

## GALL DISEASES OF DECIDUOUS FRUIT TREES.

*by Dr. J. Perlberger.*

Root and root collar galls due to *Pseudomonas tumefaciens* are common on all varieties of stone fruit trees in Palestine. Root galls are rare on our pomme fruit trees. This peculiar distribution is ascribed to the special growth conditions of the pomme fruit.

Root galls were found on different trees and plants other than deciduous fruit trees, e. g. on Rosaceae, vines, beet, dahlia, and others.

Bown knot was observed on quince branches. Its cause is probably physiological rather than parasitic.

Solitary cases of tuberculosis were observed on olive trees.

Root and root collar gall in tree nurseries and fruit orchards may be controlled by immersing the root parts of seedlings in disinfectant solutions containing heavy metals. By this method the formation of galls during the first years is prevented.

The damage due to root collar gall may be reduced by cutting away of the formed galls and disinfection of the incision.

## THE DUO-HIVE SYSTEM.

*A. Ben-Neryah.*

An experiment comparing the Duo-Hive system (two queens in one hive) with the ordinary Langstroth 10-frame-hive is reported. Selected bee colonies forming two groups of equal strength and food store were divided as follows: 10 colonies in 5 Duo-Hives (hive body with 20 frames and partition in middle), and 10 colonies in ordinary Langstroth 10-frame-hives.

Both groups received the same seasonal treatment. Observations were made on the fluctuation of the egg laying of the queens and consumption of the food stores.

At the beginning of the honey flow the partitions of the Duo-Hives were removed and each two neighbouring colonies were united.

The Duo-Hive showed the following advantages over the Langstroth :

- 1) Greater growth of population,
- 2) Greater production of honey (57%) and was (36,6%),
- 3) By uniting the colonies, swarming is favoured. By preventive measures the swarming tendency may be broken and the energy of the colony diverted to nectar storage earlier in the season.

Increase of wall thickness of the hive body and attachment of the bottom board to the hive body are suggested improvements for large sized Duo-Hives.

The use of 10 frame suppers, covering only a part of the hive body, may be tried, as a supper of 20 frames is very heavy and inconvenient for manipulation.

Insertion of a partition into the Duo-Hive (after the honey flow) provides the apiarist with a simple method of breeding a queen, for requeening or creating a new swarm.

The Duo-Hive is better adapted to stationary than to migratory apiaries.

#### THE USE OF THE CULTIVATOR IN LUCERNE GROWING.

*by A. Reiss.*

The effect of cultivating on the yield of second year lucerne has been tested at Ashdod Jacob in the Jordan Valley.

Cultivation was applied twice, at 19-29/5 and 16-19/7. One field was cultivated by tractor-cultivators to a depth of 12 cm ; a second field was more superficially cultivated by animal traction ; a third field was left uncultivated throughout the summer.

The results of the first test emphasize the favourable influence of cultivating on the lucerne yield. The uncultivated field yielded a yearly average (7 cuttings) of 4916 kg. green matter, as against 5831 kg. in the superficially cultivated, and 6016 kgs. in the tractor-cultivated field. The increase of yield was therefore 900 kgs. in the first, and 1100 kgs. in the second cultivated field respectively.