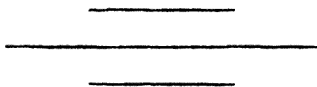


HONEYBEES
as
VETCH POLLINATING AGENTS

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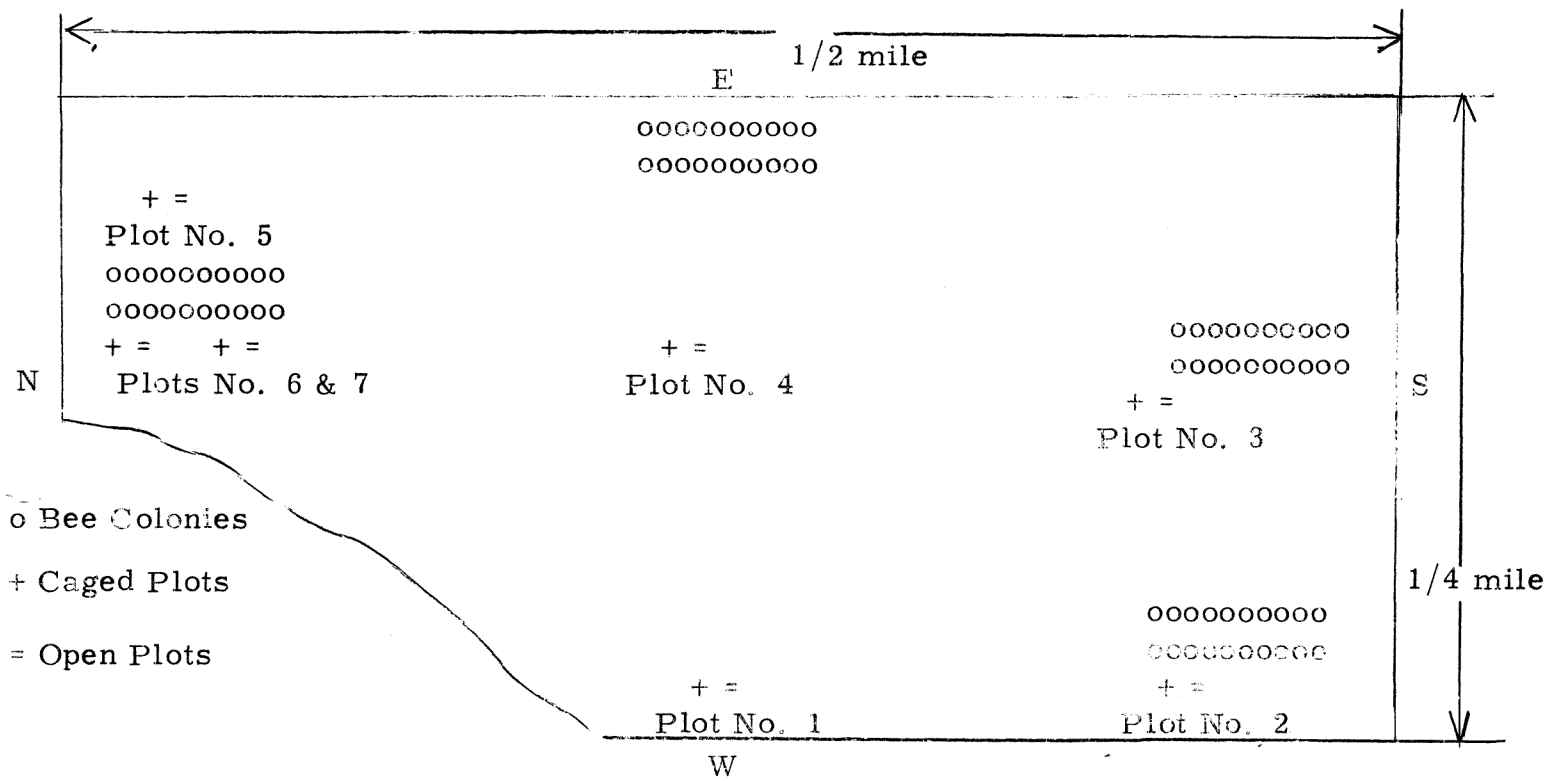


Figure 1.--Approximate location of bee colonies and test plots during the 1951 season. Plots 3, 5, 6, and 7 were located in an area ranging from 10 to 15 yards from the nearest colonies. Plots 1, 2, and 4 were, respectively, 200, 15 to 20, and 75 yards from the nearest colonies.

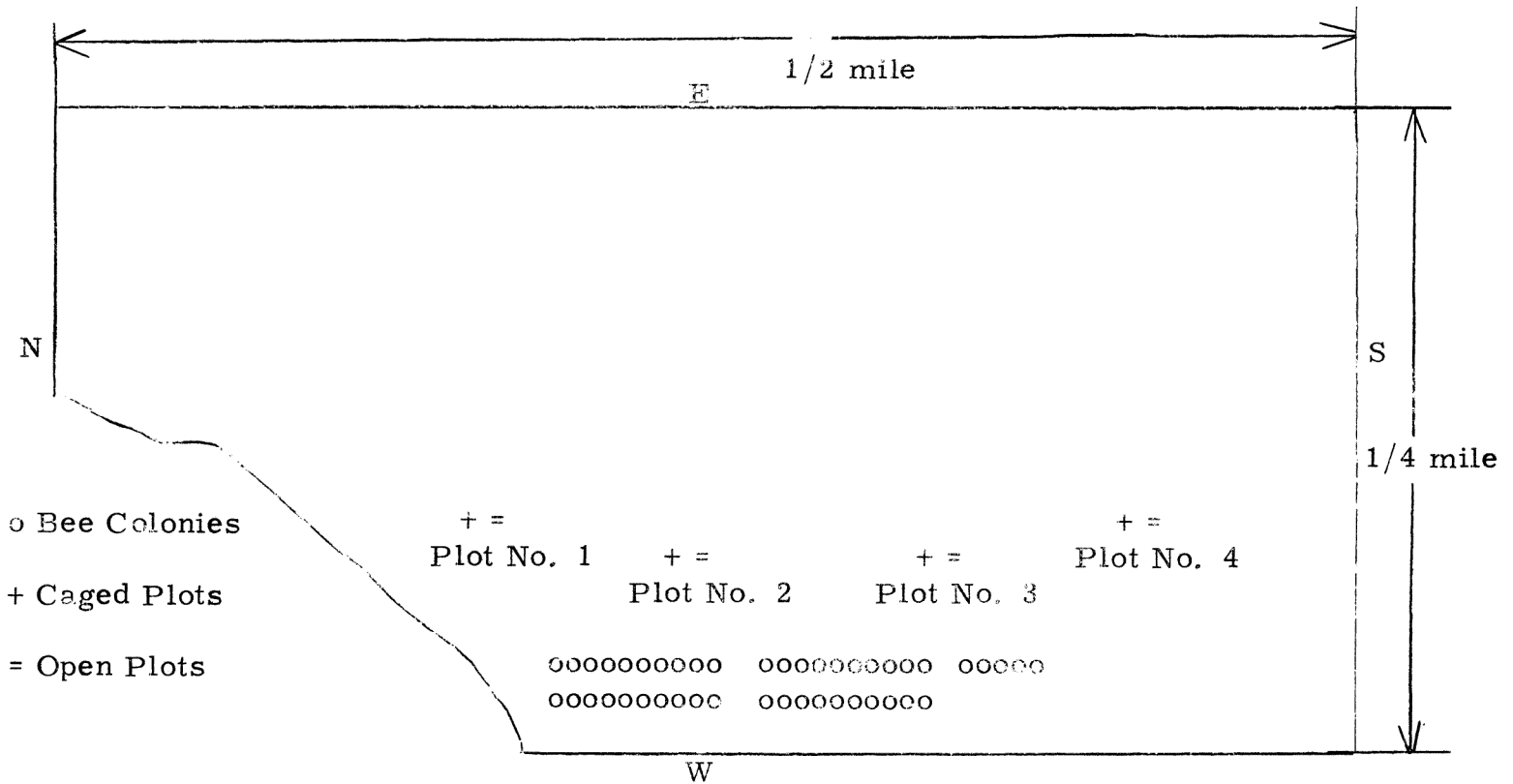


Figure 1.--Approximate location of bee colonies and test plots during the 1952 season. Plots 1 and 4 were 100 yards from the nearest colonies. Plots 2 and 3 were 50 yards from the nearest colonies.

Table I. --Vetch Seed Yields for Caged and Open Field Plots at Guthrie in 1951.

Plot No.	Distance From Nearest Colonies	Seed Yield Per Acre (lbs)	
		In Cage	In Open Field
1	200 Yards	160	561
2	15-20 "	187	230
3	10-15 "	52	356
4	75 "	192	610
5	10-15 "	153	430
6	10-15 "	99	461
7	10-15 "	138	405
Average		132	436

Table II. --Vetch Seed Yields for Caged and Open Field Plots at Guthrie in 1952.

Plot No.	Seed Yield Per Acre (lbs)		
	In Cage	In Open Field	
1	30	456	
2	112	652	
3	100	570	
4	60	412	
Average		75	422

Honeybees as Vetch Pollinating Agents

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Vetch seed production was increased four-fold by using honeybees as pollinating agents in a two-year test conducted by the Oklahoma Agricultural Experiment Station.

The test was conducted at the Red Plains Conservation Experiment Station near Guthrie during the 1951 and 1952 seasons. This publication summarizes the results.

How The Test Was Made

The same 60 acre field of vetch was used both years. In 1951, 80 colonies of honeybees were brought into the field at about the time the vetch was coming into full bloom. The bees were placed at four locations in the field in groups of twenty colonies per location. The distance between colony locations varied from 1/4 mile to slightly less than 1/2 mile, as shown in Figure 1.

The bees were excluded from seven plots in the field by cages made of 1/16 inch mesh screen. These plots were to serve as comparisons with seven similar plots in the open field. The plots were distributed over the field in pairs consisting of one open and one caged plot. The plots ranged in size from 9 to 20 square feet, with the plots in each pair being of equal size.

The plots were placed in different parts of the field to afford a basis for comparing yields at different distances from colonies, and to avoid possible variation in soil fertility and moisture levels.

The same procedure was followed during the 1952 season except that the number of bees was reduced to 25 colonies (slightly less than one colony for each two acres); all test plots were placed within a range of 50 to 100 yards of the nearest colonies, as shown in Figure 2.

Results

The results of the 1951 tests are shown in Table I. Seed yields in the open plots averaged 436 pounds per acre as compared to 132 for the caged plots. There was no correlation between yields of plots close to the colonies (10 to 15 yards) and those at greater distances (up to 200 yards).

In 1952, an average of four replications showed that the open plots produced 347 pounds more seed per acre than the caged plots. Results are summarized in Table II.