

for these pollinating insects, we would soon be reduced to a diet of cereal and nuts. The honeybee is the most important flower-visiting insect. Transfer of pollen from flower to flower is so essential to seed and fruit production that bee-keeping must be carried on to maintain a profitable agriculture.

In any attempt to explain the indispensable role of honeybees in American agriculture, it is desirable to review briefly the pollination complex of various seed, fruit, and vegetable crops. The grasses as a group—and these include corn, wheat, oats, and other cereal crops,—are wind-pollinated. They produce pollen in abundance. This pollen is carried by wind currents from one plant to another, thereby affecting pollination.

The majority of flowering plants, however, are insect pollinated. These plants bear heavy, sticky pollen which is not and cannot be transferred by wind currents from the male to the female reproductive organs. To obtain seed or fruit in these plants, insects—particularly bees—are the only practical means of transferring pollen.

The following is a partial list of seed, fruit, vegetable, and nut crops that either depend entirely on bees for production or produce heavier crops when flowers are freely visited by bees.

|                       |                   |
|-----------------------|-------------------|
| Alfalfa               | Persian melon     |
| Clovers:              | Pumpkin           |
| Sweetclovers:         | Squash            |
| Annual: White         | Watermelon        |
| Annual: Yellow        | Carrot            |
| Hubam                 | Celeriac          |
| Sour                  | Celery            |
| True clover:          | Parsley           |
| Alsike                | Parsnip           |
| Arrowleaf             | Asparagus         |
| Ball                  | Buckwheat         |
| Berseem               | Lotus             |
| Crimson               | Sunflower         |
| Persian               | Fruits and nuts:  |
| Red                   | Almond            |
| White, Ladino         | Apple             |
| Lespedeza (brush)     | Apricot           |
| Trefoil               | Avocado           |
| Vetch (hairy)         | Blackberry        |
| Garlic                | Blueberry         |
| Leek                  | Cherry            |
| Onion                 | Chestnut          |
| Broccoli              | Cranberry         |
| Brussels sprouts      | Dewberry          |
| Cabbage               | Gooseberry        |
| Cauliflower           | Grape             |
| Chinese cabbage       | Huckleberry       |
| Collard               | Macadamia nut     |
| Kale                  | Mandarin          |
| Kohlrabi              | Mango             |
| Mustard               | Nectarine         |
| Radish                | Passion fruit     |
| Rape                  | Peach             |
| Rutabaga              | Pear              |
| Turnip                | Persimmon, native |
| Cantaloup (muskmelon) | Plum              |
| Cucumber              | Prune             |
| Citron                | Raspberry         |
| Honeydew melon        | Strawberry        |

A quick glance at the list will show that they represent an important sector of agriculture. No matter how well these crops are grown, including good soil and weather conditions, perfect control of insect pests and diseases, economical production would be impossible without honeybee pollination. Honeybees are the