79
Pear	<i>Prunus communis</i>	" 84
Grape	<i>Vitis</i> sp.	" 84

* No longer grown.
 † Cultivated in small, hand irrigated plots near springs.
 ‡ Cultivated only under irrigation at Moenkopi.

AGRICULTURAL METHODS⁴

The main corn crop is raised along the bottoms of the washes where flood waters provide a risky substitute for irrigation. Some corn fields are also planted under the cliffs along the edges of the valleys where underground seepage provides the necessary moisture in favorable years. The Hopi farmer thus has two chances of outwitting the weather. If the rains wash out the first crop he can fall back on the second, and when this fails in a dry year there is often enough flood water to insure a harvest from the first. At best, however, the harvest is insecure and the orthodox Hopi household maintains an extra year's supply of corn to provide against the inevitable year of complete failure.

Beans, in contrast to corn, are usually planted in separate fields on top of the mesas, though occasionally they may be planted in separate rows in the same field with the corn. Squash, melons, gourds, etc., are grown in small plots in favorable localities close to the villages or in a corner of the corn or bean fields. Peaches and other fruit trees huddle in

⁴ The following is a general description to which there are occasional exceptions.

CHAPTER IX

THE HOPI IN RELATION TO THEIR ENVIRONMENT

SUMMARY OF PLANTS USED BY THE HOPI

In the preceding chapters we have seen how the Hopi use, or are said to use, a great many different plants. These are summarized in the following table.

Cultivated plants	40
Semi-cultivated plants	10
Wild plants used for food	54
In preparing corn dishes	5
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Medicinal plants	65
Ceremonial and magical	37
Plant symbols	45

When we realize that there are little more than two hundred wild species of flowering plants in the vicinity of the Hopi villages we marvel at the apparent thoroughness with which the Hopi utilize these limited resources. Actually less than a hundred wild plants are used in everyday life. This list is misleading for in addition to considerable duplications it includes a number of plants obtained from outside the local flora.

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WILD PLANTS OBTAINED AT A DISTANCE

Many plants are obtained from the higher altitudes in the general vicinity of the San Francisco Peaks, eighty miles to the southwest. These include pine for roofing timbers, Douglas fir, white fir and aspen for ceremonies, oak and holly grape for tools and weapons, mountain mahogany for dyeing leather, tobacco for ceremonial purposes and beebalm for flavoring food. Beebalm, Douglas fir, and oak can be obtained in small quantities thirty or forty miles to the north of the Hopi villages and occasionally tobacco may be found on the desert. Mescal (*Agave*) however cannot be found in the Hopi country and must be obtained by trading with the Havasupai.

White fir	<i>Abies concolor</i>	Page 62
Mescal	<i>Agave</i> sp.	" 71
Fern	<i>Asplenium trichomanes</i>	" 99
Sand grass	<i>Calamovilfa gigantea</i>	" 65
Mountain mahogany	<i>Cercocarpus eximius</i>	" 78
Beebalm	<i>Monarda menthaefolia</i>	" 91
Tobacco	<i>Nicotiana</i> spp.	" 90
Beargrass	<i>Nothia</i> spp.	" 70
Holly grape	<i>Odosmum fremontii</i>	" 76
"Sacred tobacco"	<i>Onosmodium thurberi</i>	" 76
Pine	<i>Pinus ponderosa</i>	" 63
Aspen	<i>Populus aurea</i>	" 71
Douglas fir	<i>Pseudotsuga mucronata</i>	" 63
Sage	<i>Salvia cannosa</i>	" 91
Oak	<i>Quercus</i> spp.	" 72
Broad leaf yucca	<i>Yucca baccata</i>	" 71

PLANTS OF NEGATIVE IMPORTANCE

Environmental adjustment involves adaptation to unfavorable as well as favorable elements and the Hopi recognize a number of local plants as being of negative value. These include, among others

Loco	<i>Oxytropis lambertii sericea</i>	Page 80
Tumble weed or	<i>Salsola pestifer</i>	" 74
Russian thistle	<i>Triobulus terrestris</i>	" 83
Caltrop		

PLANTS WHICH ARE NOT USED

Although the plants which are not used in everyday life are numerous, the list of plants for which no use has been suggested either by the Hopi interviewed or in the literature, is surprisingly short. A dozen grasses, many of them rare or insignificant, can hardly be included in all justice since the Hopi