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Beekeeping Regions in the United States

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BEEKEEPING REGIONS IN THE UNITED STATES

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Based on flora, beekeeping methods, and land topography the continental United States can be divided into seven geographical regions (fig. 1). Each of these regions is discussed here from the standpoint of honey production and methods of beekeeping operations.

The flora, climate, and nature of the terrain determine the system of management practiced by the beekeeper. For example, in the Apalachicola swamps of the Southeast, hives are placed on scaffolding for protection from flood waters. In the Southwest, shade must be provided to protect the hives from the hot sun (fig. 2). Colonies in the North and mountainous areas must be protected from the cold (fig. 3), in certain forested areas from bears, and on the desert from drifting sand.

Some locations must be paid for by the beekeeper, others are furnished free. Where the bees are desired for pollination, the beekeeper is usually paid for their services.

Most beekeepers move their colonies at night (if moving is necessary) when the bees are inside the hive. But when daytime temperatures exceed 110° F. in the Southwest, bees are more easily moved at midday when they are inside the hive rather than at night when they tend to cluster on the entrance.

[1] In cooperation with Utah Agricultural Experiment Station.

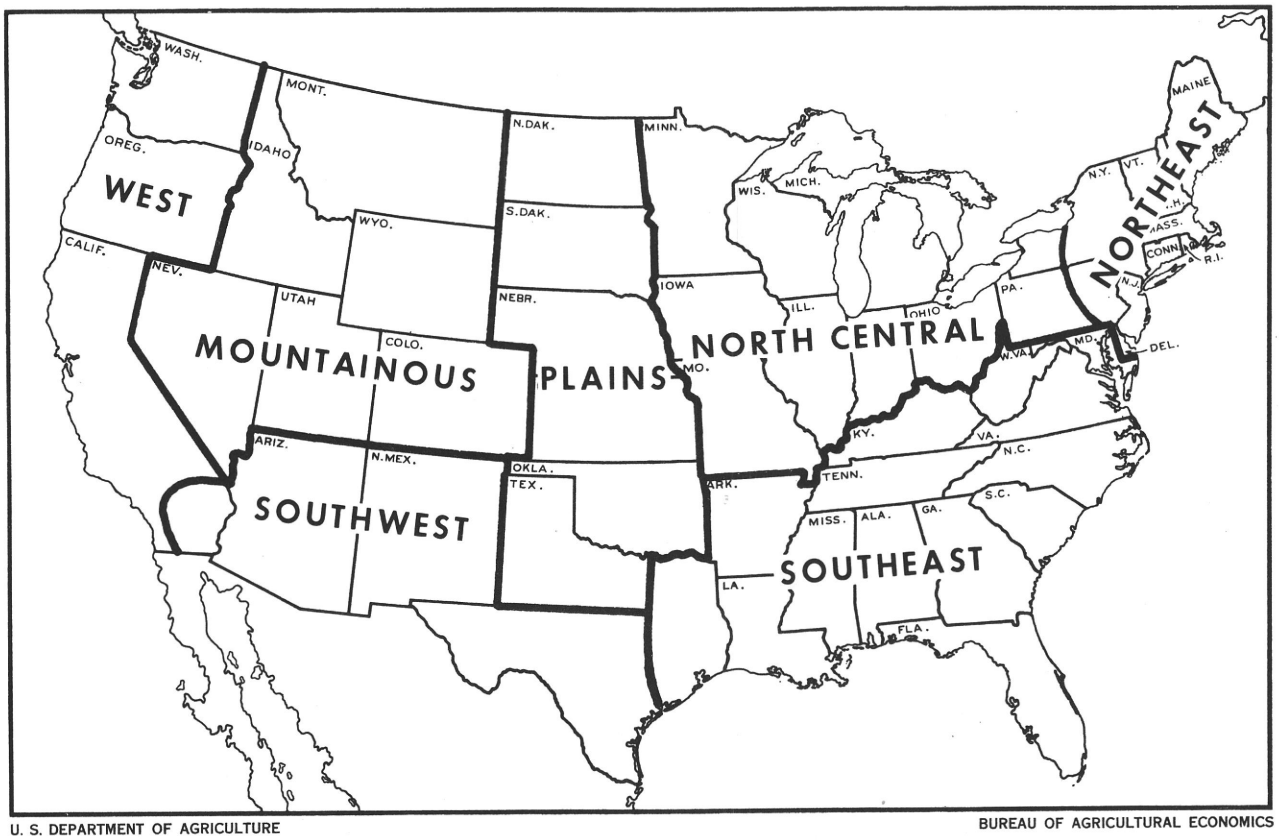

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FIGURE 1.—Beekeeping regions of the United States.

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FIGURE 2.—Typical apiary under a ramada that partially shades colonies in hot Southwest.

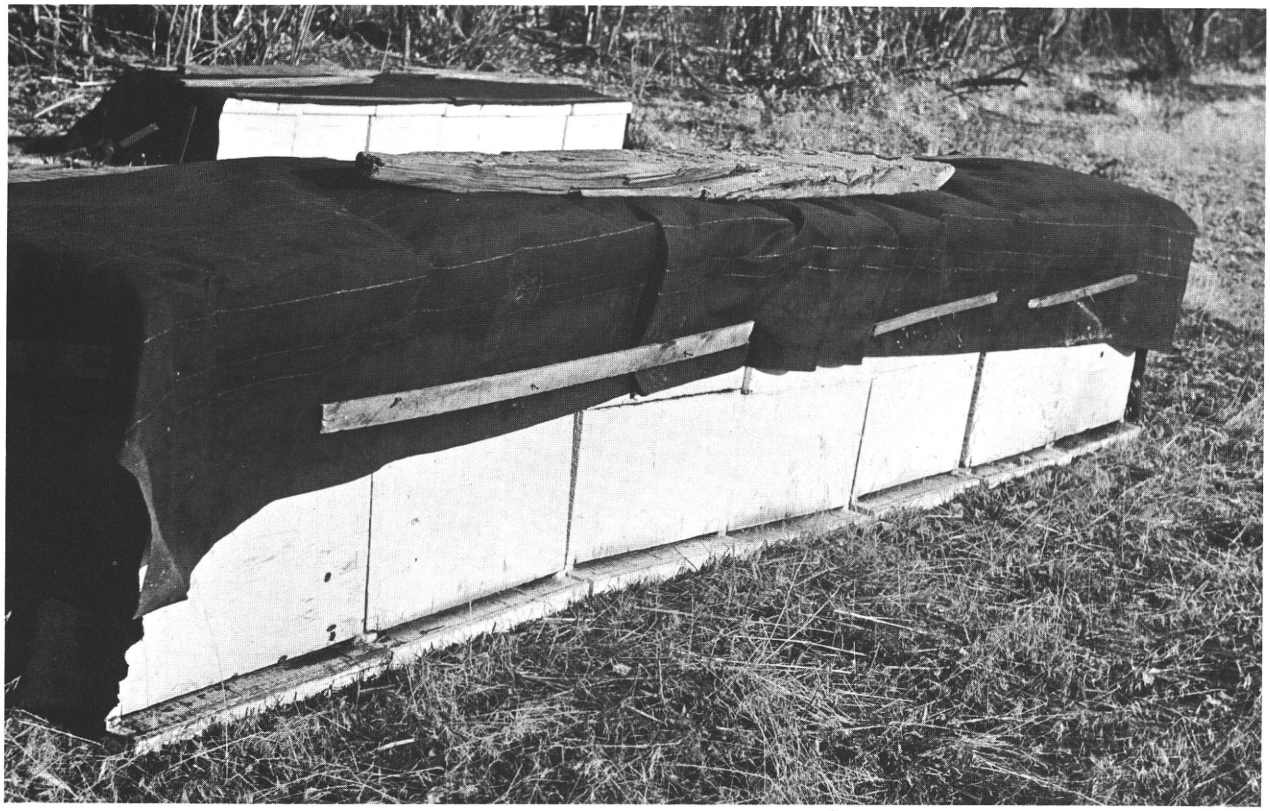

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FIGURE 3.—Typical winter pack in plains region. Colonies placed side by side in groups with 6 or more inches of dry straw on top and wrapped in single layer of tar paper.

Northeast

The severe winters, short summers, and hilly or mountainous nature of the Northeast produce a variety of plants but no major source of honey. Whiteclover, basswood, black locust, birdsfoot trefoil, various berries, and wild flowers contribute to producing a mixture of honey, much of which is sold locally to residents acquainted with the types produced, and some of the highest prices for honey are obtained here. Few commercial beekeepers are in the Northeast.

The average honey production per colony is only 33 pounds, but occasionally locations produce much higher averages. An estimated 187,000 colonies are in this region.

The colonies are seldom moved except the few belonging to commercial or semicommercial beekeepers, who rent their bees for pollination of blueberries, cranberries, other fruits, or cucumbers.

Colonies are located where there is good air drainage, protection from the cold winds, and exposure to as much winter sun as possible. For additional protection from cold winters, many colonies are "packed," or wrapped with insulation and tar paper, leaving only the entrance exposed. Winter loss is usually high and is replaced with packages of bees and queens purchased from southern beekeepers. Shade in summer is unnecessary.

Most beekeepers overwinter their colonies in two- or three-story, 10-frame-deep Langstroth hives. When the honey flow starts, they add one or two extra deep supers for surplus honey storage or one or two shallow supers for section or comb honey production.

North-Central Region

The bulk of the honey from the north-central region comes from whiteclover, alsike clover, and alfalfa, with minor surpluses from basswood, black locust, and raspberry. All of this is high quality honey. Clover and alfalfa are the predominant American honeys. Less desirable grades come from aster, goldenrod, and smartweed. The variety of other plants, however, insures something for the bees to work on from spring until frost. The bulk of comb honey produced by the bees in 1-pound sections comes from this region.

There are approximately 1,205,000 colonies, many of which belong to commercial beekeepers. The average production of surplus honey per colony is 58 pounds.

Some colonies are killed in the fall and the equipment is stored; then hives are restocked in the spring with packages of bees and a queen is purchased from southern beekeepers. Others are wrapped with insulation and tar paper for winter protection. Some are left with ample stores of honey and pollen in locations protected from wind and exposed to warming sunlight. Still others have most of the honey removed, and the hive is reduced to a single brood nest that is trucked to the Southeast, where it is allowed to build up and be divided to form new colonies. It is returned to the North in the spring for fruit pollination before the main honey flow. Midsummer shade is beneficial (fig. 4). Little migratory beekeeping occurs other than movement of the colonies to the Southeast for increase.

Some colonies are rented for pollination of fruits, legumes, and cucumbers.

Southeast

The production of honey per colony in this region, 33 pounds, is the same as in the Northeast but lower than elsewhere. An estimated 1,595,000 colonies are located permanently in the Southeast. In addition, many thousands of colonies are trucked here from the northern areas during the winter, then returned to the North in the spring.

Most of the queen breeders and package bee shippers of the country are located within the Southeast. An estimated 660,000 pounds of live bees and an equal number of queens are shipped from here annually. Some of these beekeepers produce no surplus honey for sale to supplement their sale of live bees and queens. Some of the northern beekeepers pick up their package bees and queens in van-type air-conditioned trucks for safe transportation to their northern locations.

Except for sizable areas in Florida, little pollination is provided on a cost basis in this region. Bees are rented for occasional fruit orchards and legume seed and melon fields. In Florida, bees are rented for citrus, cucurbits, and other fruits and vegetables.

In the mountainous area sourwood is the prevailing quality honey, along with tulip poplar and the clovers. Sourwood honey is almost water white, does not granulate readily, and is so esteemed that it usually passes directly from producer to consumer at far above the price of other honeys.

In the lower elevations gallberry becomes the predominant source. In the Apalachicola swamp area, tupelo, famous for its high levulose content and nongranulating characteristics, is also an excellent honey. Farther south in Florida, citrus is the major source, with clovers the major source toward the Mississippi Delta, then cotton becomes important. Various other honeys from light to dark and from mild to strong are produced in the Southeast.

Considerable migratory beekeeping occurs, for the long season permits harvest of a crop of honey in one area before another harvest commences elsewhere.

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FIGURE 4.—Apiary sheltered by hardwood forest in north-central region. Hives composed of 11-frame 6⅝-inch-deep hive bodies.

Cut-comb honey production is common, that is a chunk of comb in a jar of liquid honey. Little section honey is produced.

Little work is necessary to prepare bees for winter. They are usually wintered in two- or three-story hives. The problem is to have ample stores of honey and pollen in the colony in the fall. This is necessary for the strong colonies needed in the early spring for package bee production or the early honey flows.

Colonies benefit from shade during the summer in the Southeast, and shade is essential in the southern part for maximum colony production.

Plains Region

The bulk of the honey from the plains region comes from sweetclover and alfalfa, much of it produced by commercial beekeepers.

In this region about 396,000 colonies produce 76 pounds of honey per colony. Colonies are wintered and operated similarly to colonies in the north-central region. Shade is not generally necessary, although partial or thorough shading during extremely hot midsummer days is beneficial. The highest production per colony is obtained in the plains region. One reason is that the sweetclover and alfalfa fields are relatively large and can support many colonies, and many of the apiaries belong to commercial beekeepers.

Some of the colonies are trucked to southern areas for the winter, some are packed (fig. 3), some are killed and then restocked in the spring, and others receive no special winter treatment.

Colonies are used to a limited extent in the pollination of alfalfa, sweetclover, and cucumbers.

From this region westward to the Pacific, where migratory beekeeping is practiced to a greater extent than elsewhere, the California-style top and bottom rather than the telescoping top and reversible bottom are used as they permit better stacking of colonies on a truck.

Mountainous Region

The major source of honey is alfalfa (fig. 5). About 434,000 colonies produce on an average 52 pounds of honey per colony. More than half the colonies belong to commercial beekeepers, who may manage 2,000 or more colonies with only part-time summer help.

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FIGURE 5.—Unsheltered colonies located for alfalfa honey production and pollination.

Honey production is almost entirely dependent on irrigation, although in recent years alfalfa is being grown on dry land. Weed spraying is reducing the sweetclover acreage.

In the migratory beekeeping from this area west and south, the colonies are usually moved at night. The hive entrances are not closed but the truckload is usually covered with a plastic screen.

Some colonies are packed during the winter, which is extremely cold and dry—factors that improve survival chances over damp cold areas. Many of the colonies are placed three or four back to back, then packed as a group. Colonies not packed are located where they have wind protection and good air drainage.

Spring buildup is slow and fall flows are rare. Shading is unnecessary. Ample comb space for ripening honey is important and seems to act as heat insulation.

Migratory beekeeping is extensive. For example, in the Delta area of central Utah in the summer of 1966, there were over 40,000 colonies, but almost none wintered there. Some colonies are moved hundreds of miles to desirable areas. Many are moved south or west for the badly needed spring buildup, then returned for the summer flow. Some colonies are killed in the fall and restocked in the spring.

Not much honey is retailed by the producer in the mountainous region.

Southwest

In this hot semiarid region there are 230,000 colonies that produce 63 pounds of honey per colony. The major sources of honey are alfalfa, cotton, and mesquite. Other sources include citrus, catclaw, tamarix, safflower, wild buckwheat, and other desert shrubs.

Summer shade is highly important (fig. 2). Artificial shade is often provided. Winter protection is unnecessary. Some colonies are wintered in a single brood nest with one or two shallow supers, but most are in two or three deep supers. Nearby water is essential, and if it disappears even for only a day, the colonies may perish. Migration from one honey flow to another is common.

Colonies are used extensively in pollination of alfalfa and melons and to a less degree for citrus, onions, and cotton. A few package bees and queens are produced, but largely bees are kept for production of honey by commercial operators. Apiaries of 100 colonies or more are not unusual.

West

About 717,000 colonies in this region produce 58 pounds of honey per colony. This production is rather meaningless because of differences due

to extreme variations in temperature, rainfall, elevation, and flora. Clover, alfalfa, citrus, sage, wild buckwheat, cotton, star-thistle, and fireweed are the major honey sources.

The region varies in rainfall from only an inch or two in the desert areas to more than 60 in the rain-forest area, in elevation from below sea level to snowcapped mountains, and in temperature from dry and hot to humid and extremely cold. Colonies in the mountains must be protected from the cold and with fences from bears, whereas colonies in the lower ranges to the south must be protected from the heat.

Migratory beekeeping is practiced by most of the commercial beekeepers, and four or more moves per year are not uncommon. An average beekeeper will winter his bees on the coast, move to almonds, then manzanita and sage, then to alfalfa and cotton, and back to the coast for the fall flow. Productive accessible locations are difficult to find. Many colonies are reduced to a single story for moving, then given extra supers in which to expand. The California-style top and bottom are almost exclusively used in this region. Most commercial beekeepers use mechanical hive hoists that lift one or more colonies at a time onto the truck.

This excessive migratory operation has increased the bee disease problem, because the colonies have so many more chances to be located in areas where disease exists. Conversely, the migratory ability blends well with the use of colonies for pollination. The placement of 2,000 colonies from several beekeepers in a solid square mile of alfalfa grown for seed is not unusual. Use of bees for pollination is extensive. An estimated half of all colonies are used some time during the year for pollination hire.

In addition to honey production and pollination services, there are wax salvage plants. Diseased equipment is taken to these plants and the wax is steamed from it and salvaged. The equipment is used again.

Some of the beekeepers operate many thousands of colonies. Under such operation the apiary rather than the colony is considered a unit. Such manipulations as requeening, supering, and removing honey are performed on all colonies regardless of their relative condition. More than 300,000 pounds of bees and 250,000 queens are shipped annually from the West.