



A  
PARTIAL LIST  
OF THE  
NECTAR AND POLLEN PLANTS  
OF  
OKLAHOMA

A  
PARTIAL LIST  
OF THE  
MICHIGAN AND VOLKING PLATES  
OF  
ORNAMENTAL

By

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Bachelor of Science

Southeastern State Teachers' College

Durant, Oklahoma

1934

Submitted to the Department of Entomology  
Oklahoma Agricultural and Mechanical College  
In Partial Fulfillment of the Requirements  
for the Degree of  
MASTER OF SCIENCE

1946

OKLAHOMA  
AGRICULTURAL & MECHANICAL COLLEGE  
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## P R E F A C E

Honey production depends upon three factors, namely bees, bee pasture, and climate. In this thesis an attempt has been made to list and evaluate the plants of Oklahoma that contribute to a surplus of honey in the production of pollen and nectar which may be available to the honey bee (*Anapis mellifera* Linn.) even if the contribution of the individual plant or plants may be small. In the evaluation of plants for honey production quality as well as quantity will be considered. Seven hundred fifty-one species of plants in thirty-one genera have been evaluated. The available nectar and pollen producing plants limit the bee pasture in any area. Apiculturists often know more about how to manipulate their bees than how to choose a suitable site for bee pasture. Less than one-half acre of pasture for each well managed hive is of little value for a stereotype of a surplus of honey. Frequently, apiculturists plant a few alfrels or one-fiftieth of an acre of clover, vetch, or buckheat and expect a large surplus of honey. The apiculturists and farmers need information which will help them in coordinating soil erosion, pasture building, cover cropping, and the production of grain, fruit, vegetables, seeds, fiber, and live-stock with honey production in Oklahoma. Each well managed farm should include several hives or bees.airy vetch and sweet clover are splendid for a surplus of honey. The annual yellow and white sweet clovers may be suitable to types of soil building where a winter legume is not required.

Some plants are of little or no value for honey production because the depth of the corolla tubes make the nectar inaccessible to the honey bee. Honey locusts, buckwheats, phloxes, blue petunias, and other plants have such corollas. Lost nectar producer plants which cannot be worked by the honey bee will be excluded in this paper. Honey loc-

is the excretion of insects while honey is made from nectar.

Every county in Oklahoma has been visited from one to fifty times during the last four years in the regular inspection of bees for disease. Bees have been worked in all counties except Cimarron. A special study has been made in the many areas of Oklahoma with reference to the plants bees visit at the various seasons. Some unusual activities of bees have been observed although it may be more accurately stated as--some unusual observation of the usual activities of bees. By the aid of a flash light bees were observed working bush honeysuckle in Muskogee county during the night time in February, 1939. Bees vigorously worked bush honeysuckle in Pushmataha county in January. Bees gathered a clear honey from maple on January 23, 1943, in Oklahoma City. Ample evidence is available to substantiate the nectar production of most plants included but it has been necessary to include some species upon the assertion of beekeepers that the plants are visited by bees.

Few plant species actually produce a sufficient amount of nectar for a surplus of honey, but many species contribute to the production of a surplus by furnishing food to sustain the colony during the year and by stimulating brood rearing during the early spring for developing a field force sufficiently large to store a surplus of honey. Persimmon produces an abundance of nectar and is often overlooked by the apicarist for the production of a surplus of honey.

The weather is an important factor in honey production. A rain may wash the nectar from the flowers or prevent the bees from visiting them until after the plants stop producing nectar. During May 1943 a surplus of honey was gathered from hairy vetch and yellow sweet clover in Oklahoma county where bees were sufficiently numerous in the hives. During June

No surplus honey was gathered by the same bees because of the excessive rains and other unfavorable weather conditions. Bees may not be able to fly because of low temperatures. Continued rains will produce a diluted nectar and reduce the honey storage because of excess water in gathering, and evaporation of nectar. Frost often renders the blossoms of black locust of no value. Bright conditions may at times reduce the vitality or even kill the plants, thus, reducing the nectar supply. Hot winds appear to evaporate the nectar in flowers at times. Strong winds as in the southwest section of Oklahoma will increase the time and energy expended by the bees as they fly to and from the source of nectar supply. The wings are worn and torn more rapidly in the flight by strong winds.

There are physiological conditions of the plant which inhibit or increase the nectar flow or even determine the quality of the nectar. The chemicals of the soil are probably factors that may control the physiological reaction of the plant for nectar secretion.

It is hoped this list of nectar and pollen producing plants, though incomplete, may be of value as a guide to apiculturists who realize the importance of minor nectar producing plants in honey production. Often one finds even an experienced apiculturist whose bees have gathered a surplus of honey from some plant unknown to him. There are areas where most honey comes from many kinds of wild flowers with few plants predominating.

Fifty honey plants have been placed in two groups of twenty-five each. The first group of twenty-five was selected in the belief that these plants probably produce the most surplus honey over a period of years. This first group is arranged, first, in the order of quantity of honey produced beginning with the best; second, the same twenty-five are arranged in the order of the quality of the honey produced. This same arrangement has been

carried out in the second group of twenty-five species. This will vary in accuracy considerably if applied to every local community. One bee-keeper may get a first class sample of honey from Buckloberry, sunn, gaura, lin, or broomweed, but taking the state as a whole, sweet clover leads in the quantity of honey produced while hairy vetch produces the finest quality. There will probably be little criticism if any in placing bitterweed as the most undesirable honey but there would be such difference of opinion in the positions of a great number of the twenty-five species of plants between the first and the last two. One bee-keeper believes broomweed-honey to be bitter because all the broomweed honey he has sampled was mixed with bitter weed. It is a common belief yellow sweet clover produces a darker honey than white clover, while, as a matter of fact, it is of about the same color as vetch honey when first extracted.

**THE FIRST THIRTY-FIVE PLANTS ARRANGED IN ORDER OF QUANTITY OF HONEY PRODUCED.**

Sweet Clover	Black Locust	Hindwood
Cotton	Blackberries	Holly
Alfalfa	Hairy Vetch	Lin, Linlein or
Horsemint	Spanish Needle	Hick Wood
Heart Leaf	Button Willow	Black Owl, or
Persimmon	Burthorn	Dear Owl
Milkweed	Willow	Gaura
Sham	Huckleberry	False Indigo
Honey Locust	Flax	Tamarisk

**THE FIRST THIRTY-FIVE PLANTS ARRANGED IN ORDER OF QUALITY OF HONEY PRODUCED.**

Hairy Vetch	Button Willow	Dear Owl
Sweet Clover	Spanish Needle	Holley
Persimmon	Sham	Blackberry
Lin, Linlein, or	Huckleberry	False Indigo
Hick Wood	Horsemint	Tamarisk
Milkweed	Bindweed	Carrotseed
Black Locust	Alfalfa	Willow
Honey Locust	Burthorn	
Gaura	Flax	
Cotton	Black Owl, or	

**THE GROUND HONEY-PLANTS FOUND IN ORDER OF QUANTITY OF HONEY PRODUCED.**

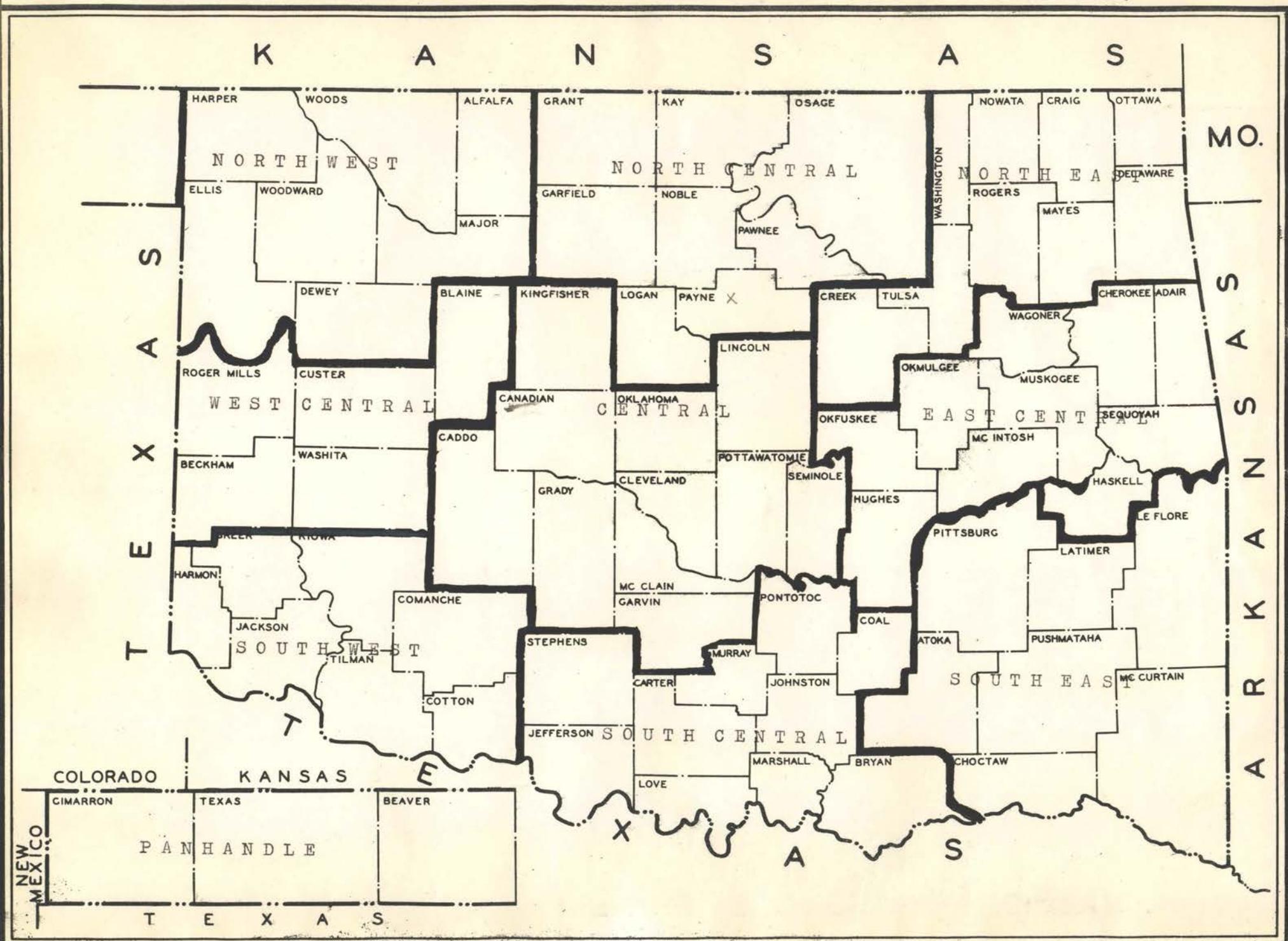
White Lawn Clover	Melons	Wild Cherry
Wild China Tree	Tick Trefoil	Golden Rod
Broomweed	Cleome	Corn Flower
Wild Alfalfa	Apple	Rattan Vine
Sitter Seed	Red Bud	Bush Honey Buckle
Cow Peas	Snow-on-the-Mountain	Boardground
Turnip & Mustard	Dandelion	Aster
Catalpa	Chittam Wood	
Black Brush	Mosquite	

**THE GROUND HONEY-PLANTS FOUND IN ORDER OF QUALITY OF HONEY PRODUCED.**

White Lawn Clover	Dandelion	Turnip & Mustard
Wild China Tree	Broomweed	Bush Honey Buckle
Tick Trefoil	Aster	Rattan Vine
Red Bud	Wild Alfalfa	Wild Cherry
Mosquita	Cow Peas	Chittam Wood
Catalpa	Melons	Black Brush
Apple	Snow-on-the-Mountain	Boardground
Golden Rod	Cleome	Corn Flower
		Bitterroot

There are large acreages of bee pasture over the entire state. Sweet clover honey is first in quantity production in all areas except the southwest and west-central sections where alfalfa honey predominates. In the organic sorghum belt of Oklahoma it is difficult to say what plant predominates in honey production. Some years hibiscus leads, others cotton is first, and then it may be persimmon but if the acreage were sufficient sweet clover honey would predominate. Honey from hairy vetch is probably the most desirable as to the quality with sweet clover and persimmon following close. The state is divided into geographical areas for convenience of discussion relative to the plants found. The principle honey producing areas are along our streams. The valleys of the Red, Washita, North Canadian, North Canadian, Cimarron, and the Arkansas rivers are the important honey producing areas. One or more of these rivers reaches most of the counties of the state.

GEOGRAPHICAL DIVISIONS ARBITRARILY CHOSEN FOR CONVENIENCE OF DISCUSSION IN THIS THESIS.



## C P R A R E A - C O O D I N A T I O N

Common Name of Plant	Kind of Honey Plant	Date of Blooming
Mullein	Occasional	February and March
Red Bud	Occasional surplus	March and April
Lawn Clover	Small surplus	March and July
Fruit Trees	Occasional	March and April
Bush Honey Buckle	Small surplus	February and July (Depending on species)
Black Locust	Occasional 50 pound surplus	April to May 15
Hairy Vetch	Surplus of 50 to 100 pounds	April to August
Yellow Sweet Clover	Surplus as much as 500 pounds	April to July 15
Wild Clinging Vines	Surplus	June
White Sweet Clover	Surplus as much as 600 pounds	July 15, July 15
Annual Sweet Clover	Surplus will probably be equal to Biennial clover (depends on time of planting). About 110 days from planting.	
Alfalfa	Surplus as much as 100 pounds	June to frost
Sunflower	Occasional small surplus	July to frost
Rhubarb	Occasional small surplus	July to October
Cotton	Surplus as much as 100 pounds	July 15 to frost
Bindweed	Surplus as much as 300 pounds	June to frost
Golden Rod	Small surplus	July to frost

In the control area sweet clover followed closely by alfalfa is the predominating plant. It is not uncommon to have one hundred pounds of surplus honey annually and five articles fully from clover. Yellow sweet clover in one instance yielded nine pounds of clover honey during May of 1942. Bush honey buckle yielded a thirty-three pound barrel of honey with slight green color. Black locust produced a surplus of honey about every second year. Hairy vetch has produced every spring for the last four years. Where the acreage is sufficiently large, hairy vetch equals sweet clover in yield and exceeds it in quality. Bindweed or the vine produces a splendid honey with an occasional surplus. Cotton produces

surplus on the heavy scile. When alfalfa is harvested for seed, a surplus in excess of fifty pounds is produced. Harvested produces a surplus and is used principally to winter bees. It is probable that harvested helps to darken the color of alfalfa honey since alfalfa honey gathered during June is of a better quality than the later alfalfa honey. Hank-wink produces a surplus of honey along the south Canadian river. The honey is slightly resinous in taste and is dark in color. The wild olive tree is not sufficiently plentiful to be a factor in surplus honey production. Willow occasionally produces a surplus of slightly bitter honey.

#### H O R T H E A S Y - C O U N T I E S

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Elm	Stimulative honey flow and pollen	February and March
Willow	Stimulative honey flow; abundance of pollen	March and April
Sand Plum	Occasional surplus of honey	April and May
Black Locust	Occasional 50 pound surplus	May
Shrub Birch	Surplus as much as 100 pounds	May
Lawn Clover	Small surplus	April and July
Sweet Clover	100 pounds or more surplus	July 1 to July 15
Ground Nut Nut	Stimulative	June 1 to frost
Horse mint	90 pound surplus	June 1 to July 15
Rocky Mountain Bee Plant	90 pound surplus	July 1 to frost
Alfalfa	70 pound surplus	July 1 to frost
Lupine	Small surplus	July 1 to frost
Barrel weed	Small surplus	July 15 to frost

In the north west counties elm, willow, and sand plum produce nectar and pollen for the spring brood rearing. Shrub birch produces a surplus of dark colored and poorly flavored honey. Sweet clover is the most abundant honey plant. Since it is being planted as a soilings crop the honey harvest for the northwest will likely increase. Before 1934 clover was plentiful but the droughts of 1934 and 1935 practically eliminated sweet clover from the area. Alfalfa does well in seed production but the acreage is too small to produce a large quantity of honey. Horse mint produces a surplus of honey in this area. The rocky mountain bee plant

has become established in Decatur county but the honey is of poor quality both as to flavor and color. The外贸 has been of value for winter stores for the last two years. The honey production is principally along the North Canadian River and its tributaries. The Ft. Supply lake will be of value to plants near by and the proposed irrigated area below will no doubt improve from the stand point of bee pasture. The principal problem is pollen and nectar for spring brood rearing. Bees could probably be moved to the willows along the streams in this area. There is enough horse mint in this area to produce a million pounds of good honey. The problem is to have enough bees to gather the nectar.

#### C I N C R A L - R A G T - C O U N T Y

<u>Plant</u>	<u>Date of Blooming</u>
Willow	Obundant, brood rearing occasion small surplus
Ulm	Obundant brood rearing
Fruit Trees	Obundant, brood rearing occasional 30 pound surplus
Black Locust	Occasional 30 pound surplus
Gritten Wood	Occasional 30 pounds surplus
Ground Nut	One spicist thought bees got weights June to frost
Sweet Clover	Made as much as 200 pound surplus
Horse mint	Make surplus up to 100 pounds
Afalfa	Make surplus over 100 pounds
Tamariet	No record of surplus here
Cotton	70 pounds surplus
Ric Vine	70 pound surplus occasionally
Sunflower	None honey
Smartweed	Surplus

The spring brood rearing is the difficult problem. Pollen is scarce. Bees could be moved to willows along the streams. Black locust occasionally produces a surplus. Sweet clover is the important honey plant with afalfa a close second. Cotton produces well on the good river valley soils, and is a fair honey plant on the upland prairies. Horse mint is plentiful with few bees to care for most of the jars of the jars. Sunflower produces some surplus of poor honey. Tamariet is of little value in these counties. Gritten wood produces a surplus of honey of a fair quality.

Spartweed occasionally does well in the fall. The tree produces a surplus of good honey.

#### G C U P T I A S T - G O O D Y R I D S

<u>Plant</u>	<u>Kind of Honey plant</u>	<u>Date of Blooming</u>
Willow	Some surplus	March to April
Lawn Clover	Stimulative	March to July
Black Locust	Occasional surplus	April and May
Sweet Clover	Good surplus where plant is abundant	May 2 to July 16
Ground Nut	Stimulative	May 16 to frost
Alfalfa	Surplus in excess 300 pounds	July to harvest
Cotton	Surplus 60 to 70 pounds	July 16 to frost
Broomweed	Stimulative	August 1 to October 1
Spartweed	Occasional surplus	July 1 to frost

The problem of producing honey in these counties is pollen for spring brood rearing. There is plenty of pollen along the Red river and its tributaries, but the apiculturists have their bees close enough to benefit. Bees in or near Davidson during June 1940 had two brood chambers of bees with a surplus of honey while five miles northwest the bees were weak even though honey was plentiful from the previous year. The area has many hundreds of acres of alfalfa. It is not uncommon to make 100 pounds of honey from alfalfa where pollen is sufficient during April and May. Sweet clover does well but the acreage is small. Broomstick produces a surplus. Cotton is a good plant for honey but the use of chemicals to control cotton insects reduces the bee population. Beekeepers in the western one-fourth of Fillmore county lost as many as three-fourths of the worker bees during the late summers of 1941 and 1942. There are too few bees for the splendid bee pastures in this area. This area could carry 30,000 more hives of bees if well managed.

#### G O O D Y R I D S - G O O D Y R I K S

<u>Plant</u>	<u>Kind of Honey plant</u>	<u>Date of Blooming</u>
Ela Willow	Stimulative	February and March
	Occasional surplus of 60 pounds	March and April

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Red Bud	Occasional surplus of 30 pounds	March and April
Fruit Trees	Stimulative	March and April
Black Locust	Surplus of 40 pounds occasional	April and May
Horsechestnut	Surplus of 30 to 70 pounds	June to frost
Alfalfa	Surplus of 30 to 70 pounds	June to frost
Bitterweed	Thirty or more pounds	July to frost
Cotton	Good surplus honey plant on rich soil	July to frost
Smartweed	Small value for surplus	July to frost
Golden Rod	Same value	July to September
Aster	Same value	August to frost

Carter and Pontotoc counties lead the other counties in the acreage of sweet clover and the production of honey. Most of the area has fair bee pastures but too few bees to gather the honey. Love county at one time produced a surplus of honey but farming practices have changed. Johnson grass has taken large acreages of fertile soil once used for clover and alfalfa. Bitterweed produces a surplus of honey and often ruins the marketable honey if left on the hives longer than July 10. Cotton produces well in Bryan and Carter counties. A surplus of smartweed is gathered about every third year. Occasionally willow produces a surplus in March and April. Horsechestnut produces a surplus on the prairies. Horsechestnut is the dependable honey plant in Bryan county.

### S O U T H W A S T - C O S Y L I N D E R

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Maple	Stimulative	January 20 to March 10
Red Bud	Stimulative, occasional small surplus	March to April 15
Willow	Surplus often above 100 pounds	March and April
Pine	Stimulative	February 1 - March 15
Fruit Trees	Stimulative	March and April
Wild Cherry	Stimulative for brood	April to May
Holly	Surplus of 30 pounds common	April and May
Black Oak	Surplus of 30 pounds occasionally	March 25 to April 30
Huckleberry	Surplus of 40 pounds	April and May
Hawthorn	Surplus 20 pounds	April and May
Persimmon	Surplus of 100 pounds every 3rd year	May and June
Button Willow	Surplus 30 pounds	May to June
Sweet Clover	Surplus of 60 pounds	May and June
Horsechestnut	Surplus 70 pounds	June and July

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
June	surplus 50 pounds	June and July
Bitterweed	surplus 30 - 60 pounds	July to frost
Broomweed	small surplus	July and August
Cotton	surplus 30 to 60 pounds	July to frost
Spanish Needle	Occasional surplus	August to frost
Goldenrod	stimulative	August to frost
Sorrel	Occasional surplus	August to frost
Bur Marigold	Occasional surplus	August to frost

Southeast California has great possibilities for the production of a surplus of honey but for beekeepers care for their bees properly. Horsemint and cotton probably lead in honey production. A surplus is produced from red bud, holly, persimmon, black-gram, buckthorn, sumac, willow, Spanish needle, and broomweed. The bitterweed starts producing nectar around July 1. The plants are not dependable but each year there was a surplus of around sixty pounds until 1948 when no surplus was produced. The honey produced during April, May, and June 15 is of a poor quality except willow, which is slightly bitter and should not be placed on the market. Alfalfa produces little or no honey in this area.

#### S E S T - C R U P P . L - C G V N T I E D

<u>Plants</u>	<u>Kind of Honey Plants</u>	<u>Date of Blooming</u>
Holly	stimulative for brood rearing	February and March
Willow	Occasional small surplus	March and April
Ailm	stimulative for brood rearing	February and March
Fruit Trees	stimulative for brood rearing	March and April
Wild Cherry	stimulative for brood rearing	April and May
Red Bud	stimulative for brood rearing	March and April
Buckthorn	Occasional small surplus	April and May
Black Locust	Surplus 50 pounds every third year	April and May
White Clover	stimulative principally	March and July
Persimmon	surplus of 30 - 150 pounds	June
Button Willow	small surplus	June and July
Jujube	Surplus 60 pounds	June
Wild China Tree	surplus of 100 pounds occasionally	June and July
Sweet Clover	small surplus	June to frost
Cotton	surplus of 60 pounds	July to frost
Gaura	Occasional surplus of 30 pounds	July to frost
Goldenrod	small surplus	July to October
Broomweed	large surplus 200 pounds	July to frost
Spanish Needle	Occasional surplus 70 pounds	August to frost
Bur Marigold	Occasional surplus	August to frost

The Arkansas and Canadian river valleys are splendid bee pastures. The spinierots can have an early crop of honey from the meadows and hills before the heavy soils begin to produce. A surplus is made from locust occasionally. Persimmon, sumac, hawthorn, and button willow are dependable early sources of nectar. Sweet clover, cotton, alfalfa, and wild China tree produce almost every year. Oaks produced a surplus of honey during August and September 1940. Sunflowers usually produced enough honey to winter the bees and occasionally a surplus. Well managed hives in this area should produce about one hundred pounds or more. Spanish needle, purple stemmed swamp bogbean tick (Dicentra congesta Schlecht.), and smooth bur marigold (Bidens laevis (L.) D.D.P.), produced a surplus of honey in Muskogee and adjacent counties during fall of 1942.

#### M O R E H A B I T - C O O N T R Y

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Maple	Stimulative	February and March
Hdn	Stimulative for brood rearing	February and March
Fruit Trees	Stimulative for brood rearing	March and April
Red Bud	Occasional small surplus	March and April
Black Locust	Surplus of 10 pounds occasionally	March and May
Hawthorn	Surplus rather small	March to May
Persimmon	Surplus up to 100 pounds	May and June
Sumac	Surplus to 50 pounds	May to August
Hempweed	50 pounds surplus	May to July 10
Bitterweed	50 pound surplus	July to October
Sweet Clover	Surplus up to 300 pounds	July to July
Spanish Needle	Surplus of 100 pounds	August and October
Rosesat	Occasional surplus	September to frost
Oaks	Occasional 50 pound surplus	August and September
Golden Rod	Small surplus	July to October
Smartweed	Surplus to 50 pounds	July to frost
Water	Stimulative for brood	September to frost

Willow, fruit trees, elm, and maple produce pollen and nectar for the spring brood rearing. Persimmon, hawthorn, and sumac are good for a surplus but sweet clover is the most dependable. Alfalfa seldom produces a surplus except around Bixby. Spanish needle produces a good surplus.

Oatmeal produces a surplus occasionally. Amurian is a good nectar plant for winter storage. Honeydew is a source of trouble unless the early honey is removed by July.

#### NORTH BENTON - COLUMBIA

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Hawthorn	Stimulative	February and March
Willow	Stimulative for brood rearing	March and April
Elm	Stimulative for brood rearing	February and March
Fruit Trees	Stimulative for brood rearing	March and April
Black Locust	Occasional surplus of 60 pounds	April and May
Berries	60 pound surplus	April and May
Milk Vetch	Occasional surplus of 60 pounds	June and July
Sweet Clover	Surplus of and above 200 pounds	July 15 to July 16
Alfalfa	Surplus of and above 100 pounds	June to frost
Spanish Needle	Surplus of 60 pounds	August to October
Goldenrod	Stimulative for brood rearing	August to frost
Smartweed	Surplus of 70 pounds	July to frost
Raster	Stimulative	September to frost

Bees produce early brood from a flow of nectar from elm, willow, and fruit trees, principally. Sweet clover is the surplus honey plant. One beekeeper made over one hundred pounds of surplus honey with packages bees from sweet clover. Alfalfa is a good plant for nectar. A beekeeper made an average of one hundred pounds in 1942 in Alfalfa county. Smartweed produces well.

#### PAWNEE - COLUMBIA

<u>Plant</u>	<u>Kind of Honey Plant</u>	<u>Date of Blooming</u>
Willow	Slight value	April and May
Lime Clover	Slight value	April and May
Cacti	Pollen	May and June
Sweet Clover	Good source when acreage permits	June and August
Desertgrass	Surplus of 60 pounds 1942	August to frost

Cacti are the first pollen plants in Tucson county. The cloud plant is a good source of nectar and pollen in Beaver county. Manzanita brush and honeysuckle are found in Beaver county. Alfalfa and clover produce a splendid honey but pollen for the spring rearing of brood is a critical problem. It would probably pay to plant clover for bee pastures if

the bees could be wintered in Central or Eastern Oklahoma. Irrigated Alfalfa produces a surplus of honey but the acreage is not sufficient to be of any value.

Figure. used to indicate the production for the various plants are based on the maximum yields when the bees are properly manipulated to produce honey.

Cultivated, native, and introduced plants are listed alphabetically by the genera in this publication. An index to the common names of the species of plants is included for convenience. In the index of common names, all common names for each species were included even if the names were not found in previous publications.

The principal source of information in addition to my personal observation and records were: list of pollen and nectar producing plants secured from Professor G. E. Hubbard, kept for the last twenty-five years; information from individual beekeepers in various counties of the state; suggestions from the members of the Harrison, Muskogee, Ponca, Frank C. Pellett of Atlantic City, Iowa, was consulted; and many others. "Oklahoma Flora" by Steyer and Myers (1937) has been consulted freely for range of plants and their blooming dates.

The information was assembled and this manuscript prepared under the supervision of Professor G. H. Lieboldorf, Oklahoma Agricultural and Mechanical College. The information, time, and generous suggestions from the individuals, who have made this manuscript possible, are appreciated. Many who are not listed have contributed information which has helped to establish the accuracy of the statements relative to the plants in this manuscript. Attempts have been made to prevent errors by repeated checking of the information that ends up this manuscript; however, for such errors that remain, the author assumes full responsibility.

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Bur Clover	68
Bush Honeysuckle	65
Buttercup	96
Butterfly Weed	13
Butterweed	106
Button Bush	26
Buttonweed	38
Button Willow	26
Cabbage	19
Cactus	78
Calamint	105
Canadian Thistle	28
Cantaloupe	34
Carolina Anemone	9
Coral Berry	111
Cat Claw	72
Catalpa	24
Catnip	75

Cedar	60
Chapman's Honey Plant	105
Cherry	93
Chickweed	26
Chicory	27
Chinaberry (Wild)	104
Chinese Elm	117
Chinese Sumac	4
Chinquapin	33
Chittam Wood	20
Choke Cherry	93
Cinquefoil	92
Cissus	28
Clammyweed	39
Clematis	30
Cleome	30
Cleomella	31
Climbing Milkweed	51
Clover, Alsike	116
Clover, Annual Sweet	70
Clover, Bur	68
Clover, Black Medic	68
Clover, Buffalo	115
Clover, Crimson	115
Clover, Hubam	71
Clover, Lawn	116
Clover, Prairie	84
Clover, Sweet	69
Clover, Yellow Sweet	71
Clover, Yellow Annual	72
Clover, White	116
Columbine	11
Cocklebur	122
Compass Plant	107
Cone Flower, Purple	20
Cone Flower	100
Coral Bean	110
Corn Flower	25
Corral Berry	111
Corydalis	32
Cotton	51
Cotton Wood	91
Cow Lily, Yellow	76
Cowpea	120
Cow Slip American	39
Crabapple	67
Crane's Bill	49
Crimson Clover	115
Crocus	79
Crotalaria	34
Croton	54
Crowfoot	96
Crown Beard	119
Crown Beard, Golden	122
Cress Leaved Groundsel	108
Cucumber	35
Cucumber, Wild	40
Cucumber Tree	67
Cup Plant	107
Curled Dock	101
Currant	98
Daisy, Fleabane	42
Daisy, Ox-Eyed	27
Dalea	82
Dandelion	62
Dandelion, False	95
Deer Berry	117
Deciduous Holley	57
Deutzia	37
Devil's Paint Brush	56
Dewberry	100
Dew Drop	40
Dill	10
Dock Sorrel	100
Dodder	36
Dogbane	11
Dogfennel	10
Dog's Camomile	10
Dog Tooth Violet	44
Dog Wood	32
Dutchman's Breeches	38
Duck Acorn	75
Elderberry	103
Elm	117
Evening Primrose	77
Everlasting	8
False Buckthorn	20
False Dandelion	95
False Dragon Head	87
False Indigo	7
Fever-Few, American	82
Fiddle Neck	8
Figwort	106
Filarée	43
Filbert	32
Five Fingers	92
Four-O-Clock	81
Fragrant False Indigo	6
French Mulberry	20-A
Frenchweed	47
Gaillardia	43
Garlic, Yellow False	76
Gaura	48
Geranium	48
Germander	113
Cilia	49
Gill-over-the-Ground	75
Gladiola	49
Goat's Head	115
Golden Aster	27

Golden Bell	46	Jewelweed	58
Golden Cleome	30	Jimson Weed	36
Golden Dew Drop	40	Joe-Pie Weed	44
Golden Elder	103	Lady's Thumb	89
Golden Rod	109	Lawn Clover	116
Gooseberry	98	Lead Plant	6
Gopher Wood	29	Leavenworth's Eryngo	43
Grape	122	Lettuce, Wild	61
Green Briar	108	Licorice	50
Ground Bur Nut	115	Lilac	111
Groundsel	106	Lima Bean	85
Ground Cherry	86	Linden	114
Ground Ivy	75	Lizard's Tail	105
Ground Pine, Mexican	41	Locust, Honey	50
Gumbo	55	Locust, Black	98
Gumweed	52	Lotus	75
Hackberry	25	Lupine	65
Hairy Vetch	120	Magnolia	66
Hawthorn	33	Mahonia	17
Hazelnut	32	Male Berry	125
Heartsease	89	Mallow	67
Hedge Mustard	108	Mallow, Poppy	20
Hemlock Stork's Bill	43	Maple	2
Henbit	62	March Fleabane	88
Hickory	22	Marjoram	79
Hoarhound	68	Matrimony Vine	66
Hoary Vervain	118	Mayflower	41
Hog Peanut	8	May Pops	83
Holly	57	Meadow Holly	57
Hollyhock	5	Meadow Parsnip	124
Honey Locust	50	Melon	29
Honeysuckle	65	Mesquite	92
Hop Clover	115	Mexican Ground Pine	41
Hop Hornbean	80	Mignonette	97
Hop Tree	94	Milk Vetch	16
Hornbean, American	22	Milkweed, Decumbent	13
Hornbean, Hop	80	Milkweed, Green	2
Horsemint	73	Milkweed, (Asclepias)	13
Huckleberry	117	Mimosa	72
Hydrangia	56	Mint, Wood	18
Hyssop	4	Mint, Virginia Mountain	60
Illinois Mimosa	3	Mint, Mountain	94
Indian Current	111	Mist Flower	44
Indian Fig	78	Mistletoe	86
Indian Hemp	10	Mock Orange	112
Indian Mallow	1	Monarda	73
Indigo	13	Morning Glory	31
Indigo, Western	58	Moss, Garden	91
Iris	59	Motherwort	62
Ironweed	119	Mountain Lilac	24
Ironwood	80	Mountain Magnolia	66
Japan Barberry	17	Mountain Mint	60
Japanese Ivy	16	Mullen	118
Jasmine	59	Muskmelons	34
Jessamine	59	Mustard	19

Nanny Berry	120
Narcissus	74
Nectarine	93
New Jersey Tea	24
Oaks	95
Okra	55
Old Maid	124
Oleaster	41
Orange Hawkweed	56
Oregon Grape	17
Osage Orange	66
Othake	20
Ox-Eyed Daisy	27
Painted Cup	24
Palmetto, Dwarf	101
Parsnip, Meadow	124
Parsnip, Wild	83
Partridge Pea	23
Passion Flower	63
Pawpaw	14
Peach	93
Peanut	11
Pear	95
Pearlwort	101
Pecan	55
Pennyroyal	53
Pentstemon	83
Peony	81
Pepper Grass	63
Peppermint	72
Pepperridge	77
Peppervine	7
Persimmon	39
Petunia	84
Phlox	86
Pickerel-Weed	90
Pin Clover	43
Pine	87
Pink Cleome	30
Plantain	88
Fleurisy Root	13
Plum	92
Poison Ivy	97
Poison Oak	97
Poison Sumac	97
Poison Snakeroot	44
Poppy, Garden	81
Poppy, Wild	12
Poppy, Mallow	20-A
Poplar	90
Portulaca	91
Poosum Haw	57
Prairie Acacia	1
Prairie Clover	84
Prickly Ash	125
Prickly Pear	78
Primrose	77
Privet	63
Privet Andromeda	123
Puccoon	64
Pumpkin	35
Purple Cone Flower	20
Purple Fringe	33
Purple Milkweed	13
Purple Sage	110
Purslane, Marsh	65
Pussy Willow	102
Quince	36
Radish	96
Ragweed	6
Rape	19
Raspberry	99
Rattan Vine	17
Red Bed	26
Red Elm	117
Red Maple	1
Red Root	24
River Locust	6
Rock Cress	12
Rock Maple	1
Rock Moss	106
Rocky Mountain Bee Plant	30
Rose	99
Rose Acacia	98
Rosin Weed	107
Rough Ox-Eye	55
Rue Anemone	9
Russian Almond	92
Russian Olive	41
Ruta-Baga	19
Sage	103
Sainfoin	78
Saint John's Wort	57
Salt Cedar	112
Sand Plum	92
Sand Vine	51
Sassafras	105
Scarlet Maple	1
Scarlet Painted Cup	24
Scorpion Grass	74
Seaside Alder	5
Senna, Wild	22
Sensitive Briar	74
Service Berry	6
Service Tree	6
Shad Bush	6
Sheep Sorrel	100
Shepherd's Purse	21
Shooting Star	39
Shrubby Trefoil	94
Sidia	107
Silver Maple	1

Simpson's Honey Plant	105	Tobacco	76
Skunk Brush	97	Toothache-Tree	123
Smartweed	89	Touch-Me-Not	58
Smoke Tree	53	Trailing Arbutus	41
Sneezeweed	53	Trailing Wild Bean	111
Snow-on-the-Mountain	45	Tree of Heaven	4
Snow Vine	7	Trefoil, Tick	37
Soapberry	104	Trumpet Vine	113
Soapberry, Drummond	104	Trumpet Flower	54
Soapweed	123	Tulip Tree	18
Solomon's Seal	89	Varnish Tree	4
Sour Dock	100	Velvet Bean	110
Sour Gum	77	Verbena	118
Southern Blue Huckleberry	117	Vervain	118
Southern Black Haw	120	Vetch	120
Sow Thistle	109	Violets	131
Soy Bean	108	Viper's Bugloss	40
Spanish Needle	18	Virginia Creeper	92
Sparkleberry	117	Virginia Rock Cress	12
Spearmint	72	Vitex	121
Speedwell	119	Wahoo	45
Spider Flower	30	Wake Robin	116
Spirea	110	Walnut	60
Spiderwort	115	Wamble	90
Spring Beauty	29	Water Ash	94
Spurge	45	Water Chinquapin	75
Spurge Nettle	59	Water Cress	96
Squash	35	Water Lily	23
Stag Horn Sumac	97	Water Lily, Yellow	76
Star of Bethlehem	79	Water Plantain	5
Star Foil	9	Watermelon	29
Stinking Clover	30	Water Shield	20
Stonecrop	106	Water Willow	38
Strawberry	46	Western Indigo	58
Sugar Maple	1	White Boneset	44
Sumac	97	White Clover	116
Summer Huckleberry	117	White Sweet Clover	69
Sun Flower	54	White Snakeroot	44
Supple Jack	17	Whitlow Grass	39
Swamp Locust	50	Wild Alfalfa	94
Sweet Gum	63	Wild Bean	111
Swamp Purple	1	Wild China Tree	104
Sweet Scabious	42	Wild Black Cherry	93
Switch Plant	41	Wild Lettuce	61
Sycamore	88	Wild Olive	41
Tamarisk	112	Wild Onion	74
Tarweed	51	Willow	102
Thistle	28	Winter Berry	57
Thistle, Sow	109	Winter Honeysuckle	65
Thornapple	36	Wisteria	122
Thoroughwort	44	Witch-Hazel	53
Tick Seed Coreopsis	31	Wood Sage	113
Tickseed	31	Wood Sorrel	80
Tick Trefoil	37	Wooly Yarrow	2
Tie Vine	31 & 58	Yaupon	57
Toad Flax	63	Yellow Dock	101

Yellow Spider Flower-----30  
Yellow Sweet Clover-----71  
Yellow Top-----129  
Yellow Wood-----82

Young Berry-----39  
Yucca-----123  
Zinnia-----124  
Yellow Water Lily-----76

## NECTAR AND POLLEN PLANTS

## ABUTILON

A. abutilon (L.) Rusby

## INDIAN MALLOW

Time of blooming: July - August

Type of plant: Annual herb.

Pollen: Bees gather pollen from plant.

Nectar: Probably none.

Distribution: Central Oklahoma.

## ACACIA

A. angustissima (Mill) Kuntze

## Prairie Acacia

Time of blooming: May - July.

Type of plant: Thornless prairie shrub.

Pollen: Good source of surplus pollen.

Nectar: There is no available record of surplus nectar. Other acacia plants produce a surplus of water white honey. There is no information to indicate this plant is of any value except for pollen.

Distribution: Prairies of central and southern Oklahoma.

## ACER

A. grandidentatum Nutt. - Bigtooth or Western Sugar Maple.

A. leucoderme Small - Sugar Maple.

A. negundo L. - Box Elder

A. rubrum L. - Red or Scarlet Maple.

A. rubrum Var. tomentosum Kirch - Red Maple.

A. rubrum var. tridens Wood -Red Maple.

A. saccharinum L. - Silver Maple.

A. Saccharum Marsh - Sugar or Rock Maple.

## MAPLE

Time of blooming: February - May.

A. negundo and A. saccharum do not begin blooming until April 15.

Type of Plant: Tree.

Pollen: An abundance of pollen.

Nectar: These plants are important for stimulative nectar. When the weather permits, bees work this plant briskly.

Distribution: South and east two-thirds of Oklahoma. A. grandidentatum is found in the Wichita Mountains and Comanche county.

McCurtain county leads in number of other species.

## ACERACEES

A. spp.

## GREEN MILK WEED

Time of blooming: June - September.

Type of Plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: The green milk weed does not seem to be of as much value as the asclepias or common milkweed. No doubt the green milk weed plays a part in nectar production, since bees work the plant. There are four different green milk weeds in Oklahoma.

Distribution: State wide.

## ACHILLEA

A. millefolium L.

A. lanulosa Nutt.

## YARROW

## WOOLY YARROW

Time of blooming: May - November - Payne County May 16.

Type of Plant: Perennial herb - one to one and one-half feet high.

Pollen: Abundant.

Nectar: This plant is not of much value in the bee pasture. Bees have been observed working this occasionally for nectar, but mostly for pollen.

Distribution: All of Oklahoma. Found most abundant in the east two-thirds portion of the state.

#### ACUAN

##### A. illinoensis (L.) Kuntze

##### ILLINOIS MIMOSA

Time of blooming: May - September.

Type of Plant: Perennial herb or shrub.

Pollen: No record.

Nectar: Bees work the plant in Muskogee county.

Distribution: Common on prairies and river banks over east three-fourths of state.

#### AMSCULUS

##### A. arguta Buckl. Scrubby Buckeye.

##### A. glabra Var. Leucodermis Sarg. Ohio Buckeye.

##### A. glabra Var. Monticola Sarg. Buckeye.

##### A. glabra Var. Serpentii Rehder. Buckeye.

##### A. octandra Marsh. Western Buckeye or Yellow Sweet Buckeye.

#### BUCKEYE

Time of blooming: March - May.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: Some surplus is produced by the plant but is stimulative, principally before the dependable honey plants begin to produce.

There is a recorded surplus for spring 1940 in McCurtain county.

Distribution: Common in central and eastern Oklahoma. Western blueeye is found in Woods county.

#### ACROPLIS

##### A. neptoides (L.) Kunze

#### MYSURU

Time of blooming: July - September.

Type of Plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Bees visit the flower for nectar.

Distribution: Cleveland county near Norman.

#### ACRATHEA

##### A. conspicua L.

#### AGERATUM

Time of blooming: July until frost.

Type of Plant: Perennial herb.

Pollen: Some, of no consequence.

Nectar: Bees worked the plant in Okmulgee county during the summer of 1939 and 1940. Honey worked the plant in Pushmataha county in 1940.

Distribution: Common in flower gardens state wide. Wild in moist places along creeks in Pushmataha county.

#### ALLIUMS

##### A. altissima Swine

##### A. glandulosum Desf.

#### TIME OF BLOOMING

#### CHILLED BEAN

#### FRUITFUL TIGER

Time of blooming: June

Type of Plant: Tree 40 - 60 feet.

Pollen: Good source of surplus pollen.

Nectar: Good source of nectar, but of poor flavor.

Distribution: Scattered over state.

#### ALLIUM

A. subcordatum, Raf.

#### AMERICAN WATER PLANTAIN

Time of blooming: June - September.

Type of Plant: Perennial herb.

Pollen: Some pollen.

Nectar: Some nectar but no report of surplus in Oklahoma.

Distribution: Shamps and shallow water. East half of state.

#### ALNUS

A. maritima (Marsh) Muhl - Seaside Alder.

A. ruposa (Du Roi) Spreng-Smooth Alder.

#### ALDER

Time of blooming: March - April.

Type of Plant: Shrub or tree.

Pollen: Good source of early pollen.

Nectar: None.

Distribution: Southeastern Oklahoma.

#### ALTHAEA

A. rosea Can.

#### HOLLYHOCK

Time of blooming: June 2 - July 28, Oklahoma county June 2, July 28, Payne county May 18.

Type of Plant: Biennial and perennial herb.

Pollen: Good source of surplus pollen

Nectar: There is usually a good supply of nectar. It produces honey freely.

Distribution: State wide as an ornamental plant. Occasionally escaped from flower garden.

#### AMBROSIA

A. artemisiifolia Nutt. - Small Ragweed.

A. trifida L. - Great Ragweed.

#### RAGWEED

Time of blooming: August - September. Pushmataha county September.

Type of Plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: Common. Most two-thirds of state.

#### AMELANCHIER:

A. canadensis (L.) Medic.

#### SERVICE BERRY

#### SERVICE TREE

#### SHAD BUSH

Time of blooming: April.

Type of Plant: Tree 9 - 30 feet high.

Pollen: Good source of surplus pollen.

Nectar: Good source but the plant is too limited to be of much value.

Distribution: Creek, Pushmataha, LeFlore, McCurtain, Latimer, and other eastern Oklahoma counties.

#### AMORPHIA

A. angustifolia (Pursh) Boynton - False Indigo.

A. canescens Pursh. - Lead Plant or Bastard Indigo.

A. fruticosa L. - River Locust.

A. nana Nutt. - Fragrant False Indigo.

FALSE INDIGO

Time of blooming: May - August. Payne county, April 25 - May 21.

Latimer county, May 2, for A. fruticosa

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Bees work these plants spiritedly for nectar. There is no report of a surplus of honey, but it seems probable, because of the abundance of this plant in Oklahoma.

Distribution: Along streams east half of the State.

AMPELOPSIS:

A. arborea (L.) Rusby - Pepper vine.

A. cordata Michx. - Snow vine.

A. veitchii Rehd. - Boston or Japanese Ivy.

Time of blooming: May - July.

Type of Plant: Bushy vine.

Pollen: Good source of surplus pollen.

Nectar: The snow vine is reported to be a good nectar plant.

Distribution: Southern part of the state, except A. veitchii which is cultivated state wide.

ASPHIACHYRIS

A. dracunculoides (D.C.) Blake

Time of blooming: August 20 - October 20. Choctaw county, July 25.

Type of plant: Annual herb.

Pollen: Bees usually prefer to work other plants at the time this plant blooms.

Nectar: Honey is obtained in September.

Distribution: State wide. Found in meadows, and even along streams.

## AMPHICARPA

A. pitcheri T. and G.

## HOG PEANUT

Time of blooming: August - September.

Type of plant: Perennial herb.

Pollen: No record.

Nectar: No record for Oklahoma, listed for other localities.

Distribution: Common in thickets. East half of state.

## AMSINCKIA

A. tessellata A. Gray

## FIDDLE NECK

Time of blooming: May - July.

Type of Plant: Biennial herb.

Pollen: No record.

Nectar: No record in Oklahoma. Listed for other localities.

Distribution: Central Oklahoma.

## AMSONIA

A. amsonia (L.) Britton

## AMSONIA

Time of blooming: April - July.

Type of Plant: Perennial herb.

Pollen: No record.

Nectar: No record in Oklahoma. Reported to be of value in other localities.

Distribution: LeFlore and Comanche counties, Arbuckle Mountains.

## ANARTHIALIS

A. margaritacea (L.) Benth. and Hook.

## EVERLASTING

Time of blooming: May - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: The honey is bitter, amber in color, and thin bodied.

Distribution: Common, state wide.

#### ANDROSACE

A. occidentalis Pursh.

##### ANDROSACE - Star Foil

Time of blooming: April - May. Payne county, April 21.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Produces some nectar and bees work the plant.

Distribution: Common state wide.

#### ANEMONE

A. caroliniana Walt. - Carolina Anemone

A. virginiana L. - Anemone.

##### ANEMONE

Time of blooming: March - May. Pushmataha county, March 2, May 16.

Payne county, March 14 - April 1.

Type of plant: Herbaceous Perennial.

Pollen: Good source of early pollen.

Nectar: Of no value.

Distribution: State wide.

#### ANEMONILLA

A. thalictroides - Spach.

##### RUE ANEMONE

Time of blooming: March - April.

Type of plant: Perennial herb.

Pollen: Good source of pollen.

Nectar: No record for Oklahoma. Reported of value in other localities.

Distribution: East one-third of Oklahoma.

#### ANETUM

A. graveolens L.

#### DILL

Time of blooming: July - August.

Type of plant: Biennial herb.

Pollen: Good source of pollen.

Nectar: Good source of surplus nectar where the plant is cultivated.

Distribution: Cultivated occasionally, statewide.

#### ANTHEMIS

A. cotula L.

A. arvensis L.

#### DOG FENNEL

#### MAY WIND

#### DOG'S CAMOMILE

Time of blooming: May - November. Latimer county, June 1.

Type of plant: Annual Herb.

Pollen: Produces a light yellow bitter honey. Good source pollen.

Nectar: Produces a light yellow bitter honey.

Distribution: East two-thirds of Oklahoma. Reported abundance in Murray county.

#### APOCYNUM:

A. androsaemifolium L. - Dogbane.

A. cannabinum L. - Indian Hemp or Dogbane.

A. pubescens R. Br. Volvety Dogbane.

A. sibiricum Jacq. - Clasping-Leaved Dogbane.

## DOG BANE

Time of blooming: April - August. A. pubescens is the only Dog Bane to begin blooming so early as April.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: A surplus of very white honey is reported but bees seem to prefer other plants.

Distribution: State wide.

## AQUILEGIA

A. canadensis L.

## COLUMBINE

Time of blooming: April - July.

Type of plant: Perennial herb.

Pollen: Bees work the plant.

Nectar: No record.

Distribution: Eastern Oklahoma.

## ARACHIS

A. hypogaea Linn.

## PEANUT

Time of blooming: July 1 to frost. Pushmataha county, June 20 to frost.

Type of plant: Annual legume.

Pollen: Good source of surplus pollen.

Nectar: Bees work the plant. There is no record of a surplus from it in Oklahoma.

Distribution: There are thousands of acres in Oklahoma. Bryan, Choctaw, McCurtain, Atoka, Pushmataha, and Creek counties are the center of the peanut production areas.

## ARABIS

A. virginica (L) Trelease

## VIRGINIA ROCK CRESS

Time of blooming: March - May. Payne county, April 8.

Type of plant: Annual or biennial herb.

Pollen: Some surplus of pollen produced.

Nectar: Some. Serves to stimulate spring brood rearing.

Distribution: Common, state wide.

## ARCTIUM

A. minus Schk. Burdock

Time of blooming: July - November.

Type of plant: Biennial herb.

Pollen: A surplus of pollen is produced.

Nectar: A small amount but not a known surplus.

Distribution: Murray and Cherokee counties.

## ARGEMONE

## A. spp.

## WILD POPPY

Time of blooming: May 20 - July 25.

Type of plant: Biennial herb.

Pollen: Good source of pollen.

Nectar: No record.

Distribution: Common, state wide.

## ASCLEPIAS

A. amplexicaulis J.E. Smith - Blunt Leaved Milkweed.A. arenaria Torr.A. galicioides R.B.K. - Bedstraw milkweed.A. incarnata (L.)

- A. lindheimeri Engelm.
- A. linearis Schlecht.
- A. pannila (A. Gray) Vail.
- A. purpurascens L. - Purple Milkweed
- A. quadifolia Jacq.
- A. speciosa Torr. - Showy Milkweed
- A. tuberosa L. - Butterfly - weed. Pleurisy root. Orange Milkweed.
- A. variegata L.
- A. vorticillata L. - Whorled Milkweed.

#### MILKWEED

Time of blooming: May - September.

Type of plant: Perennial herb.

Pollen: In some species pollen acts as trap for bees legs. Many bees lost annually. All milkweeds produce a surplus of pollen.

Nectar: Probably all milkweeds have a part in producing nectar.

From A. amplexicaulis as much as seventy pounds of water white honey of good body has been reported.

Distribution: State wide except A. tuberosa which is found in sandy soils of Eastern Oklahoma. Common on all prairies of Oklahoma. Those plants listed without a common name given are found in various portions of the state but their value as a honey plant is unknown.

#### ASclepiadidae

- A. decumbens (Nutt.) A. Gray - Decumbent Milkweed.
- A. viridis (L.) A. Gray - Oblong leaved.

#### DECUMBENT MILKWEED

Time of blooming: April - July. A. viridis in Payne county, May 1 - May 20

Type of plant: Perennial herb.

Pollen: Of no value.

Nectar: Some nectar produced.

Distribution: State wide.

#### ASIMINA

A. triloba (L) Dunal

#### PAPAYA

Time of blooming: March - April.

Type of plant: Shrub or small tree.

Pollen: Good source of surplus pollen.

Nectar: A surplus of nectar is available, but it has an offensive odor which is said to be transmitted to the honey.

Distribution: Along streams of Eastern Oklahoma, especially Latimer, LeFlore and McCurtain counties.

#### ASPARAGUS

A. officinalis L.

#### ASPARAGUS

Time of blooming: May 28 - November 10. Oklahoma county. Payne county, May 14.

Type of plant: Perennial herb.

Pollen: Of no value.

Nectar: Good for a surplus honey crop if the plants are abundant. The honey is amber in color.

Distribution: Common in gardens. Abundant around Tulsa, Oklahoma City and Muskogee.

#### ASTER

A. anomalus Engelm.

A. azureus Lindle.

A. cordifolius L. - Blue Wood Aster.

A. drummondii - Lindl.

- A. exilis Ell.  
A. fendleri A. Gray.  
A. laevis L. Smooth or Blue Aster.  
A. multiflorus Ait. Dense Flowered Aster.  
A. novae-angliae. L.  
A. oblongifolius Nutt.  
A. paludosus Ait.  
A. patens Ait. Late Purple Aster.  
A. sagittifolius Willd.  
A. salicifolius Lam.  
A. sericeus Vent.  
A. tenuicaulis (C. Mohr.) Burgess. Late Purple Aster.  
A. turbinellus Lindl.  
A. undulatus L.  
A. vimineus Lam. - Frost Flower or Small White Aster.

## ASTER

Time of blooming: August to November.

Type of plant: Perennial

Pollen: Good source of surplus pollen.

Nectar: Good source. Bees work the plant eagerly.

Distribution: Common over state. Aster's listed without common name given are found in the state but their value as a honey plant is unknown.

## ASTRAGALUS

- A. canadensis L. - Milk Vetch.  
A. caryocarpus Kerr. - Ground Plum.  
A. lotiflorus Hook - Low Milk Vetch.  
A. plattensis Nutt. - Platte Milk Vetch.

A. Eleven species - Milk Vetch.

MILK VETCH

Time of blooming: March - August.

Type of plant: Herb.

Pollen: No record.

Nectar: Of no consequence in bee pastures of Oklahoma. Some other states report a good yield.

Distribution: Common on plains and prairies. State wide.

BACHARIS

B. salicina T. and G.

B. neglecta Britton.

B. wrightii A. Gray.

Time of blooming: April - July.

Type of plant: Shrub.

Pollen: Some surplus pollen.

Nectar: Good source.

Distribution: Common. State wide.

BAPTISIA

B. bracteata Will. Wild Indigo.

B. leucantha T. and G. - Large White Indigo.

INDIGO

Time of blooming: April - May.

Type of plant: Perennial herb.

Pollen: Some.

Nectar: The only record of nectar for Baptisia is B. tinctoria, which one Oklahoman lists as producing some honey of light amber color.

Distribution: State wide.

## BERBERIS

## BARBERRY

B. nervosa Nutt.-Oregon Grape. Mahonia.

B. thunbergii D.C. - Japan Barberry.

Time of blooming: March - April.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Fair.

Distribution: Cultivated. Statewide.

## BERCHEMIA

B. scandens (Hill) Trel.

## RATTAN VINE

## SUPPLE JACK

Time of blooming: May - June.

Type of plant: Woody, perennial, vine.

Pollen: Good source of surplus pollen.

Nectar: Good source of amber honey during May and June. Beekeepers look forward to Rattan in the southeast section of Oklahoma.

Distribution: Southeast Oklahoma, Choctaw, McCurtain, and Pushmataha counties.

## BETULA

B. nigra L.

## RIVER BIRCH

## RED BIRCH

Time of blooming: March - April.

Type of plant: Tree.

Pollen: Good source of early pollen.

Nectar: None.

Distribution: Along streams of east Oklahoma.

#### BIDENS

- B. aristosa (Michx.) Britton. Western Tickseed Sunflower.
- B. bipinnata L. - Spanish Needle.
- B. cermua L. - Nodding Bur-Marigold.
- B. connata Muhl. - Purple-stemmed Swamp Beggar-Ticks.
- B. discoidea (T. and G.) Britton Small Beggar-Ticks.
- B. frondosa L. - Black Beggar-Ticks.
- B. involucrata (Nutt.) Britton. Western Bur-Marigold.
- B. vulgaris Greene - Fall Beggar-Ticks.

#### SPANISH NEEDLE

#### BUR-MARIGOLD

Time of blooming: August - October B. frondosa begins blooming in July.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: All bidens produce some nectar. Spanish needle is a dependable honey plant in Northeastern Oklahoma with a surplus of as much as 100 pounds. The honey is golden in color and with a good flavor. The purple-stemmed Swamp Beggar-Tick produced in 1942 with Spanish needle. B. involucrata (Nutt.) Britton produces a dark honey. The bur-Marigolds are important honey plants. Some honey was produced in Pushmataha county from Spanish needle in 1942.

Distribution: East half of state.

#### BLEPHARIS

- B. hirutae (Pursh) Benth.

#### WOOD MINT

Time of blooming: June - September.

Type of plant: Perennial herb.

Pollen: No record.

Nectar: Bees work plants.

Distribution: Woods and thickets of Eastern Oklahoma.

#### BORAGE

##### B. officinalis.

#### BORAGE

Time of blooming: June - July.

Type of plant: Annual.

Pollen: Good source of surplus pollen.

Nectar: Good honey plant.

Distribution: Cultivated and occasionally escaped. Statewide.

#### BRASSICA

B. arvensis L. - Mustard

B. campestris L. - Ruta-Baga.

B. juncea (L.) Cossen. - Mustard.

B. napus. L. Rape.

B. nigra (L) Koch. Black Mustard.

B. oleracea. L. Cabbage.

B. rapa. L. Turnip.

#### ERABBITICA

Time of blooming: April to frost.

Type of plant: Annual or biennial herb.

Pollen: Good source of surplus pollen.

Nectar: Bees gather a poor grade of dark honey from these plants.

Distribution: Common. Statewide. Wild and cultivated.

#### BRAUNIERIA

B. purpurea (D.C.) Britton.

## PURPLE CONE FLOWER

Time of blooming: July.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: It is reported bees work these flowers for nectar, but their value is doubtful.

Distribution: Old fields, meadows and woods in East two-thirds of Oklahoma.

## BRUNNICHIA

B. cirrhosa Banks.

## BRUNNICHIA

Time of blooming: May - June.

Type of plant: Vining shrub.

Pollen: Good source, of surplus pollen.

Nectar: It is reported to be a good honey plant. It is related to the buckwheat family. A good honey plant according to Pellett.

Distribution: Along the banks of streams in central Oklahoma.

## BUMELIA

B. lanuginosa (Michx.) Persoon.

## CHITIAN WOOD

## FALSE BUCKTHORN

Time of blooming: June - July.

Type of plant: Tree, 30 feet high.

Pollen: Good source of surplus pollen.

Nectar: A good honey plant, but said to be slightly cathartic.

Prized by beekeepers in Oklahoma as a good source of amber honey.

A surplus of 60 pounds is common where the trees are numerous.

Distribution: Sandy woods throughout state.

#### CAPSIUMA

C. carolinianum Gray

#### WATERMELON

Time of blooming: May - September.

Type of plant: Herb.

Pollen: Good source of surplus pollen.

Nectar: No record for Oklahoma.

Distribution: Along streams and ponds of Oklahoma in the East

Two-thirds.

#### CALYCICARPA

C. americana L.

#### BEAUTY BERRY

#### FRINGED MULBERRY

Time of blooming: April.

Type of plant: Shrub or tree.

Pollen: Good source of surplus pollen.

Nectar: Good source of honey where plants are abundant.

Distribution: Common in southeastern Oklahoma.

#### CALLIRRHOE

C. alceaoides (Michx.) A. Gray - Light Poppy-Mallow.

C. digitata Nutt. - Fringed Poppy-Mallow.

C. involucrata (Todd.) A. Gray - Purple Poppy-Mallow.

C. pedata A. Gray - Tall Poppy-Mallow.

#### POPPY MALLOW

Time of blooming: April - August.

Type of plant: All perennial herbs except C. pedata which is annual.

Pollen: Good source of surplus pollen.

Nectar: Fair. All mallows are reported to be of value as a source of surplus honey. Cleveland county reports a surplus from C. involucrata (T. and G.) A. Gray.

Distribution: Common on hillsides and in dry soils of Oklahoma, West two-thirds of the state.

#### CAMpanula

C. americana L.

#### BELL FLOWER

Time of blooming: May 1 to July 10.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Bees work this plant.

Distribution: Southeast Oklahoma. Ardmore, Tablequah, East.

#### CASpELLA

C. bursa - pastoris (L.) Britton

#### SHEPHERD'S PURSE

Time of blooming: March to August. Payne county, February 16 to March 28.

Type of plant: Annual herb.

Pollen: Small surplus of pollen.

Nectar: Bees work the plant but probably produce no surplus honey.

Distribution: Statewide.

#### CARDIOPERMUM

C. halicacabum L.

#### BALLOON VINE

Time of blooming: June - September.

Type of plant: Annual or biennial herb.

Pollen: Some surplus pollen.

Nectar: Good honey plant. Not plentiful enough for surplus.

Distribution: Common over entire state.

#### CARPINUS

C. caroliniana Walt.

#### AMERICAN HORNBEAN

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Good source of pollen.

Nectar: No record.

Distribution: Moist wooded sections in Eastern Oklahoma.

#### CARYA

C. spp.

#### HICKORY

Time of blooming: April 1 - May 20.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: None. Bees have been known to gather honey dew from the leaves of these plants.

Distribution: Eastern one-third of Oklahoma.

#### CASSIA

C. chamaecrista (L) Partridge or Sensitive Pea.

C. marilandica (L) Wild Senna.

C. maderae. Shrfer - Medager's Wild Senna.

C. occidentalis L. - Coffee Senna.

### PARTRIDGE PEA

Time of blooming: June to October.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Reported as a good plant. Nectaries are on the petiole of leaf. No record for Oklahoma.

Distribution: Central and Eastern Oklahoma except C. occidentalis which is found statewide.

### CASTALIS

C. odorata (Dryand) Woody and Wood - Sweet scented white lilly.

C. tuberosa (Paine) Greene - White water lily.

### WATER LILY

Time of blooming: June - September.

Type of plant: Perennial aquatic herb.

Pollen: Produced in abundance and bees work the plant vigorously.

Nectar: Texas reports a yield of nectar, but the flower is better classified as a pollen source.

Distribution: Osage, Comanche, McCurtain, LeFlore counties.

### CASPIANA

C. ozarkensis Ashe.

C. pusilla (L) Mill.

### CHINQUAPIN

Time of blooming: May - June.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Produces nectar from glands on catkins. The honey is said to taste like cayenne popper and quinine.

Distribution: Mountains of Eastern Oklahoma.

## CASTILLEJA

C. coccinea (L.) Spreng.

C. sessiliflora Pursh.

## PAINTED CUP

Time of blooming: May - June. Payne county May 3. Latimer county April 28 - June 5.

Type of plant: Annual herb.

Pollen: Good source of pollen. Bees work sparingly.

Nectar: No record.

Distribution: Statewide.

## CATALPA

C. bignonioides Walt - Common catalpa.

C. speciosa Warden - Catalpa.

## COMMON CATALPA

Time of blooming: May - June.

Type of plant: Tree 40-50 feet tall.

Pollen: Good pollen source.

Nectar: Produces nectar. Bees work flowers. There is no report available indicating a surplus.

Distribution: Statewide. C. speciosa planted for shade and wood.

## CLEANOTHUS

C. americanus L.

C. ovatus Desf.

## NEW JERSEY TEA

## RED ROOT

## MOUNTAIN LILAC

Time of blooming: May - June.

Type of plant: Shrub.

Pollen: Good source of pollen.

Nectar: Good nectar plant.

Distribution: Dry, open woods and prairies in Eastern Oklahoma.

#### CELTIS

- C. laevigata var. texana Sarg. - Southern Hackberry.
- C. occidentalis var. crassifolia L.
- C. occidentalis (Lam.) A. Gray. var. canina (Raf.) Sarg.
- C. reticulata Torr. - Western Hackberry.

#### HACKBERRY

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Good honey plant but not dependable. Some beekeepers report a surplus of early honey.

Distribution: Common. Statewide.

#### CENTAUREA (L)

- C. cyanus L.
- C. americana Nutt. - American Star Thistle.

#### CORN FLOWER

#### BACHELLOR'S BUTTON

#### BLUE BOTTLE

Time of blooming: May - August.

Type of plant: Annual herb.

Pollen: Produces a surplus.

Nectar: Bees work the plant well. The honey is dark amber (sorghum flavor).

Distribution: Flower gardens and waste places, statewide.

## CEPHALANTHUS

C. occidentalis L.

BUTTON BUSH

BUTTON WILLOW

BUTTON WILDE

Time of blooming: June - July.

Type of plant: Small tree or large shrub.

Pollen: Good source of surplus pollen.

Nectar: There is an abundance of nectar and a surplus of honey is common. The honey is dark according to most beekeepers, but the dark color may come from another source.

Distribution: Along streams, statewide in most counties of Oklahoma.

## CERASTIUM

C. brachypodium (Engelm) Robinson

CHICKWEED

Time of blooming: March - July. Payne county, March 26, April 15.

Type of plant: Annual herb.

Pollen: Some pollen but of no value.

Nectar: Some. It stimulates the bees to brood rearing.

Distribution: Statewide.

## CERCIS

C. canadensis L.C. reniformis Engl.

RED BUD

Time of blooming: March - April. Payne county, March 10, April 15.

East Oklahoma, April 1, 1942.

Type of plant: Tree.

Pollen: A good pollen source.

**Electran**: It is a registered name of Roche for emulsified build-up which the author will assume has been to work. There are localizing where a regular could be obtained in wet areas had a sufficient sand base and a covering of soil material. Some tested the sand plan in 1961 in October, 1962 with larger corollins, older, and in bloom at the same time.

#### Distribution: Missouri.

Common Name: *Calochortus*.

#### C. Lycopodium L.

##### COLLECTOR: H. C. D.

Date of blooming: May to August.

Type of plant: Ground cover.

Flowers: Small number of tiny blue bell.

Height: Of very little value.

Distribution: High as hills.

Common Name:

#### C. Az.

##### COLLECTOR: H. C. D.

Date of blooming: August - October.

Type of plant: Ground cover.

Pollen: Been from the plant specially.

Structure: No pollen or honey plant.

Distribution: Very sandy soils of California, eastern part.

Common Name:

#### C. Antennaria L.

##### COLLECTOR: H. C. D.

Date of blooming: July - October. Payne county, March 20, April 17.

Type of plant: Ground cover.

Pollen: Some surplus pollen.

Nectar: A great favorite of bees but no surplus is reported.

Distribution: Common waste lands, statewide.

#### CIRSIUM

- C. altissimum (L.) Spreng. - Tall Thistle.
- C. arvense (L.) Scop. - Canada Thistle.
- C. discolor (Muhl.) Spreng. - Field Thistle.
- C. iowense (Pammel) Fern. - Iowa Thistle.
- C. lanceolatum (L.) Hill. - Common or Bull Thistle.
- C. undulatum (Hutt.) Spreng.

#### THISTLE

Time of blooming: June to November. C. arvense beginning in June.

C. lanceolatum blooms until November.

Type of plant: C. lanceolatum, C. altissimum and iowense are biennials and the others are perennials.

Pollen: Good source of surplus pollen.

Nectar: All species, some nectar but C. arvense has possibilities as an abundant source of white water honey.

Distribution: Statewide.

#### CROCUS

- C. Spp.

#### CROCUS

Time of blooming: June - August.

Type of plant: Perennials herb.

Pollen: No record.

Nectar: Abundance of light amber honey according to some.

Distribution: River banks, east half of state.

#### CITRULLUS

C. vulgaris Schrad.

## WATERMELON

Time of blooming: June to frost.

Type of plant: Vining annual.

Pollen: Good source of surplus pollen.

Nectar: Good nectar plant. It produces a surplus of yellow or amber honey. There are large areas devoted to growing watermelons.

Distribution: Farms in Grady, Hughes, Muskogee, and Pushmataha counties grow a large acreage.

## CLADRASIS

C. lutea (Michx. L.) Koch.

## YELLOW-WOOD

## AMERICAN YELLOW-WOOD

## COPPER WOOD

Time of blooming: June.

Type of plant: Tree.

Pollen: Some surplus pollen.

Nectar: Good nectar plant, honey dark and strong.

Distribution: Common rich soils east one-third of state.

## CLAYTONIA

C. virginica L.

## SPRING BEAUTY

Time of blooming: March - May, February 14, to June 1.

Payne county, February 21 - March 28. Oklahoma county April 8-May 21.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Fair.

Distribution: Statewide.

## CLEMATIS

- C. fremetii. Bats.
- C. pitcheri (T. and G.)
- C. virginiana L. - Virgin's Bowers

## CLEMATIS

Time of blooming: May - June.

Type of plant: Low erect.

Pollen: Good source of surplus pollen.

Nectar: Nectar is abundant. There are so few plants that it is of no value in honey production, in Oklahoma.

Distribution: Rich alluvial soils in east half of state.

## CLEOME

- C. lutea Hook. - Yellow Cleome.
- C. serrulata Pursh. - Pink Cleome, stinking clover, rocky mountain bee plants.
- C. spinosa L. - Spider Flower.

## CLEOME

Time of blooming: May until frost. The blooming time of C. lutea is short. July 10 to July 1.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Good honey plants. C. spinosa L. produces an abundant supply of nectar from the white or rose colored flower but is a cultivated plant and more scarce than some of the other Cleomes.

C. serrulata Pursh produces a surplus of dark honey with an offensive odor.

Distribution: C. serrulata Pursh is found in Northwestern parts of Oklahoma particularly along the North Canadian and Cimarron Rivers.

CLEOMELLAC. angustifolia Torr.

## NORTHERN CLEOMELLA

Time of blooming: June to September.

Type of plant: Annual glabrous herb.

Pollen: Good source of surplus pollen.

Nectar: Produces an abundance of amber honey. W.S. Rubbell of  
Helena, Oklahoma, reports it a good honey plant.

Distribution: Comanche and Oklahoma counties.

CONVOLVULUSC. arvensis L. - Bindweed.C. sepium L. - Great Bindweed.

## SMALL FLOWERED MORNING GLORY

## SMALL BINDWEED

## TIE VINE

Time of blooming: May - September.

Type of plant: Stems trailing or twining perennial.

Pollen: No report.

Nectar: The small flowered morning glory is a very valuable honey  
plant in many sections of Oklahoma. Especially rich alluvial soil.

There are records of as much as seventy pounds of white honey.

Distribution: Rich soil. State wide.

CORNFLOWERC. Spp.

## TICKSEED

Time of blooming: May - September.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some honey is gathered from this plant, but a surplus is not known.

Distribution: Statewide.

#### CORNUS

- C. florida L. - Dogwood.
- C. saperifolia Michx.
- C. amomum Mill.
- C. stolonifera Michx.
- C. fennina Mill.

Time of blooming: May - June. Payne county, April 21 - May 17.

Pushmataha county April 10 - May 10.

Type of plant: Shrub or tree.

Pollen: Good source of early pollen.

Nectar: These plants secrete some nectar and the bees work them occasionally.

Distribution: Statewide.

#### CORYDALIS

- C. aurea Willd.

#### CORYDALIS

Time of blooming: March - May. Payne county April 21.

Type of plant: Annual or biennial herb.

Pollen: Some surplus pollen.

Nectar: No record.

Distribution: Common in woods of Oklahoma, Statewide.

#### CORYLUS

- C. americana Walt.

#### HAZELNUT

#### MILBERT

Time of blooming: April - May.

Type of plant: Shrub.

Pollen: Good source of early pollen.

Nectar: None.

Distribution: Common in thickets of Eastern Oklahoma near Arkansas border.

#### COTINUS

C. americanus Nutt.

PURPLE PRINCE

SMOKE TREE

Time of blooming: April - May.

Type of plant: Tree 30 feet high.

Pollen: Good source of surplus pollen.

Nectar: Some, no record of surplus.

Distribution: Southeastern extremity of Oklahoma.

#### CRATANGUS

C. Spp.

HAWTHORN

Time of blooming: March - May.

Type of plant: Large shrub, or tree.

Pollen: There are many different species of Hawthorn in Oklahoma and most of them seem to be a good source of pollen.

Nectar: An abundance of nectar is produced though bees are seldom in condition to store a surplus at the time Hawthorn blooms. However, a beekeeper in LeFlore county reports that he depends upon Hawthorn for a surplus each year.

Distribution: East one-third of the state.

## CROTALARIA

C. sagittalis L.

## CROTALARIA

Time of blooming: August - November 11.

Type of plant: Annual herb.

Pollen: No report.

Nectar: Reported to be of value. This plant is being planted for a soil-ing crop and can be tested for honey production.

Distribution: Cultivated. The plant is becoming common on farms, especially in the East one-third of Oklahoma.

## CROTON

C. Spp.

## CROTON

Time of blooming: May - September.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Poor source.

Distribution: Statewide.

## CUCUMIS

C. melo. L.

## CANTALOUP

## MUSKELON

Time of blooming: June until frost.

Type of plant: Proculent annual.

Pollen: Good source of surplus pollen.

Nectar: This plant produces a surplus of nectar which makes an amber honey. The honey has the characteristic flavor of the plant.

Distribution: Common on farms. Muskogee, Hughes, Okmulgee, and

Grady counties produce large quantities of melons.

CURCUMIS

C. sativus. L.

CUCUMBER

Time of blooming: May - July. May 3 - August 5.

Type of plant: Vining annual.

Pollen: Good source of surplus pollen.

Nectar: This produces an abundance of nectar where the acreage is large. A surplus of honey may be stored. Not important in Oklahoma.

Distribution: Statewide. Common on farms and gardens.

CUCURBITA

C. maxima. Duchesne.

SQUASH

Time of blooming: May - July, May 27 - August 10.

Type of plant: Annual procumbent.

Pollen: Good source of surplus pollen which bees gather freely.

Nectar: Some nectar is gathered but no record of surplus is available.

Distribution: A few plants will be found in most gardens. Statewide.

CUCURBITA

C. pepo L.

PUMPKIN

Time of blooming: July - August, July 1 to frost.

Type of plant: Annual vining.

Pollen: Bees gather quantities of surplus pollen from this plant.

Nectar: Some nectar is available, but the number of plants is small.

Distribution: Cultivated statewide, principally rich alluvial soils.

CUSCUTA

C. avvena. - Bevrich - Field Dodder

C. corylli - Argus - Hairy Dodder

C. gracilis - Millid.

#### DODDER

Time of blooming: June - August.

Type of plant: Parasitic, annual herb.

Pollen: Some surplus pollen.

Nectar: None reported.

Distribution: Common in fields and lawns. Statewide.

#### CYDONIA

C. japonica Lindl. - Flowering quince.

#### MICHAEL'S QUINCE

Time of blooming: March - April. March 10 - April 13.

Type of plant: Tree, shrub.

Pollen: Plentiful and bees gather it when weather permits.

Nectar: This plant produces some nectar.

Distribution: Lawns and flower gardens, statewide.

#### DAFFODIL

D. stramonium L. - Jimson weed.

D. tulipa L. - Purple Thornapple.

D. metall. - Thornapple.

Time of blooming: July to frost.

Type of plant: Annual herb.

Pollen: Bees and other insects gather pollen from this plant.

Nectar: Produces nectar. In abundance of poor quality honey could be produced.

Distribution: Statewide.

#### DESMODIUM (zeidornia)

- D. bracteosa (Michx.) Kuntze.  
D. canadense (L) Kuntze.  
D. candescens (L) Kuntze.  
D. dillenii (Darl.) Kuntze.  
D. grandiflora (Alt.) Kuntze.  
D. illinoensis (A. Gray) Kuntze.  
D. laevigata (Hitt.) Kuntze.  
D. nudiflora (L) Kuntze.  
D. obtusa (Muhl.) Vail.  
D. pauciflora (Nutt.) Kuntze.  
D. sessilifolia (Torr.) Kuntze.  
D. virginalis (L) Kuntze.  
D. paniculata (L) Kuntze.

#### TICK TREFOIL

Time of blooming: June to September.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: Bees work the plants. There is a record of a surplus in Tulsa county, from D. paniculata (L.) Kuntze.

Distribution: Common statewide.

#### DEUTZIA

D. scabra Thunb.

#### DEUTZIA

Time of blooming: May 12 - June.

Type of plant: Shrub.

Pollen: Some surplus pollen.

Nectar: No record. Probably of value as a stimulative honey plant.

Distribution: Common statewide.

## DIPTERIS

D. emarginata L.D. lanceolata (Willd.) Small.

## WATER WILLOW

Time of blooming: May - August.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Bees work the plant even when sweet clover and wild chives trees are in bloom.

Distribution: Common in swamps and ditches of east one-third of state.

## DICOTYLA

## DUCREYA'S MULLEINS

Time of blooming: April 15 - June 15.

Type of plant: Perennial.

Pollen: Good source of surplus pollen.

Nectar: Some nectar is gathered by bees but not promising.

Distribution: Statewide.

## DIODIA

D. teres Walt.D. virginiana L.

## BUTTON HEAD

Time of blooming: May - September.

Type of plant: Annual or perennial.

Pollen: Some surplus pollen.

Nectar: Bees gather some nectar from this plant.

Distribution: Sandy soils, common, statewide.

## DIOXYDOS

D. virginiana L.

### PERSIMMON

Time of blooming: May 1 - June 5.

Type of plant: Tree 30 - 50 feet tall.

Pollen: Pollen is gathered from persimmon flower.

Nectar: The persimmon could be one of Oklahoma's major honey producing plants. The honey is water white. During 1938 colonies in Pushmataha county stored one-hundred pounds per colony during the period, May 25 to June 10. Some persimmon honey was exhibited at the Tulsa State Fair for 1940. The honey was from Okmulgee county.

Distribution: The plant is found over the east two-thirds of the state, but is more abundant in Eastern Oklahoma where old fields and cut-over land are covered with a dense growth of persimmon. Cherokee, Sequoyah, Muskogee, Okmulgee, LeFlore, Latimer, and pushmataha counties have much persimmon.

### DODECATHEON

#### D. meadia L.

### SHOOTING STAR

### AMERICAN CORYDALIS

Time of blooming: March 27 - May 24.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Of no value, not enough in state.

Distribution: East one-half of state.

### DRABA

#### D. brachycarpa Nutt.

#### D. caroliniana Walt.

### WHITLOW - GRASS

Time of blooming: March 2 - July 1. Payne county March 15.

Type of plant: Annual or biennial herb.

Pollen: Some surplus pollen.

Nectar: A small amount of nectar which serves to stimulate bees to spring brood production.

Distribution: Statewide.

#### DURANTIA

##### GOLDEN DEW DROP

D. plumeri Jack.

Time of blooming: March.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: An introduced plant for hedges, very attractive to bees.

Distribution: Lawns and hedges, statewide.

#### ECHINOCYSTIS

E. lobata (Michx.) T. and G.

##### WILD CUCUMBER

##### WILD BALSON APPLE

Time of blooming: June - September.

Type of plant: Annual vining herb.

Pollen: Good source of surplus pollen.

Nectar: This produces a surplus of light amber honey in some states.

Distribution: Along rivers and waste places. Statewide.

#### ECHIUM

E. vulgare L.

##### VIPER'S BUGLOSS

##### BLUETHREAD

Time of blooming: June - July.

Type of plant: Biennial herb.

Pollen: Some surplus pollen.

Nectar: Yields some honey.

Distribution: Oklahoma county and surrounding counties.

#### ELAEAGNUS

E. angustifolia L.

E. hortensis var. Songorica

#### WILD OLIVE

#### RUSSIAN OLIVEASTER

Time of blooming: April - May. Payne county, May 3 - 21. Tulsa county, April 26 - May 20.

Type of plant: Small tree.

Pollen: No record.

Nectar: An abundance of nectar is produced, a promising honey plant.

Distribution: Statewide on lawns.

#### EPHEDRA

E. nevadensis Wats.

#### MEXICAN GROUND PINE

#### SMITCH PLANT

#### BRIGHT'S TEA

Time of blooming: March - April.

Type of plant: Shrub.

Pollen: Good source of early pollen.

Nectar: Lovell lists this plant as probably secreting nectar which is helpful to brood rearing.

Distribution: Harmon county and other counties on west bordering Kansas.

#### EPIGAEA

E. repens L.

#### ARBUFUS

#### TRAILING ARBUFUS

#### MAYFLOWER

Time of blooming:

Type of plant: Trailing evergreen plant.

Pollen: Some surplus pollen.

Nectar: There is an occasional report of nectar from this plant.

Distribution: Cultivated, statewide.

#### ERIGERON

E. annuus (L.) Pers. - Sweet Scabious.

E. philadelphicus L. - Philadelphia Fleabane.

E. ramosus (Balt.) B.G.P. - Daisy Fleabane.

#### DAISY FLEABANE

Time of blooming: May - November, Payne county - Day 9.

E. annuus. Oklahoma county, October 28.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Bees work the plant for nectar but probably of little value.

West of Britton bees were working this plant at 5:00 p.m..

Distribution: Statewide.

#### ERIGOCNIUM

E. alatum Torr.

E. annuum Nutt.

E. jamesii Benth.

E. lachnogynum Torr.

E. tenellum Torr.

E. triste (S.) Benth.

E. longifolium Nutt.

Time of blooming: June - September.

Type of plant: Annual or perennial.

Pollen: No record.

Nectar: It is possible that some or all of the above plants are of value as honey producers.

Distribution: Statewide.

#### ERODIUM

E. cicutarium (L.) L'Hér.

PIN CLOVER

FIL CLOVER

REEDICK'S STORK'S BILL

Time of blooming: April - September.

Type of plant: Annual herb.

Pollen: Some surplus pollen produced.

Nectar: Valuable honey plant. Produces a surplus of nectar.

Distribution: Oklahoma county, but probably in other areas along railroads and highways.

#### ERYNGIUM

LEAVENWORTH'S ERYNGO

E. leavenworthii T. & G.

Time of blooming: July to October.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: This is listed as an important honey plant.

Distribution: West two-third of Oklahoma, Comanche, Murray, and

Kay counties have important acreage.

#### ERYTHRONIUM

E. albidum Nutt.

E. mesochoreum Knerr.

E. americanum Kerr.

## BOG TOOTH VIOLET

Time of blooming: March - May.

Type of plant: Bulbous herb.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: East half of state.

## EUPATORIUM

E. altissimum L.

E. coelestinum L. - Mist Flower.

E. holzingeri Rydb.

E. maculatum L.

E. perfoliatum L. var. cuneatum Engelm. Boneset Thoroughwort.

E. purpureum L. - Purple Boneset, Joe-Pie Weed.

E. rotundifolium L.

E. seaiserratum D. C.

E. serotinum Michx.

E. urticaefolium Reichard.

## WHITE SNAKEROOT

## POISON WHITE SNAKEROOT

Time of blooming: July until frost.

Type of plant: Erect perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Good nectar source with a surplus of light amber honey.

Bees do not seem to like to work. E. perfoliatum though they work

E. urticaefolium freely.

Distribution: All these plants are found in Oklahoma but those listed without common names are not definitely known to be of value in Oklahoma. The plants with common name listed are found in the

Central and eastern parts of the state in large acreages.

#### EUPHORBIA

E. heterophylla L. - Spurge.

E. marginata Pursh - Snow on the Mountain.

#### FLOWERING SPURGE

Time of blooming: May to November.

Type of plant: Annual or biennial.

Pollen: Good source of surplus pollen.

Nectar: E. marginata is reported to produce a surplus of honey at times.

Distribution: Dry soil of eastern part of state.

#### EUONYMUS

E. astropurpureus Jacq.

#### BURNING BUSH

#### MAHOG

Time of blooming: April - May.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: Produces some nectar.

Distribution: Eastern half of state west to Caddo county.

#### FAGOPYRUM

F. esculentum Moench.

#### BUCKWHEAT

Time of blooming: May - October. June 7 - Muskogee county.

September 11 - Cherokee county, May 21 - Payne county.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Bees only work buckwheat sparingly when no other plant is available. In Cherokee county September 1959 bees preferred to work

cotton and hempgrass in preference to buckwheat. The possibilities are not promising since the drought conditions are not favorable to the normal growth and development of the plant. Was preferred short-leaved and bur-carrigold to buckwheat in Okfuskee county in August 1948.

**Distribution:** Occasionally cultivated, but as yet of no importance, statewide.

#### PHACELIA

##### P. heterophylla (Lam.)

###### ANNUAL PLANT

**Time of blooming:** April - May.

**Type of plant:** Shrub.

**Pollen:** Good source of early pollen.

**Nectar:** None. Sometimes honey for is produced by aphids on the plant.

**Distribution:** West and southwest Oklahoma.

#### THYMELAE

##### P. virginiana Lindl. - Common Bell.

##### P. suspensa Vahl. - Hanging Thymelia.

###### SPRING FIELD

**Time of blooming:** Payne county February 20 - March 20. March 1 - April 1. As late as any for P. intermedia.

**Type of plant:** Shrub.

**Pollen:** Some surplus pollen.

**Nectar:** Poor.

**Distribution:** Cultivated on lawns and gardens in Oklahoma, statewide.

#### THYMELAE (Tourn) L.

##### P. vesca L. Strawberry

##### P. vesca L. var. americana (Porter) Britton. Strawberry.

##### P. virginianum Michx. Strawberry.

Time of blooming: April 1 - July 15.

Type of plant: Perennial herb.

Pollen: Fair source of surplus pollen.

Nectar: Bees work the strawberry which has a stimulative effect on brood rearing.

Distribution: Statewide, especially the eastern half of the state.

#### FRAXINUS

F. spp.

#### ASH

Time of blooming: March - April.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Probably none. One Oklahoman lists it as a poor source of nectar.

Distribution: Statewide.

#### GALINSOGA

G. parviflora Cov.

#### GALINSOGA

#### TRACHELEPOD

Time of blooming: June - November.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Of very little value as a nectar plant for bees.

Distribution: Oklahoma county and probably surrounding counties.

#### GAILLARDIA

G. fastigiata - Greene

G. lanceolata Michx.

G. lutea - Greene.

G. pinnatifida - Torr.

G. pulchella - Foug.

G. suavis (A. Gray) Britton - Blanket Flower.

G. trinervata - Small.

#### GAILLARDIA

Time of blooming: June 8 - July 20.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: All of these may be of value as nectar plants. G. pulchella produces a light amber honey.

Distribution: Statewide.

#### GAURA

G. biennis L.

G. coccinea Pursh.

G. parviflora - Dougl.

G. sinuata Nutt.

G. tripetala Cov.

G. villosa Torr.

Time of blooming: August 15 - September 25.

Type of plant: Biennial herb.

Pollen: Not of much value.

Nectar: Bees work all of the Gaura. It is probable the corolla tubes are too long in some species. Sixty pounds of honey is reported from Cherokee county, Muskogee county produced a surplus in August and September 1942.

Distribution: Statewide.

#### GERANIUM

G. carolinianum L.

G. maculatum L. Wild Crane's Bill.

## CRANE'S BILL

Time of blooming: April - June. March 28 - July 1. Payne county May 10.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: No report.

Distribution: Statewide.

## GEUM

G. canadense Jacq.

## WHITE AVENS

Time of blooming: June - September.

Type of plant: Perennial herb.

Pollen: No record.

Nectar: No record.

Distribution: Payne and Cleveland counties.

## GILLA

G. spp.

## GILLA

Time of blooming: April - August.

Type of plant: Perennial herb.

Pollen: Good source.

Nectar: These plants may be of some value as honey plants.

Distribution: East - one-third of state.

## GLADIOLUS

G. spp.

## GLADIOLA

Time of blooming: March - April.

Type of plant: Bulbous herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar.

Distribution: Cultivated statewide.

#### GLEDITSIA

G. aquatica Marsh.

G. triacanthos L. - Honey Locust.

G. triacanthos var. inornata. Willd.

#### HONEY LOCUST

Time of blooming: April - May. April 15 - June 1. Payne county

May 19 - April 27.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: This is one of our best honey plants. Bees work it well.

Honey water white. A surplus is stored when there are enough plants available and weather is favorable.

Distribution: Statewide.

#### GLYCYRRHIZA

G. lepidota Pursh.

#### LICORICE

Time of blooming: May - August.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: Reported to yield some nectar.

Distribution: Statewide.

#### GONOLOBUS

G. laevis Michx.

#### BLUEVINE

## CLIMBING MILKWEED

## ANGLE POD

## SAND VINE

Time of blooming: July - September.

Type of plant: Perennial twining herb.

Pollen: Of no value.

Nectar: There is a nectar secretion and bees and other insects work the plant. There is no record of a surplus in Oklahoma.

It may be of value since it blooms in the time clover has gone.

This is a dry weather plant.

Distribution: Central Oklahoma. Common in Oklahoma county.

## GOSSYPIUM

G. hirsutum Linn.

## COTTON

Time of blooming: July 1 - October - Frost.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Cotton is one of the major honey plants on the limestone and rich alluvial soils. The lighter sandy soils produce very little honey. Cotton honey is white has a good body, and a characteristic, cotton flavor. Because of the scarcity of bees in some cotton growing areas, large acreages of cotton never are visited by bees and much nectar is lost.

Distribution: Cotton is one of the major crops of Oklahoma and is found in the south seven-eighths of the state.

## GRINDELIA

G. lanceolata Nutt. - Gum Plant. Tarweed.

G. squarrosa (Pursh) Dunal.

## GURNWEED

Time of blooming: July - October. Cleveland county July 23, November 10.

Type of plant: Biennial herb.

Pollen: Abundance of surplus pollen which bees gather.

Nectar: An apiarists of Cleveland county reports a surplus of golden colored and fine flavored honey from G. squarrosa. It is drought resistant but there are years the yield is of no consequence because of lack of rains. There are thousands of acres of this plant over the state. The honey granulates quickly. The apiarist reporting this as a honey plant may be confusing G. lancedata with one of the Bidens.

Distribution: Statewide. Cleveland county is the only county reporting it as a honey plant.

## GUTIERREZIA (AMPHIACHYRIS)

G. juncea - Greene.

G. sarothrae (Pursh) Britton & Rusby.

## BROOMWEED

Time of blooming: July 8 - November 10. Washington county, October 28. Pontotoc county, July 21, November 11.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: A strong flavored golden colored honey is gathered sometimes in September and October. Some apiarists believe the honey to be bitter because the bitterweed (Helenium tenifolium) which blooms at the same time and the honey is mixed with it. The broomweed honey is never bitter. This honey is valuable for wintering bees.

Distribution: Statewide on prairies and open woods.

## HAMAMELIS

H. virginiana L.

## WITCH-HAZEL

Time of blooming: Autumn. McCurtain county, December - January.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Good source of honey dew but no honey is produced.

Distribution: Along streams of Latimer, LeFlore, Pushmataha, and McCurtain counties.

## HEDEOMA

H. hispida Pursh.

## PENNYROYAL

Time of blooming: May - August.

Type of plant: Annual.

Pollen: No record.

Nectar: Some report small yields of nectar.

Distribution: On dry plains of Oklahoma.

## HELENIUM

H. autumnale L. - Sneezeweed or False Sunflower.H. badium (A. Gray) Greene - Sneezeweed.H. microcephalum - A. Gray.H. nudiflorum Nutt.H. tenuifolium Nutt. - Bitterweed.

## BITTERWEED

Time of blooming: June - October.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: A surplus of bitter honey is produced during July and

August. Apiarist on upland areas in eastern one-third of state, often have their honey from clover, persimmon, sumac, and other plants ruined with the bitter honey from this plant. The honey is an attractive golden color.

Distribution: Common in state, especially Eastern and Southern Oklahoma.

#### MELIANTHUS

- H. annuus L.
- H. atrorubens L.
- H. besseyi Bates.
- H. ciliaris D.D.
- H. decapetalus L.
- H. divaricatus L.
- H. doronicoides Lam.
- H. giganteus L.
- H. grosse-sarratus - Martens.
- H. hirsutus Raf.
- H. maximiliani Schrad.
- H. Mollis Lam.
- H. orgyalis D.C.
- H. petiolaris Nutt.
- H. scaberrimus Ell.
- H. strumosus L.
- H. tracheliiifolius Mill.

#### SUNFLOWER

Time of blooming: July, May - Frost.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: It is reported that H. annuus produces some surplus honey, at times during August in Grady county. It is possible all sun-flowers play a part in honey production especially during the dry summers when other plants are gone.

Distribution: Statewide.

#### HELIOPSIS

H. scabra - Dunal.

ROUGH OX-EYE

Time of blooming: May - September.

Type of plant: Perennial.

Pollen: A good source of surplus pollen.

Nectar: Bees work plant but no record of surplus.

Distribution: Pushmataha and Latimer county.

#### HIBISCUS

H. esculentus L.

OKRA

GUMBO

Time of blooming: May - August.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Good source of nectar but a surplus unknown.

Distribution: Cultivated statewide.

#### HICORIA

H. spp.

PECAN

Time of blooming: March - May.

Type of plant: Tree.

Pollen: Good source of early pollen.

Nectar: None. One beekeeper near Okemah boasts of the honey dew from pecan, gathered by his Bees.

Distribution: Central and Eastern Oklahoma.

#### HIERACIUM

H. aurantiacum L.

ORANGE HAWKWEED

DEVILS PAINT BRUSH

Time of blooming: April - July.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Yields some nectar, but of no great value.

Distribution: Southeastern Oklahoma.

#### HOUSTONIA

H. minima Beck.

H. patens Ell.

BLUET

Time of blooming: March 19 - April 5. February 1 - May 25.

Type of plant: Annual or biennial herb.

Pollen: Very little pollen produced.

Nectar: Small amount but of no value.

Distribution: Statewide.

#### HYDRANGEA

H. arborescens L. - Wild Hydrangea

H. grandiflora

HYDRANGEA

Time of blooming: May - September. May - June for H. grandiflora.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Some nectar available.

Distribution: Cherokee county for the wild variety. Lawns of state  
for H. grandiflora.

#### HYPERICUM

- H. aureum Bartram
- H. cistifolium Lam.
- H. densiflorum Pursh.
- H. drummondii (Gray and Hook) T. & G.
- H. gymnanthum Engelm and Gray.
- H. mutilum L.
- H. prolificum L.
- H. pseudomaculatum Bush.
- H. punctatum Lam.

#### ST. JOHN'S WORT

Time of blooming: June - September.

Type of plant: Herb or shrub.

Pollen: Good source of surplus pollen.

Nectar: No value, nectarless.

Distribution: Statewide.

#### ILEX

- I. caroliniana (Walt.) Frelease-Carolina Holly.
- I. decidua Walt - Winter Holly - Meadow Holly. Deciduous Holly.

Possum Haw.

I. opaca Ait. - Holly

I. vomitoria Ait. Yaupon.

#### HOLLY

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Yes, some surplus pollen.

Nectar: Holly is a good honey plant but the area where holly grows is limited. Holly honey is clear, of good flavor and body. Honey from I. vomitoria which is decidedly bitter until well ripened.

Distribution: Southeast Oklahoma, McCurtain, Pushmataha, Choctaw, and LeFlore counties.

#### IMPATIENS

I. biflora Walt.

I. pallida Nutt.

#### JEWEL WEED

#### SPOTTED TOUCH-ME-NOT

Time of blooming: July - October.

Type of plant: Annual herb.

Pollen: Good source of white pollen.

Nectar: No surplus has been reported for Oklahoma.

Distribution: Common in Oklahoma.

#### INDIGOPLIRA

I. leptosepala Nutt.

#### WESTERN INDIGO PLANT

Time of blooming: May - November.

Type of plant: Herb.

Pollen: Good source of surplus pollen.

Nectar: This has been reported as a nectar plant.

Distribution: Prairies, statewide.

#### IPOMOEA

I. hederacea Jacq.

I. lacunosa L. Tie - Vine. Bindweed.

#### TIE-VINE

Time of blooming: May - October.

Type of plant: Annual herb.

Pollen: Some pollen produced.

Nectar: No record in Oklahoma for I. hederacea, but I. lacunosa is recorded as producing a surplus in Oklahoma of as much as sixty pounds.

Distribution: Oklahoma, Grady, Payne, Washita, and Cimarron counties.

#### IRIS

I. germanica L. - Iris.

I. sibirica L. - Iris.

I. versicolor L. - Blue Flag.

#### IRIS

Time of blooming: Payne county March 16 - May 8.

Type of plant: Bulbous herb.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: Common in flower gardens of Oklahoma. Statewide.

#### JASMINUM

J. spp.

#### JASMINE OR JESSAMINE

Time of blooming: March 1 - July 22.

Type of plant: Shrub.

Pollen: Some pollen produced.

Nectar: Some but of little value.

Distribution: Cultivated on lawns statewide.

#### JATROPHA (*Cnidoscolus*)

J. stimulosa Michx.

#### SPURGE NEMPH

#### BULL NEMPH

Time of blooming: May 20 - frost. Payne county, May 20.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: This plant probably does not produce any nectar.

Distribution: East two-thirds of state.

#### JUGLANS

J. nigra L.

#### WALNUT

Time of blooming: April 1 - May 12. Payne county April 5 - May 12.

Type of plant: Tree.

Pollen: Abundance of early pollen.

Nectar: None.

Distribution: Statewide.

#### JUNIPERUS

J. Spp.

#### CEDAR

Time of blooming: December - January.

Type of plant: Tree.

Pollen: Some, but of doubtful value.

Nectar: None.

Distribution: Common on lawns and small areas over entire state.

#### KOELLIA

K. virginiana (L) Michx.

#### VIRGINIA MOUNTAIN NINE

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: Good nectar plant.

Distribution: Southeastern Oklahoma. Latimer county.

#### KRAUMELIA

K. necrostachys (T. & G.) Sessl.

#### WISTERIA

Time of blooming: April - June.

Type of plant: Vining shrub.

Pollen: Good source of surplus pollen.

Nectar: Bees take some nectar from wisteria.

Distribution: Cultivated on lawns and landscaping statewide.

#### LACINIARIA

L. squarrosa (L.) Hill

#### BLAZING STAR

Time of blooming: June 15 - September 15.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Bees work the plant some, but it is principally worked by bumble bees.

Distribution: Statewide.

#### LACTUCA

L. Spp.

#### WILD LETTUCE

Time of blooming: June 1 - July 30.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: It is reported to produce some nectar.

Distribution: Statewide.

#### LAMIUM

L. amplexicaule L. - henbit.

## HERBITE

Time of blooming: February - October. Payne county March 8 - 25.

Type of plant: Annual or biennial herb.

Pollen: Some pollen but no record of bees working it.

Nectar: Some nectar produced.

Distribution: Statewide.

## LEONIDIUM (Taraxacum)

L. erythrospermum (Andrez) Britton. Red seeded dandelion.

L. taraxacum L. (*officinale*)

## DANDELION

Time of blooming: April - June.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Stimulative, produces dark honey and good for a spring build-up of brood. Surplus unknown in Oklahoma.

Distribution: Field and woods. Statewide.

## LEONURUS

L. cardica L.

## MOTHERWORT

Time of blooming: June and August.

Type of plant: Perennial herb.

Pollen: Bees seldom gather pollen from this plant.

Nectar: Bees gather some nectar. Probably of no value.

Distribution: Southeastern Oklahoma.

## LEPIDIUM

L. draba L. (Hoary cress)

L. densiflorum Schrad.

L. oblongum Small.

L. virginicum L.

## PEPPER GRASS

Time of blooming: March 5 - August 15.

Type of plant: Annual herb.

Pollen: Of little or no value.

Nectar: There is some nectar which serves to encourage brood rearing.

Distribution: Statewide.

## LIGUSTRUM

L. amurense Carr.

L. ibota Sieb.

L. vulgare L.

## PRIVET

Time of blooming: March - May.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: It produces a surplus of honey. Honey dark and ill flavored but good for brood rearing.

Distribution: Cultivated for hedges. Statewide.

## LINNARIA

L. sp.

## TOAD FLAX

Time of blooming: April - September.

Type of plant: Annual or biennial herb.

Pollen: Some but of little value.

Nectar: Some nectar produced.

Distribution: Statewide.

## LIQUIDAMBAR (L.)

## SWEET GUM

L. styraciflua L.

Time of blooming: March and April.

Type of plant: Tree.

Pollen: Good source of early pollen.

Nectar: No available record.

Distribution: East Oklahoma along streams.

#### LIRIODENDRON

L. tulicifera L.

#### TULIP TREE

Time of blooming: May - June.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: One of the best nectar producing trees in the southeastern states. The honey is bright amber.

Distribution: Only a few on lawns for shade trees. The plants seem to thrive at Tulsa and Muskogee and in other eastern portions of Oklahoma.

#### LITHOSPERMUM

L. angustifolium Michx - Puccoon.

L. canescens (Michx.) Lehm. - Hairy Puccoon.

#### PUCCOON

Time of blooming: April - July. Payne county, April 2.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some.

Distribution: Common statewide.

#### LONICERA

L. albiflora T. & G. - White Flowered Honeysuckle.

L. canadensis Barsh - American Fly.

L. narrowi Gray - Bush or winter honeysuckle.

L. sullivantii Gray.

L. tatarica L. - Bush Honeysuckle.

#### HONEYSUCKLE

Time of blooming: February - July. Only L. Marrowi, blooms as early as February. A wild honeysuckle bloomed in McCurtain county January 13, 1945.

Type of plant: Shrubby vine.

Pollen: Good source of pollen.

Nectar: Good source of nectar. L. narrowi stimulates bees to early brood rearing. A green colored honey was thought to be from Ionicera in 1942. Bees worked wild bush honeysuckle in McCurtain county January 13, 1945.

Distribution: Statewide, cultivated on lawns, hedges, and gardens.

#### LUDWIGIA

L. alternifolia L.

L. glandulosa Walt.

L. hirtella Raf.

L. palustris L. - Marsh Purslane

#### MARSH PURSLANE

Time of blooming: June - November.

Type of plant: Annual herb.

Pollen: Some pollen.

Nectar: Some nectar.

Distribution: Arbuckle Mountains and swamps of state, eastern part.

#### LUPINUS

L. spp.

#### LUPINE

Time of blooming: April to July.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: No nectar.

Distribution: Statewide.

#### LYCIUM

L. halimifolium Mill.

#### MATRIGONY VINE

Time of blooming: June to frost.

Type of plant: Climbing shrub.

Pollen: Some pollen.

Nectar: Bees work this eagerly. Thousands of bees were found working this plant at Cleveland, Muskogee, and Oklahoma counties during August and September 1942.

Distribution: Southeastern Oklahoma.

#### MACLURA

M. pomifera (Raf.) Schne.

#### OSAGE ORANGE OR BOIS D'ARC

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: No record.

Distribution: Common, statewide, principally south east section of state.

#### MAGNOLIA

M. acuminata L. - Mountain Magnolia.

M. tripetala L. - Wild Magnolia.

M. grandiflora L.

### CUCUMBER TREE

Time of blooming: April - June.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Some nectar.

Distribution: In LeFlore, Pushmataha, McCurtain counties the acreage is small. M. grandiflora L. is cultivated on lawns statewide.

### MALUS OR (PYRUS)

M. baccata Borkl. - Siberian Crab Apple.

M. coronaria L.

M. ioensis (Wood) Britton - Western Crab Apple.

M. sylvestris L. - Apple.

### APPLE

Time of blooming: March 25 - April 25.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Good honey plants if bees are in working condition.

Distribution: Statewide along streams.

### MALVA

M. rotundifolia L.

### MALLOW

Time of blooming: April - November.

Type of plant: Herb.

Pollen: Good source of surplus pollen.

Nectar: Bees work the plant.

Distribution: Central Oklahoma.

### MARRUBIUM

M. vulgare L.

## HORSEHOOFED

Time of blooming: June to August.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: An abundance of nectar is produced. The honey is amber in color and a surplus of sixty pounds was gathered in Oklahoma county in 1948.

Distribution: Scattered over the entire state around house sites and occasionally escaped to woods and meadows.

## MEDICAGO

M. hispida Gaertn. - Bur Clover.

M. lupulina L. - Black Medic

## CLOVER

Time of blooming: April 1- June 2.

Type of plant: Biennial legume.

Pollen: Some surplus pollen.

Nectar: Not of much value. Bees get some honey from these plants.

Distribution: East half of state on farms and escaped to idle grounds.

## MEDICAGO

M. sativa L.

## ALFALFA

Time of blooming: May 6 to frost. Payne county May 8 to frost.

Type of plant: Perennial legume herb.

Pollen: Abundance of pollen.

Nectar: Alfalfa begins to produce nectar around May 15 and is at its best July 15. This is a major honey plant of Oklahoma. Prob-

ably a third of Oklahoma's honey is from this source. There is a loss in honey stores from alfalfa due to the fact that it is being produced for hay and is cut when the bloom begins to appear. After July 1st farmers often leave the alfalfa to produce seed. This period is about six weeks. A hundred pounds of honey is often stored during this time of seeding. Seeding may be any time from June to frost. The alfalfa honey is a very light amber to white with a reddish tinge when viewed by holding the jar of honey toward the light. Alfalfa honey gathered in May 1948 in Oklahoma was as white as Colorado alfalfa honey. It is quite probable the dark color attributed to alfalfa honey may come from the smartweeds usually found in or near alfalfa fields.

Distribution: Most counties of the state produce alfalfa. The leading counties are Okfuske, Custer, Grady, Garvin, Cleveland, Pontotoc, Washita, Canadian, Alfalfa, Garfield, Tillman, Tulsa, Muskogee, and Marion. Tillman county does not produce a large amount of honey because of the lack of the necessary spring build up.

#### MELILOTUS

M. alba Desv.

#### WHITE SWEET CLOVER

Time of blooming: May 10

Latimer county, May 20 - July 2.

Choctaw county, May 18 - July 6.

Oklahoma county, May 14 - July 22.

Pontotoc county, May 14 - July 15.

Woodward county, May 25 - July 10.

McCurtain county, May 12 - July 12.

Time of blooming: Pottawatomie county, May 20 - July 5.  
 Tulsa county, May 19 - July 15.  
 Rogers county, August 1.  
 Muskogee county, May 1 - July 25.  
 Lincoln county, May 14 - July 8.  
 Coal county, May 15 - July 15.  
 Cherokee county, May 18 - July 10.  
 McClain county, May 15 - July 20.  
 Cleveland county, May 12 - July 20.  
 Pottawatomie county, May 15 - July 25.  
 Texas county, June 15 - August 10.  
 Marshall county, May 13 - June 30.

Type of plant: Biennial legume.

Pollen: Good source of surplus.

Nectar: This is one of the major honey plants for Oklahoma. The honey is of good flavor, light color, and good body. It produces most years. There are times when bees do not work the plant freely and flies and other insects work the flowers. This plant blooms about fifteen days after yellow sweet clover.

Distribution: White sweet clover grows well over the entire state. Oklahoma and Tulsa counties probably lead in sweet clover acreage.

#### MOLILLOTUS

M. alba annua Cee

#### ANNUAL WHITE CRIMSON CLOVER

Time of blooming: June 15 - July 30.

Type of plant: Annual legume.

Pollen: Good source of surplus pollen.

Nectar: Not sufficiently abundant to obtain records for Oklahoma.

It produces a surplus but as yet does not equal biennial sweet clover.

Distribution: Statewide. Especially Oklahoma, Muskogee, Tulsa, and Canadian counties.

#### MELILOTUS

M. alba huban

ANNUAL WHITE SWEET CLOVER

HUBAN CLOVER

Time of blooming: June 16 - August 1.

Type of plant: Annual legume.

Pollen: Source of surplus pollen.

Nectar: Good nectar plant producing a surplus of honey where acreage permits.

Distribution: Muskogee, Tulsa, Pottawatomie, Pushmataha, and probably other counties of the state.

#### MELILOTUS

M. officinalis (L.) Lam.

YELLOW SWEET CLOVER

Time of blooming: April 30 - July 10. Payne county April 18 - May 19. Oklahoma county, May 4 - 1941.

Type of plant: Biennial legume.

Pollen: Good source of surplus pollen.

Nectar: Yellow sweet clover is one of the major honey plants of Oklahoma. Many colonies are not ready for the plant, but a surplus will be stored if the bees have a good field force and the pasture is sufficient. This plant is fifteen days ahead of white sweet clover. A surplus of eighty pounds of water white honey was produced during May 1942 in Oklahoma county.

Distribution: Every county in the state has yellow sweet clover and it is of about the same distribution as white sweet clover.

#### MALVACEAE

##### ANNUAL YELLOW SWEET CLOVER

M. officinalis (annual)

Time of blooming: Four months after planting.

Type of plant: Annual legume and probably biennial when planted after August 1st.

Pollen: Good source of surplus pollen.

Nectar: Bees worked blooms vigorously during August on a plot in Oklahoma county. It is a very promising plant for the beekeeper since it will probably equal biennial sweet clover in honey production.

Distribution: Oklahoma county but will likely spread to other counties when beekeepers learn of its value.

#### MENINGIA

M. piprifera L.

M. spicata L.

##### PEPPERMINT

Time of blooming: June to September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Yields amber colored honey, prized by some beekeepers.

Distribution: Statewide. Cultivated and wild.

#### MIMOSA

M. borealis A. Gray - Cat-Clew.

M. fragrans A. Gray - Pink Mimosa.

Time of blooming: May - July.

Type of plant: Armed shrub.

Pollen: Good source of surplus pollen.

Nectar: Bees work this plant briskly.

Distribution: Oklahoma and Cimarron counties for M. borealis.

Acreage too small for M. frigens to determine if bees store a surplus.

#### MONARDA

M. bradburiana Beck - Bradbury.

M. clinopolioides A. Gray - False Balm Monarda.

M. dispersa Small - Purple Lemon Monarda.

M. fistulosa L. - Wild Bergamot.

M. lasiodonta (A. Gray) Small Monarda.

M. mollis L. - Wild Bergamot.

M. pectinata Nutt. - Lemon Monarda.

M. punctata L. - Horsemint.

M. standfieldii Small - Stanfield's Monarda.

M. tenuiaristata (A. Gray) Small Monarda.

#### BONARDA

Time of blooming: May - October. Few species of monarda do not begin blooming until June and only M. punctata blooms so late as October.

Type of plant: Annual, biennial and perennial herb. M. pectinata is the only biennial listed.

Pollen: Good source of surplus pollen.

Nectar: Good source except species whose corolla are too long as M. bradburiana and M. dispersa. M. pectinata is the most common and best of our mint honey plants. The honey is light in color, of

good flavor which has the characteristic monarda flavor. This plant with the other monardas contributing is one of the major honey plants of Oklahoma. A surplus of seventy pounds is common/

Distribution: Statewide. Woods county reports a seventy pound surplus from M. pectinata.

#### MORONCIA (Schrankia Gray)

M. uncinata (Willd.) Britton.

#### SENSITIVE BRIAR

Time of blooming: May 15 - July 30.

Type of plant: Perennial, thorned, decumbent vine.

Pollen: Good source of surplus pollen.

Nectar: Bees and other insects gather nectar from this plant.

There is no record of surplus from this plant.

Distribution: Statewide.

#### MYOSOTIS

M. virginica (L.) B.G.P.

M. scorpioides Engelm.

#### SCORPION GRASS

Time of blooming: April - June.

Type of plant: Annual or biennial herb.

Pollen: Some pollen, no record for Oklahoma.

Nectar: Some nectar - no record of surplus.

Distribution: Statewide.

#### NARCISSUS

N. jonquilla Linn - Jonquil

N. pseudo - Narcissus - Daffodil.

#### NARCISSUS

Time of blooming: February 15 - March 15. Pushmataha county

February 14, 1941. At Kattan bees working vigorously for pollen.

Type of plant: Bulbous, perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Probably no nectar.

Distribution: Cultivated statewide.

#### MELUNGO

N. lutea (Willd) Pers.

AMERICAN LOTUS

TATER CHINQUAPIN

DUCK ACORN

Time of blooming: July - August.

Type of plant: Perennial herb of ponds.

Pollen: Good source of surplus pollen.

Nectar: A surplus is reported.

Distribution: Payne and eastern counties.

#### NEPETA

N. cataria L.

CAIMIP

Time of blooming: June - November.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Good source of dark honey.

Distribution: Common in waste places, statewide.

#### NEPETA

N. hederacea (L) Trivisan

GROUND IVY

GILL-OVER-THE-GROUND

Time of blooming: March - May.

Type of plant: Perennial herb.

Pollen: Of some value.

Nectar: Source of dark honey but no record of surplus.

Distribution: Common in waste places east half of state.

#### MICOTIANA

##### TOBACCO

Time of blooming: August - September.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: It produces a surplus of poorly flavored honey.

Distribution: Occasionally cultivated in Oklahoma. Three farmers qualified for an Agricultural Adjustment Administration quota for Oklahoma in 1941-1942 in east one-third of state.

#### NOTHOSCORDUM

N. bivalve (L) Britton.

##### YELLOW FALSE GARLIC

Time of blooming: March 1 - July 10. Payne county, May 6.

Type of plant: Perennial bulbous plant.

Pollen: Some pollen gathered by bees.

Nectar: Some. It has the characteristic garlic flavor but is valuable for brood production.

Distribution: Statewide.

#### NYMPHAEA

N. advena Ait.

##### YELLOW WATER LILY

##### YELLOW COT LILY

Time of blooming: April - September.

Type of plant: Perennial aquatic herb.

Pollen: No record of bees visiting these plants for pollen.

Nectar: Nectar is secreted by the flowers but no record of bees visiting these plants is available.

Distribution: Along streams and lakes east one-third of state.

#### NYSSA

N. sylvatica Marsh.

BLACK GUM

SOUR GUM

PEPPERRIDGE

Time of blooming: March 25 - April 30.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Splendid tree for honey production and no doubt a surplus would be harvested if bees were of sufficient number when the plant blooms. A beekeeper in Pushmataha county reports a surplus in 1942.

Distribution: East one-third of the state along streams.

#### OENOTHERA

O. laciniate Hill - Cut Leaved Evening Primrose.

O. speciosa Nutt. - Primrose.

CUT LEAVED EVENING PRIMROSE

Time of blooming: May - June. Payne county April 15 - May 8 for

O. laciniate. June 1 - 25 for O. speciosa.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Corolla may be too long for bees to obtain much nectar from O. laciniate. O. speciosa, fair.

Distribution: Statewide in sandy soils of Oklahoma.

#### ONOSRYCAIS

O. sativa Lam.

## SAINFOIN

Time of blooming: July - November.

Type of plant: Annual legume herb.

Pollen: Some surplus pollen.

Nectar: Bees worked this plant eagerly at the experiment farm the fall of 1940.

Distribution: Very little grown in Oklahoma. Seed has been distributed by the county agents in the eastern counties.

## OPUNTIA

O. davisii Engelm.

O. grandiflora Engelm.

O. imbricata (Haw) D.C.

O. leptocaulis D.C.

O. polyantha Haw.

O. tortispina Engelm.

O. trichophora (Engelm) Britton and Rose.

O. macrorhiza (Engelm).

## PRICKLY PEAR

## INDIAN FIG

Time of blooming: June - May.

Type of plant: Perennial succulent plant.

Pollen: Abundance of pollen and bees work the plant. Most dependable pollen plant in Oklahoma.

Nectar: Bees did not often work the plant for nectar at the Goodwell apiary where a large screen of cacti existed. The honey is almost viscous in consistency, light amber in color and very good in flavor. It is likely a surplus of honey

would be gathered during years of reduced moisture.

Distribution: Statewide.

#### OREOCARY

O. suffruticosa (Torr) Greene

SHRUBBY ORECARYA

Time of blooming: May - June.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: Serves to stimulate bees to brood rearing.

Distribution: Beaver county and probably Cimarron and Texas counties.

#### ORIGANUM

O. vulgare L.

MARJORAM

Time of blooming: June to October.

Type of plant: Perennial herb.

Pollen: No record.

Nectar: Good source but no record of a surplus.

Distribution: Cultivated statewide.

#### ORNITHOGALUM

O. umbellatum L.

STAR-OF-BETHLEHEM

CROCUS

Time of blooming: March - June. Payne county March 3.

Type of plant: Perennial herb.

Pollen: Produces pollen which stimulates early brood rearing.

Nectar: Probably none.

Distribution: Common statewide.

#### OSTRYA

O. virginiana - (Mill) Milld.

IRONWOOD

HOP BONNEMAIN

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Probably none.

Distribution: Eastern part of state.

#### OTAKE

O. callosum (Hutt.) Bush

OTAKE

Time of blooming: June to November.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Secretes an abundance of nectar at times.

Distribution: Oklahoma and Comanche counties.

#### OXALIS

O. corniculata (L.) Small. - Yellow Oxalis.

O. stricta (L.) Small - Yellow Wood Sorrel.

O. violacea L. - Violet Wood Sorrel.

SORREL

Time of blooming: February - November for O. corniculata. April - August for O. stricta and May and June for O. violacea.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Bees reported to work plant. O. stricta reported fair honey plant. No value for a surplus of nectar.

Distribution: Common throughout Oklahoma.

## OXYBAPHUS

O. nyctagineus (Michx.) Sweet.

## FOUR-O-CLOCK

Time of blooming: May to frost. Payne county, May 5, 19

Type of plant: Perennial herb.

Pollen: Bees occasionally gather pollen from this plant.

Nectar: The corolla tube is too long for the tongue of the honey bee.

Distribution: Common cultivated flowering plant, statewide.

## PAEONIA

P. spp.

## PEONY

Time of blooming: May 14.

Type of plant: Perennial herb.

Pollen: No record.

Nectar: No surplus.

Distribution: Cultivated in flower gardens throughout Oklahoma.

## PAPAVER

P. spp.

## GARDEN POPPY

Time of blooming: May 15 - June 15. Payne county, May 14.

Type of plant: Biennial herb.

Pollen: Good source of surplus pollen.

Nectar: The cultivated poppy produces nectar and the bees work it vigorously. It is commonly classified as a pollen plant. One Oklahoman lists it as good source of nectar.

Distribution: Flower gardens throughout Oklahoma.

## PARSLEY

- P. aurea (Nutt.) Britton.  
P. enneandra (Nutt.) Britton.  
P. formosa (Torr.) Vail.  
P. frutescens (A. Gray) Vail.  
P. jamesii (G. & G.) Vail.  
P. lanata (Spreng) Britton.  
P. nana (Torr.) Heller.

## PAROSELA

## DALEA

Time of blooming: May to August.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some value as a nectar plant.

Distribution: Statewide.

## PARTHENIUM

- P. integrifolium L.

## AMERICAN FEVER-TREE

Time of blooming: May - September.

Type of plant: Perennial herb.

Pollen: Some surplus pollen.

Nectar: Good nectar production. No record of surplus.

Distribution: Cleveland county.

## PARTHENOCISSUS

- P. Spp.

## VIRGINIA CREEPER

Time of blooming: May - July.

Type of plant: Vine.

Pollen: Not of much value.

Nectar: Good honey plant.

Distribution: Common, cultivated and escaped throughout Oklahoma.

#### PASSIFLORA

P. incarnata L. - May Pops.

P. lutea L. - Yellow Passion Flower.

#### MAY POPS

#### PASSION FLOWER

Time of blooming: April - September, April 20 - September 20.

Type of plant: Tendril climbing herb.

Pollen: Good source of surplus pollen.

Nectar: Bees and other insects visit P. incarnata for nectar. It is an open type flower where all insects serve themselves. No record for P. lutea.

Distribution: More common in the southeast counties.

#### PASTINACA

P. sativa L.

#### WILD PARSNIP

Time of blooming: June to September.

Type of plant: Biennial herb.

Pollen: Good source of surplus pollen.

Nectar: A valuable honey plant producing a surplus of light colored and medium quality honey.

Distribution: Common Eastern Oklahoma. Murray county has large acreage.

#### PENTSTEMON

P. acuminatus Dougl. - Sharp Leaved Beard Tongue.

P. cobaea Nutt. - Cobaea or Purple Beard Tongue.

P. digitalis - (Sweet) Nutt, Foxglove Beard Tongue.

- P. graciles Nutt. - Slender Beard Tongue.  
 P. grandiflorus Nutt. Large flowered Beard - Tongue.  
 P. hirsutus (L) Willd. - Purple or Hairy Beard - Tongue.

#### BEARD - TONGUE

Time of blooming: May - July 15.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Produces nectar but no record available. It is probable these plants could produce a surplus of honey.

Distribution: Statewide.

#### PETALOSTEMUM

- P. candidum (Willd) Michx. - Prairie Clover.  
 P. multiflorum Nutt. - Glabrous Prairie Clover.  
 P. oligophyllum Torr.  
 P. purpureum (Vent.) Rydb. - Prairie Clover.  
 P. villosum Nutt. Prairie Clover.

#### PRairie CLOVER

Time of blooming: June - August.

Type of plant: Perennial legume.

Pollen: Good source of surplus pollen.

Nectar: Bees work the flower but no record of a surplus.

Distribution: Large areas are scattered on prairies and in woods of Oklahoma, statewide.

#### PETUNIA

- P. hybrida Vilm.

#### GARDEN PETUNIA

Time of blooming: May - Frost.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: No record. Corolla of flower too long. Some sections report nectar gathered by bees. Other insects occasionally cut holes at base of corolla tube and bees take the nectar.

Distribution: Occasionally escaped. Cultivated in flower gardens throughout Oklahoma.

#### PHACELIA

P. corrugata A. Nels.

P. dubia. (L.) Small.

P. hirsuta Nutt.

P. integrifolia. Torr.

P. purshii. Buckley.

#### PHACELIA

Time of blooming: April - June.

Type of plant: Annual, biennial, perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Good source of early nectar.

Distribution: Statewide.

#### PHASEOLUS

P. lunatus Linn.

#### LIMA BEAN

Time of blooming: June - September.

Type of plant: Garden annual herb.

Pollen: Some surplus pollen.

Nectar: Bees work the plant but the acreage is usually too small for a surplus in Oklahoma.

Distribution: Gardens and fields throughout Oklahoma. No large acreage.

## PHLOX

P. paniculata L.

P. pilosa L.

## GARDEN PHLOX

Time of blooming: July - September. Payne county, May 6.

Type of plant: Perennial herb.

Pollen: Little if any gathered by honey bees.

Nectar: The corolla is long but some nectar is gathered by the bees from P. paniculata but little if any from P. pilosa.

Distribution: Occasionally cultivated over state.

## PHORADENDRON

P. flavescens (Pursh) Nutt.

## AMERICAN MISKLETON

Time of blooming: May - July 16.

Type of plant: A parasitic evergreen on desiduous trees.

Pollen: Good source of surplus pollen.

Nectar: Good source of honey and bees have been known to store a surplus.

Distribution: East one-third and north to Tahlequah.

## PHYSALIS

P. comata Rydb. - Missouri Ground Cherry.

P. lanceolata Michx - Prairie Ground Cherry.

P. missouriensis Beck and Bush - Missouri Ground Cherry.

P. virginiana Mill - Ground Cherry.

## PRAIRIE GROUND CHERRY

Time of blooming: May - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar.

Distribution: Statewide.

#### PHYSOSTIGIA

P. denticulata (Ait.) Britton.

P. internedium (Nutt.) Engelm & Gray.

#### FALSE DRAGON HEAD

Time of blooming: June - August.

Type of plant: Smooth perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar produced.

Distribution: Southeast Oklahoma for P. internendum Nutt.

#### PINUS

P. spp.

#### PINE

Time of blooming: March - April. Payne county, March 29.

Type of plant: Tree.

Pollen: Great quantities of pollen are produced during March and April.

Nectar: None.

Distribution: Principally Southeastern Oklahoma.

#### PLANTAGO

P. aristata Michx. - Large Erected Plantain.

P. elongata Pursh. - Slender Plantain.

P. lanceolata L. - English or Ripple Plantain.

P. major L. - Common Plantain.

P. occidentalis Decne. - Western Plantain.

P. purshii (R. & S.) Pursh's Plantain.

P. rugelii (Decne) Rugel's Plantain.

## PLANTAIN

Time of blooming: April - November.

Type of plant: Annual. Biennial or Perennial herb.

Pollen: Some surplus pollen.

Nectar: Bees gather nectar from P. purshii R. & S. in Pushmataha county in 1940. Most authorities list these as pollen plants without nectaries.

Distribution: Statewide. P. elongata of which there is record from Kingfisher county and P. rugellii from Payne county.

## PLATANUS

P. occidentalis L.

## SYCAMORE

Time of blooming: April - May.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: East one-half of state along streams.

## PLUMEA

P. peltiolata Cass

## MARCH FILABAINE

Time of blooming: August - October.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Some surplus honey of bright amber color and disagreeable odor.

Distribution: Cleveland county and probably other sections of Oklahoma.

## POLANISIA

P. graveolens - Raf. Clammy Weed.

P. trachysperma T. & G.

## CLAMMY WEED

Time of blooming: June - August.

Type of plant: Annual herb.

Pollen: Some surplus pollen produced.

Nectar: No record in Oklahoma.

Distribution: Kingfisher and Murray counties.

## POLYGONIUM

P. commutatum (R. & S.) Dietr.

## SALMON'S SEAL

Time of blooming: May - July.

Type of plant: Perennial herb.

Pollen: Of some value.

Nectar: Probably none.

Distribution: moist wooded sections of Eastern Oklahoma.

## POLYGONUM

P. acre H. B. K. - Dotted or Water Smartweed.

P. emersum - (Richx.) Britton.

P. hydropiper (L) Opiz. Common Smartweed or Water pepper.

P. lapathifolia (L.) S.E. Gray, Pale Smartweed.

P. longistylum Small - Smartweed.

P. pensylvanicum (L.) Small - Heartsease or Smartweed.

P. persicaria (L.) Small - Lady Thumb, Smartweed, Heartsease.

## SMARTWEED

Time of blooming: June - October.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: All smartweeds probably produce nectar. *P. hydropiper* is worked less frequently by bees but does secrete some nectar.

*P. persicaria* (L.) Smill yields large quantities of honey during September and October. Muskogee, Canadian, Oklahoma, Cleveland, and other counties report surpluses in excess of one hundred pounds some years. *P. persicaria* (L.) Smill is a major honey plant for Oklahoma. The honey is dark in color with a characteristic of buckwheat flavor and odor. Most of this honey is used for wintering bees but the surplus is readily consumed by bumblebees and the few who appreciate the mild buckwheat flavor.

Distribution: Statewide.

#### POAVERINIA

*P. cordata* L.

#### FLOWERS-LEAVES

#### WATER

Time of blooming: June - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Very little if any according to Pellett. A nectary yield is reported in Name.

Distribution: Along streams and marshes in Eastern Oklahoma.

#### POPULUS

*P. alba* L.

#### SILVER POPLAR

#### WHITE POPLAR

Time of blooming: March and April.

Type of plant: Medium sized tree.

Pollen: Good source of surplus pollen.

Nectar: No record.

Distribution: Statewide - ornamental.

#### POPULUS

P. deltoides Marsh

P. sargentii Dode

#### COTTONWOOD

Time of blooming: March - April. Payne county, April 10 - May 15.

Muskogee county, February 9, 1941. Bees gathering pollen.

Type of plant: Large tree.

Pollen: Bees gather pollen when weather permits. Propolis is gathered from this tree.

Nectar: None.

Distribution: Statewide.

#### FORTULACA

P. grandiflora Hook.

P. oleracea L.

#### GARDEN MOSS

#### FORTULACA

Time of blooming: June - September.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Good source of surplus nectar. If the acreage were sufficient bees could store a surplus from P. grandiflora Hook.

Distribution: Common in flower gardens of Oklahoma and escaped statewide.

#### POTENTILLIA

P. spp.

## FIVE FINGERS

## CINQUEFOIL

Time of blooming: April - August for P. canadensis L. June - September for P. fruticosa L.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: No record in Oklahoma.

Distribution: Statewide.

## PROSOPIS

P. glandulosa Torr.

## MESQUITE

Time of blooming: April - June.

Type of plant: Small tree.

Pollen: Good source.

Nectar: This honey plant produces nectar in large quantities.

No record of surplus in Oklahoma.

Distribution: West and South Central Oklahoma. An occasional tree in Coal, Atoka, and Bryan counties.

## PRUNUS

P. spp. - Apricot.

P. americana Marsh - Wild Yellow and Wild Red Plum.

P. angustifolia Marsh - Chickasaw Plum.

P. angustifolia (Marsh) Var. Watsonii Sarg - Sand Plum.

P. spp. - Cherry.

P. glandulosa - Flowering Almond.

P. gracilis Engelm & Gray - Low Plum.

P. hortulana Bailey - Wild Goose Plum.

P. nana Stokes - Russian Almond.

- P. nana (Du Roi) Roemer - Choke Cherry.
- P. spp. - Nectarines.
- P. serotina - Ehrh Wild Black or Rum Cherry.
- P. spp. - Tame Plum.
- P. virginiana (L.) Mill - Choke Cherry.

#### STONE FRUITS

Time of blooming: March - May 10.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: There is no record of nectar for P. glandulosa but all other plants listed under the genera group are excellent sources of stimulative nectar for brood rearing. P. gracilis is an especially good honey plant for Western Oklahoma and a fifty pound surplus has been reported from Beaver county.

Distribution: In orchards of the state and growing statewide.

P. angustifolia Marsh Var. Watsonii Sarg is found in Western two-thirds of the state while P. americana Marsh and angustifolia are adapted to the eastern two-thirds of the state.

#### PSORALEA

- P. argophylla Pursh.
- P. cuspidata Pursh.
- P. digitata Nutt.
- P. esculenta Pursh.
- P. floribunda Nutt.
- P. hypogaea Nutt.
- P. lanceolata Pursh.
- P. linearifolia T. & G.
- P. pedunculata (Mill) Vail.

P. reverchonii S. Wats.

P. tenuiflora floribunda (Nutt.) Rydb.

#### WILD ALFALFA

Time of blooming: May to October. Payne county, May 30.

Type of plant: Perennial (legume) herbs.

Pollen: Some surplus pollen produced.

Nectar: All Psoralea are of value as honey plants since bees work them, though there are few records of a surplus. P. floribunda produced a surplus in 1940 at Stillwater.

Distribution: Statewide.

#### PTELEA

P. trifolia L.

#### WATER ASH

#### HOP TREE

#### SHRUBBY TREFOIL

Time of blooming: April.

Type of plant: Tree or large shrub.

Pollen: Good source of surplus pollen.

Nectar: Of some value as a spring build-up.

Distribution: Scattered over entire state.

#### PYCNANTHEMUM

P. flexuosum (Walt.) B.S.P.

P. pilosum Nutt.

P. virginianum (L.) Mach.

#### MOUNTAIN MINT

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Produces some pollen.

Nectar: Bees work the plant.

Distribution: Fields and thickets east one-third of state.

#### PYRRHOPAPPUS

P. Spp.

#### FALSE DANDELION

Time of blooming: April - May.

Type of plant: Annual herb.

Pollen: Some surplus pollen produced.

Nectar: This plant not of much value.

Distribution: Statewide.

#### PYRUS

P. communis L.

#### PEAR

Time of blooming: April 3.

Type of plant: Tree.

Pollen: Good source of surplus pollen. Bees work this plant vigorously.

Nectar: Good source. Largely stimulative.

Distribution: Cultivated in orchards over the entire state.

#### QUERCUS

Q. Spp.

#### OAK

Time of blooming: March - April.

Type of plant: Shrub to large trees.

Pollen: Good source of pollen and bees work the plant freely.

Nectar: Professor Sanborn of Oklahoma A. & M. College believes the young acorn occasionally yields tiny drops of nectar from the tip.

Distribution: Common, statewide.

## RADICULA

R. spp.

## WATER CRESS

Time of blooming: February 20 - August. Payne county, February 29.

Type of plant: Annual or biennial.

Pollen: Good source of surplus pollen.

Nectar: Some. Stimulates brood production.

Distribution: East two-thirds of state.

## RADICULA

R. sativa L.

## RADISH

Time of blooming: June - August.

Type of plant: Fleshy rooted, annual or biennial herb.

Pollen: Good source of surplus pollen.

Nectar: Bees work the plant for nectar.

Distribution: Gardens, statewide.

## RANUNCULUS

R. delphinifolius Torr.R. fascicularis Mull.R. septentrionalis Poir.

## BUTTERCUP COMMON

## CROWFOOT

Time of blooming: April - July.

Type of plant: Annual herb.

Pollen: Bees gather pollen.

Nectar: No record.

Distribution: Common, statewide.

## RESEDA

R. odorata L.

## TRICNOMETTE

Time of blooming: June.

Type of plant: Annual herb.

Pollen: Some surplus pollen produced.

Nectar: Nectar yield doubtful.

Distribution: Cultivated in gardens of Oklahoma over entire state.

## RHAMNUS

R. caroliniana Walt.

## CAROLINA BUCKTHORN

Time of blooming: May - June.

Type of plant: Tall shrub or tree.

Pollen: Good source of surplus pollen.

Nectar: The buckthorn is reported to be of value as a honey plant. The honey is dark and said to be slightly cathartic.

Distribution: Moist soils over entire state.

## RHUS

R. canadensis Marsh - Sweet Scented Sumac or Canadian Sumac.

R. copallina L. - Dwarf, winged or upland sumac.

R. glabra L. - Smooth Sumac.

R. nortonii (Greene) Rydb - Norton's Sumac.

R. quercifolia (Michx.) Steud - Poison Oak.

R. toxicodendron L. - Poison Oak or Ivy.

R. toxicodendron radicans L. Torr.

R. trilobata Nutt. - Skunk or Ill Scented Sumac.

R. typhina L. - Stag Horn Sumac.

## SUMAC

Time of blooming: May - August.

Type of plant: Shrub except for R. toxicodendron which is a woody vine.

Pollen: Good source of surplus pollen.

Nectar: Excellent honey plants. Rhus copallina L. can be listed as one of the major honey plants of Oklahoma. It produces a surplus of light colored and splendid flavored honey. All species are a source of nectar.

Distribution: There are thousands of acres of most of these plants found in all sections of Oklahoma. R. typhina is a decorative shrub found only occasionally on lawns and in landscaping.

#### RIBES (grossularia)

R. cynosbati L.

R. odoratum Wendl.

#### WILD GOOSEBERRY

Time of blooming: April - May 15.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Valuable as it stimulates brood rearing.

Distribution: Northeastern and southeastern sections of Oklahoma.

#### ROBINIA

R. hispida L. Rose acacia.

R. pseudoacacia L. Black Locust.

#### BLACK LOCUST

Time of blooming: Cleveland, Logan, Oklahoma, Payne, and Pontotoc counties March 15 - May 15.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: This is a splendid honey plant. A surplus has been gathered in Oklahoma and other counties.

Distribution: Statewide. Cultivated and escaped. Bees have worked this plant consistently for four years, in Pushmataha county.

#### ROSA

R. spp.

#### ROSE

Time of blooming: April 10 - July 10. Payne county April 20 - May 18.

Type of plant: Shrub or vine.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: Statewide, wild and cultivated.

#### RUBUS

R. hispidus L.

R. alleghaniensis Porter.

R. baileyanus Britton.

R. occidentalis - L. Black Raspberry.

R. spp. Young berry.

#### BLACKBERRY

Time of blooming: May 1 - July 10.

Type of plant: Prickley shrub.

Pollen: Good source of surplus pollen.

Nectar: Good source of amber colored honey. It has a good flavor and body. This is one of the important honey plants of Oklahoma.

Distribution: Statewide.

#### RUBUS

R. rubrifolius Rydb.

R. trivialis Michx.

*R. procumbens* Muhl.

## DEWBERRY

Time of blooming: March 15 - June 1.

Type of plant: Prickley training vine.

Pollen: Good source of surplus pollen.

Nectar: Good source of dark honey for brood rearing.

Distribution: Statewide, common waste land, fence rows, pastures, etc.

## RUDBECKIA

*R. hirta* L.

*R. laciniata* L.

*R. subtomentosa* Pursh.

*R. triloba* L.

## BLACK-EYED SUSAN

## CONE FLOWER

Time of blooming: June - August.

Type of plant: Annual or Biennial.

Pollen: Bees gather pollen.

Nectar: Small amount of nectar occasionally gathered.

Distribution: Common, statewide.

## RUMEX

*R. acetosella* L.

## SHEEP SORREL

Time of blooming: April - June.

Type of plant: Biennial herb.

Pollen: Good source of surplus pollen.

Nectar: None.

Distribution: East half of state, acid soils.

## RUMEX

R. crispus L.

CURLED DOCK

YELLOW DOCK

Time of blooming: June - August.

Type of plant: Perennial herb.

Pollen: Bees gather pollen occasionally.

Nectar: None.

Distribution: Statewide.

SABAL

S. glabra (Mill) Sarg.

SHRUB PALMETTO

Time of blooming: June.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Good plant for a surplus of honey. Only small area in Oklahoma.

Distribution: Southeastern, McCurtain county, a small area is reported.

SAGINA

S. decumbens (Ell.) T. and G.

PEARLWORT

Time of blooming: March - May - April 20.

Type of plant: Annual.

Pollen: Some gathered by bees.

Nectar: Some gathered by bees.

Distribution: Common, statewide.

SAGITTARIA

S. ambigua J.G. Smith.

- S. cuneata Sheldon.
- S. graminea Michx.
- S. latifolia Willd.
- S. longiloba Engelm.
- S. longirostra (Micheli) J. G. Smith.
- S. platyphylla (Engelm) J. G. Smith.
- S. rigida Pursh.

## ARROW-HEAD

Time of blooming: June - September.

Type of plant: Annual or perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar is available.

Distribution: Swamps and shallow water of Oklahoma, east two-thirds of state.

## SALIX

- S. amygdaloidea Anders - Peach-Leaf, Willow.
- S. cordata Muhl. - Weeping Willow.
- S. descolor Muhl Pussy Willow.
- S. exigua Nutt.
- S. humilis Marsh.
- S. Interior Rowlee - Sand Bar Willow.
- S. linearifolia Rydb.
- S. longipes - Shuttle var. Wardii Bebb. Schneider Ward's Willow.
- S. missouriensis Bebb.
- S. nigra Marsh - Black Willow.
- S. longipes Var. Venulosa Schne.

## WILLOW

Time of blooming: March - May.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Willow produces an abundance of light colored honey but has a taste characteristic of the sap of the willow. Often a surplus of honey is secured in excess of sixty pounds. The weather prevents the bees from storing a surplus some years.

Distribution: Statewide.

#### SALVIA

S. farinacea Benth.

S. lancifolia Poir.

S. lyrata L.

S. pitcheri Torr.

#### SAGE (WILD)

Time of blooming: May - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Probably of value to beekeepers since the corolla tube is short and produces nectar. Honey is dark.

Distribution: Cultivated and escaped statewide.

#### SAMBUCUS

S. spp.

#### GOLDEN ELDER

#### ELDERBERRY

Time of blooming: June.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Most authorities believe this plant does not produce nectar.

One Oklahoman reports fair source of nectar.

Distribution: Eastern Oklahoma and lawns.

#### SANGUINARIA

S. canadensis L.

#### BLOODROOT

Time of blooming: March - May.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar which stimulates brood rearing.

Distribution: East one-third of state.

#### SAPINDUS

S. drummondii H. & A.

#### SOAPBERRY

#### WILD CHINA TREE

Time of blooming: May - June.

Type of plant: Tree.

Pollen: Good source of surplus pollen.

Nectar: Bees gather a surplus of one to two shallow supers of honey from this plant in Muskogee county where the tree is plentiful. The honey is light in color and of good body. Bees seem to share the plant equally with sweet clover which blooms at the same time. As many bees were working the wild china tree as sweet clover during the week of June 23 in eastern part of Muskogee county. A field of white sweet clover was adjacent to a hill side pasture of the wild china tree which served to make an accurate comparison.

Distribution: Common in Central and East Central Oklahoma.

#### SASSAFRAS

S. officinale Nees. and Ebern.

## SASSAFRAS

Time of blooming: April - May.

Type of plant: Shrub or tree.

Pollen: Good source of early pollen.

Nectar: Good source for early nectar in small quantities.

Distribution: Eastern half of state.

## SATURÉJA

S. glabra Fernald.

## CALAMINT

Time of blooming: May - August.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Some surplus produced.

Distribution: Common, rocky banks, Eastern Oklahoma.

## SAURURUS

S. cernuus L.

## LIZARD'S TAIL

Time of blooming: June to August.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Produces an abundance of honey, but plant too limited to be much value.

Distribution: Pushmataha county.

## SCROPHULARIA

S. marilandica L.

## SIMPSON'S HONEY PLANT

## CHAPMAN'S HONEY PLANT

## FIGWART

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Good source of nectar where abundant.

Distribution: East Central Oklahoma.

## SEDUM

S. nuttallianum Raf.

S. pulchellum Michx.

## STONECROP

## ROCK-MOSS

Time of blooming: April, May, June.

Type of plant: Succulent, annual herb.

Pollen: Good source of surplus pollen.

Nectar: It is reported to yield nectar to stimulate brood rearing.

Distribution: Common in mountain sections, eastern and southern part of state.

## SENECIO

S. glabellus Poir.

## BUTTER WEED

## GROUNDSEL

Time of blooming: March - June.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Some value.

Distribution: Eastern Oklahoma.

## SICYOS

S. angulatus L.

## PUR-CUCUMBER

Time of blooming: June - September.

Type of plant: Annual herb.

Pollen: Some value.

Nectar: No record in Oklahoma. Other sections report this plant of value.

Distribution: River banks, east two-thirds of state.

## SIDA

S. hederacea Torr. Round Leaf-Sida.

S. spinosa L. - Prickly Sida.

## ROUND LEAF-SIDA

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Produces some surplus pollen.

Nectar: No surplus is known for Oklahoma.

Distribution: Common, moist soils of Oklahoma, east one-half of state.

## SILPHIUM

S. integrifolium Michx.

S. laciniatum L.

S. perfoliatum L.

## ROGIN NEED

## COMPASS PLANT

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Source of nectar, but probably of little value.

Distribution: Common, statewide.

## SISYMBRIUM

S. officinale Scop.

## HEDGE MUSTARD

Time of blooming: April - October. Payne county April 28.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: It produces a dark strong honey.

Distribution: Statewide.

## SIMILAX

S. spp.

## GREENBRIER

Time of blooming: April - May.

Type of plant: Perennial brier.

Pollen: Some surplus pollen produced.

Nectar: An occasional nectar flow probably of little value.

Distribution: Common along streams of Oklahoma, east one-half of state.

## SOJA

S. Max (L.) Peper

## SOY BEAN

Time of blooming: July - August - September.

Type of plant: Annual herb.

Pollen: Some surplus pollen produced.

Nectar: Little is known about this plant's ability to produce, nectar. Bees work the plant occasionally.

Distribution: Cultivated on farms over entire state.

## SOLIDAGO

S. altissima L.- Tall Goldenrod.

- S. boottii Hood. - Boott's Goldenrod.
- S. canadensis L. - Canada Goldenrod.
- S. caesia L.
- S. glaberrima Martens - Missouri Goldenrod.
- S. hispida Muhl. - Hairy Goldenrod.
- S. lindheimeriana Scheele - Lindheimer's Goldenrod.
- S. mollis Bartl. - Velvety Goldenrod.
- S. nemoralis Ait. - Gray Goldenrod.
- S. nitida T. and G. - Marrow Leaved Goldenrod.
- S. odora Ait. - Anise-scented Goldenrod.
- S. peltiolaris Ait. - Downy Ragged Goldenrod.
- S. radula Nutt. - Western Rough Goldenrod.
- S. rigidiuscula T. and G. Porter.
- S. rigida L. Stiff Goldenrod.
- S. serotina Ait. Late Goldenrod.
- S. speciosa Nutt. Showy Goldenrod.
- S. tortifolia Ell Twisted - Leaf Goldenrod.
- S. ulmifolia Muhl. Elm Leaved Goldenrod.

## GOLDENROD

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Goldenrod is a valuable source of fall stores. The honey is a golden color and of good flavor when well ripened.

Distribution: Common statewide.

## SONCHUS

- S. asper (L) Hill

## SOW - THISTLE

Time of blooming: May - November.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Some nectar is available.

Distribution: Statewide.

#### SOPHORA

S. affinis (T. and G.)

CORAL BEAN, BEARDED LOCUST

Time of blooming: May - August.

Type of plant: Shrub or tree.

Pollen: Some pollen produced.

Nectar: No record.

Distribution: Limestone Prairies, central part of state.

#### SPIRAEA

S. spp.

BRIDAL WREATH OR SPIREA

Time of blooming: March - May.

Type of plant: Shrub.

Pollen: Some pollen produced.

Nectar: Poor, if any. The purple spiraea may be a good nectar plant but few are in the state.

Distribution: Cultivated plant, statewide.

#### STIZOLOBIUM

S. deerianum Bort.

VALVEX BEAN

Time of blooming: August 1 - Frost.

Type of plant: Annual legume herb.

Pollen: Some surplus pollen.

Nectar: No record for Oklahoma, but probably of value.

Distribution: In Eastern Oklahoma small fields may occasionally be found.

#### STROPHOSTYLE

S. helvola (L.) Britton.

S. pauciflora (Benth) S. Wats.

S. umbellata. (Muhl.) Britton.

#### TRAILING WILD BEAN

Time of blooming: July - September.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: This has some value as a nectar plant.

Distribution: Oklahoma and Cleveland counties and statewide.

#### SYMPHORICARPOS

S. orbiculatus Moench.

#### INDIAN CURRENT

#### COPRAL BERRY

#### BUCK BRUSH

Time of blooming: July and June.

Type of plant: Shrub.

Pollen: Good source of surplus pollen.

Nectar: Good source of late nectar: a surplus of honey is secured from this plant.

Distribution: Along streams and hillsides. Eastern part of state.

#### SYRINGA

S. vulgaris L.

#### LILAC

Time of blooming: April - June.

Type of plant: Shrub.

Pollen: No record.

Nectar: Fair. Bees work this plant but the long corolla prevents the bees from getting their share of the surplus nectar in the blossoms. Moths and bumble bees, and other insects work the plant vigorously.

Distribution: Cultivated gardens and lawns, statewide.

#### SYRINGA

S. philadelphus inodorus.

#### MOCK ORANGE

Time of blooming: April - May. Payne county April 29 - May 22.

Type of plant: Shrub.

Pollen: An abundance of pollen.

Nectar: It has some value as a nectar plant for the honey bee.

Distribution: Cultivated statewide.

#### TAMARISK (tamarisk)

T. gallica L.

T. paviflora D.C.

T. pentandra Pall.

#### TAMARISK

#### ATMOL

Time of blooming: May - September.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: This produces a splendid light amber honey with a very slight resinous taste. It might serve as a cough syrup when patients prefer their cough syrup medicated mildly. The honey is good for table use.

Distribution: Cimarron, North Canadian, South Canadian, Red, north fork of the Red, and other rivers of the west two-thirds of Oklahoma have an abundance of this plant. It is scattering eastward along those streams.

#### THOMASIA (MICHONIA)

T. radicans (L.) Juss.

#### TRUMPET FLOWER

Time of blooming: May - September.

Type of plant: Woody vine.

Pollen: Some pollen produced.

Nectar: Bees gather from this flower. It is doubtful if a surplus would be gathered.

Distribution: East two-thirds of state.

#### TEUCHRIUM

T. canadense L.

T. cubense L.

T. littorale Bicknell.

T. occidentale A. Gray.

#### AMERICAN GERMANDER

#### WOOD SAGE

Time of blooming: May - September.

Type of plant: Perennial herb or shrub.

Pollen: Good source of surplus pollen.

Nectar: Good nectar plants but a surplus is not known in Oklahoma.

Distribution: Common, statewide.

#### TILLA

T. americana L. - Lin or Linden.

T. floridana Small - Lin or Linden.

T. floridana var. hypolenca Sarg. Lin or Linden.

T. nuda Sarg. - Lin or Linden.

T. nuda var. glaucescens Sarg.

T. species - Lin or Linden.

#### BASSWOOD-BASS

#### LIN or LINDEN

Time of blooming: May 28 - June 24.

Type of plant: Tree.

Pollen: Bees do not often work this plant for pollen.

Nectar: Bees work this plant freely and give off a sound not unlike a swarm of bees passing. They often get a load of nectar from one flower. It is a rapidly vanishing tree for Oklahoma.

Distribution: Americana is found in east and southeast Oklahoma.

Particularly in McCurtain, Pushmataha, LeFlore, and Latimer counties.

T. species is found in the mountains of Eastern Oklahoma T. nuda var. glaucescens Sarg. is found in LeFlore county. T. nuda is found in Pushmataha and McCurtain counties. T. floridana Small is found in McCurtain county. T. floridana var. hypolence Sarg. is found in LeFlore, Pushmataha and McCurtain counties.

#### TINIARIA (Polygonum)

T. convolvulus (L) Webb and Moq. Corn Bindweed.

T. dumetorum (L) opiz. Hedge Buckwheat.

T. scandens L. Small - Climbing False Buckwheat.

#### BINDWEED

Time of blooming: May to September.

Type of Plant: Annual or perennial twining vine or a shrub.

Pollen: Some surplus pollen produced.

Nectar: T. convolvulus is a good source of honey. The other plants

are of little value.

Distribution: Statewide.

#### TRADESCANTIA

##### T. virginiana L.

##### SPIDERWORT

Time of blooming: April 1 - August 1, May 11.

Type of plant: Perennial herb.

Pollen: Some surplus pollen produced.

Nectar: Some nectar.

Distribution: Common, statewide.

#### TRIBULUS

##### T. terrestris L.

##### GOAT'S HEAD

##### GROUND BUR-RUT

Time of blooming: May 1 - Frost.

Type of plant: Annual procumbent herb.

Pollen: Good source of surplus pollen.

Nectar: It is thought by a few apiarists to produce a surplus of golden colored honey. The bees work the plant early in mornings.

This plant was observed in 1960 in Texas county and only once did bees work it. But in some sections bees work the plant freely.

It is possible the bees actually gathered some honey from sun flower rather than the Goat's Head.

Distribution: West two-thirds of state.

#### TRIFOLIUM

T. hybridum L. - Alsike Clover.

T. incarnatum L. Crimson Clover.

T. procumbens L. - Low Hop Clover.

## ALSIKE CLOVER

Time of blooming: May 1 - October. Latimer county, May 2.

Type of plant: Annual biennial or perennial legume.

Pollen: Good source of surplus pollen.

Nectar: Similar to white clover. The honey is white and good flavor. T. procumbens is of little value. Bees work it some.

Distribution: Waste places, statewide.

## TRIFOLIUM

T. repens L.

## WHITE CLOVER

## LAWN CLOVER

Time of blooming: March 15 - Frost. Payne county April 6 - May 6.

Type of plant: Annual or perennial legume.

Pollen: Some surplus pollen is produced.

Nectar: White clover produces a surplus in some sections. Especially is this true in Cherokee county where there is a large acreage. A surplus was produced at Goodwill, Oklahoma.

Distribution: Statewide, lawns, parks, pastures, and escaped.

## TRILLIUM

T. viridescens Nutt. Wake Robin.

T. viride Beck - Green Wake Robin.

## WAKE ROBIN

## BIRDEFOOT

Time of blooming: April - May.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Nectar is available but the plants are limited.

Distribution: East Oklahoma.

## ULMUS

- U. alata Michx. - Winged Elm.
- U. americana L. - White or American Elm.
- U. fulva Michx. - Slippery Elm.
- U. pumila L. - Chinese or Oriental Elm.

## ELM

Time of blooming: February - March.

Type of plant: Large tree.

Pollen: Good source, early pollen when weather will permit bees to work.

Nectar: It is reported to yield some nectar.

Distribution: Statewide.

## VACCINUM

- V. arboreum Marsh - Tree Huckleberry or Sparkleberry.
- V. arboreum Var. glaucescens Sarg. - Tree Huckleberry or Sparkleberry.
- V. corymbosum L. - High or Swamp Blueberry.
- V. melanocarpum Mahr. - Small Huckleberry.
- V. neglectum Small, Buckberry.
- V. stamineum L. Deerberry.
- V. vacillans Kalm - Blue or Summer Huckleberry.
- V. virgatum Ait - Southern Black Huckleberry.

## HUCKLEBERRY

Time of blooming: April - June.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: The plants produce an abundance of nectar. It is possible for the bees to store a surplus if the field force is sufficiently

large. The honey is light amber and of good flavor.

Distribution: Eastern Oklahoma.

#### VERBASCUM

V. thapsus L.

COMMON MULLEIN

GREAT MULLEIN

Time of blooming: June - July.

Type of plant: Perennial herb.

Pollen: Good source of surplus pollen.

Nectar: Very little.

Distribution: Eastern part of state.

#### VERBENA

V. angustifolia Michx. - Vervain.

V. bipinnatifida Nutt. - Verbena.

V. bracteosa Michx. - Vervuin.

V. canadensis (L) Britton Verben.

V. hastata L. Blue Vervain.

V. officinalis L. - European Vervain.

V. stricta Vent. - Verbena.

V. urticifolia L. - White Vervain.

V. xutha Lehm. - Verbena.

#### VERBENA

Time of blooming: May - September.

Type of plant: Annual and perennial herb.

Pollen: V. hastata produces some pollen - No record for other species in Oklahoma.

Nectar: Bees work the plants for nectar but no surplus is reported.

Distribution: Statewide.

## VERBESINA

V. alba L.

## CROWN BEARD

Time of blooming: June - July.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: A probable source for stimulation.

Distribution: Common moist soils in east two-thirds of state.

## VERNONIA

V. baldwinii Torr.V. crinita Raf.V. fasciculata Michx.V. missouriaca Raf.

## IRONWEED

Time of blooming: July - September.

Type of plant: Perennial herb.

Pollen: Small quantities produced.

Nectar: Small quantities produced.

Distribution: East one-half of state.

## VERONICA

V. anagallis - aquatica L. - Water Speedwell.V. argestis L. - Garden Speedwell.V. arvensis L. - Corn or Wall Speedwell.V. peregrina L. - Purslane speedwell.

## SPURGEON

Time of blooming: March - September. Payne county March 9 - May 1  
for V. argestis.

Type of plant: Annual herb.

Pollen: Some surplus pollen.

Nectar: Fair source of nectar.

Distribution: Common, statewide.

#### VIBURNUM

V. prunifolium L.

V. rufidulum Raf.

#### BLACK HAW

Time of blooming: April - May. Payne county, April 19 - May 1.

Oklahoma county, Lincoln, Payne, Pushmataha counties April 15 - May 1.

Type of plant: Tree or shrub.

Pollen: Good source of surplus pollen.

Nectar: An abundance of good honey is secured where the pasture is sufficient.

Distribution: East one-half and southwestern area.

#### VICIA

V. villosa Poth.

#### HAIRY VETCH

Time of blooming: April - August. Payne county May 3 - July 1.

Type of plant: Biennial legume herb.

Pollen: Surplus pollen is produced.

Nectar: This gives promise to become a major honey plant for Oklahoma. Some farmers are using it for a soil building crop and bees produced seventy pounds of water white honey in Oklahoma county in 1940 before white sweet clover came into bloom.

Distribution: Cultivated statewide and escaped.

#### VIGNA

V. siensis (L.) Endl.

#### COWPEA

Time of blooming: July - Frost.

Type of plant: Annual herb.

Pollen: No value as a pollen plant.

Nectar: Some nectar is produced by the cow pea from the nectaries on flowering stems. There are possibilities of a surplus in good years. Bees work the plant freely some seasons.

Distribution: East one-half of Oklahoma cultivated.

#### VIOLE

V. spp.

#### VIOLET

Time of blooming: February - June. Payne county March 15 - April 10.

Type of plant: Perennial herb.

Pollen: No surplus produced.

Nectar: Of little value. Bees visit these plants.

Distribution: Common, statewide.

#### VITEX

V. negundo. Linn.

V. agnus - castus L.

#### VITEX

Time of blooming: May - Frost.

Type of plant: Shrub.

Pollen: This plant of little value for pollen.

Nectar: One beekeeper reports a surplus of nectar. Bees work the plant continually.

Distribution: Cultivated, occasionally escaped. Throughout state.

#### VITIS

V. spp.

## GRAPE

Time of blooming: May - June. Payne county April 2 - May 2.

Type of plant: Perennial wood vine.

Pollen: Good source, not all plants bear pollen.

Nectar: Good source to stimulate brood rearing.

Distribution: Common, statewide.

## WISTERIA

W. spp.

## WISTERIA

Time of blooming: June.

Type of plant: Shrub or vine.

Pollen: Some surplus pollen is produced.

Nectar: Very little nectar. Bees work the plant occasionally.

Distribution: Cultivated throughout Oklahoma.

## XANTHIUM

X. spp.

## COCKLEBUR

Time of blooming: June until frost.

Type of plant: Annual herb.

Pollen: Some pollen is gathered from this plant.

Nectar: Occasional report of nectar.

Distribution: Common weed throughout Oklahoma.

## XIMENESIA

X. encellicides Cov.

## GOLDEN CROWBERRY

## YELLOW TOP

Time of blooming: June - August.

Type of plant: Annual herb.

Pollen: Good source of surplus pollen.

Nectar: Reported to produce some nectar.

Distribution: McClain county and probably common in Oklahoma.

#### XOLISIA

X. ligustrina (L) Britton.

PRIVET ANDROMEDA

MAIL BERRY

Time of blooming: May - July.

Type of plant: Shrub.

Pollen: Some surplus pollen is produced.

Nectar: Yields some honey.

Distribution: East one-third of state.

#### YUCCA

Y. filamentosa L.

Y. glauca Nutt.

YUCCA OR ADAM'S NEEDLE

SOAPPLANT OR BEAR GRASS

Time of blooming: June - September.

Type of plant: Perennial plant.

Pollen: Some surplus pollen produced.

Nectar: No nectar.

Distribution: Statewide.

#### ZANTHOKYLIUM

Z. americanum Mill.

Z. clava-herculis L.

PRICKLY ASH

TOOTHACHE TREE

Time of blooming: April.

Type of plant: Shrub or tree.

Pollen: Good source of surplus pollen.

Nectar: Good source. The honey is light in color and pungent in flavor.

Distribution: Low lands of Eastern Oklahoma.

#### ZINNIA

Z. elegans Jacq.

#### ZINNIA

Time of blooming: July - September.

Type of plant: Annual herb.

Pollen: Bees gather some surplus pollen.

Nectar: Occasionally bees gather small amount of nectar.

Distribution: Cultivated in yards and gardens of entire state.

#### ZIZIA

Z. aurea (L.) Koch.

#### MEADOW PARSNIP

Time of blooming: May - July.

Type of plant: Perennial herb.

Pollen: Some pollen is gathered.

Nectar: No record.

Distribution: Cherokee county.

## LITERATURE CITED

- Durrell, Glenn R. Forest Trees of Oklahoma and How to Know Them. Oklahoma City, Oklahoma: Oklahoma Planning and Resources Board.
- Gray, Asa. New Manual of Botany. American Book Company, 1908.
- Lovell, John Harvey. Honey Plants of North America. (North of Mexico). Medina, Ohio: A. I. Root Company, 1926.
- Pellett, Frank C. American Honey Plants, 3rd Ed. Hamilton, Illinois: American Bee Journal, 1930.
- Pellett, Frank C. Notes From the Honey Plant Garden. Des Moines, Iowa: State Apiarist, 35-48, 1942.
- Pammel, L.H. and King, Charlotte M. Honey Plants of Iowa. Iowa Geological Survey Bulletin, Number 7, 1930.
- Stemen, Thomas R. and Myers, W. Stanley. Oklahoma Flora. Oklahoma City, Oklahoma: Harlow Publishing Company, 1937.
- Division of Bee Culture. The Dependence of Agriculture on the Beekeeping Industry--A. Review. E. Series. 584. United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, December, 1942.

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