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By the last of May the first bumblebee workers have emerged from their silken cocoons, ready for duty. They will gather food for the queen and younger bees, and help with many chores within the hive. A delicate balance of food demand and supply exists within the colony. The number of larvae that will need to be fed remains roughly proportional to the number of workers who will collect the food.

Bumblebees live from hand to mouth. Unlike honeybees, who must prepare for winter survival, they do not lay up large supplies of nectar and pollen. Life expectancy of the colony is correlated with the length of the season. In temperate regions the cycle terminates in late summer or fall. Toward the end of the cycle all of the larvae develop into new queens and males, instead of workers. Males soon leave the colony to fend for themselves. The workers die off. The old queen also dies, but new queens are inseminated and disperse to look for underground quarters in which to hibernate.

Bumblebees hold a unique place in the world of bees. Because they have long tongues they are able to feed on—and pollinate—many flower resources inaccessible to shorter-tongued bees. In several countries they were long ago introduced to pollinate the red clover crop, whose long tubes cannot be

MORE ABOUT BUMBLEBEES

By Hope Sawyer Buyukmihci

The bumblebee colony consists of about 300 members.



Bumblebee on thistle

Ray Davis

penetrated by other bees. There are about 400 species of bumblebees worldwide, 50 of which are found in the United States.

There is an old story that spinsters were responsible for the power of the British Empire because spinsters kept cats; cats kept down mice that destroyed bumblebee nests; fewer mice meant more bumblebees to pollinate the clover; abundant clover produced more beef; more beef meant a stronger navy.

The bumblebee colony consists of

only about 300 members, and there may be less than a spoonful of honey in the nest at one time. This honey has a strong flavor which people do not find tasty. Nevertheless, humans have found ways to exploit these bees. One way is to use them as pollinators in hydroponic greenhouses.

Worker bees are raised by biological supply companies and shipped in small plastic "hives" to hydroponic growers. They travel by air in an insulated box with ice to keep them cool. Attached to the box is a tipmeter to make sure

the box is not tipped in transit. Airport personnel are often careless, however, and sometimes the bees are dead on arrival. If the bees survive shipment, the hive is placed in the greenhouse, high above the ranks of growing plants, and soon the workers are busy pollinating the flowers.

We may assume that they enjoy their work, even though in an unnatural environment. Under ideal conditions one hive may last 12 weeks, but new hives are ordered every three weeks in staggered fashion. These bees work an 18-hour day, artificial light being used to supplement natural daylight. Although the whole process is expensive, it pays off, for flowers will not set fruit without pollination and bumblebees do a more efficient job than people.

In the greenhouse, there is little danger of being stung, as true to their nature, bumblebees are absorbed in their work and pay little attention to people. However, an antidote to bee stings is kept on hand just in case. At a local greenhouse, a human employee one night found a nest in a van air cleaner. Thinking some bumblebees had escaped, he brought them back to the greenhouse in a box. The next day, when he opened the box, he ran for his life. The insects he had thought to be docile bumblebees turned out to be hornets! □□