

## ABSTRACTS

**Little leaf**—A transmissible disease of brinjal (*Solanum melongena*) by K. M. Thomas and C. S. Krishnaswami: *Proceedings of the Indian Academy of Science*. Vol. X, No. 2. August 1939; 201—212 2 Pl.

A disease of brinjal (*Solanum melongena*) causing reduction in the size of leaves, shortening of internodes, stimulation of axillary buds, phyllody and sterility, prevalent in many parts of South India was investigated by the authors. The disease was found to be transmissible from diseased to healthy plants by grafting, and not by sap inoculation. A jassid '*Butettix phycitis*' found on brinjal in Coimbatore was able to transmit the disease under experimental conditions, and would appear to be the chief vector of the disease in the field. The disease has a wide host range among solanaceous plants. Tomato, tobacco, *Datura fastuosa*, *Solanum xanthocarpum*, and *S. trilobatum* are the hosts mentioned. The disease could be controlled by roguing affected plants, and removal of solanaceous weeds from the field.

The absence of any constantly associated organism in the affected plants together with the general nature of the disease lead the authors to conclude that, the disease is of virus origin. (Authors' abstract).

**Seasonal variations of starch content in the genus *Rosa* and their relation to propagation by cuttings.** Brandon, D., *Jour. Pom. and Hort Sci.* Vol. XVII. 233—253. 1939.

A series of experiments were carried out to ascertain the rooting capacities of various varieties and species of rose. Hardwood cuttings were taken at intervals during winter and the highest rooting percentage was obtained during the period October-December. Soft wood cuttings were inserted in summer and June was the best time for rooting.

The cuttings were exposed to various chemical treatments before planting and B-indolyl acetic acid (1/10000 to 1/50000) and glucose (1%) increased rooting percentage slightly. No treatment was found to give a pronounced increase or acceleration in rooting. Two different pH values of the solutions used had no effect on subsequent rooting.

The different varieties and species showed varying types of starch fluctuation during the season, falling into two groups.

**The value of plant hormones or their substitutes in plant propagation.** W. T. Brown., *Malay. Agric. J.* 1238, 26; 414-9, bibl. 12. The general principles of the functions of plant hormones in root production are described and the application to practical horticulture of the knowledge now available is discussed. Plants may be classed as to their normal habits of rooting from cuttings, as easy, but slow, and difficult. The easy ones require no treatment with synthetic growth substances though they respond well to them by accelerated rooting. The easy but slow are usually evergreens which take a year normally but when treated will root in 6 to 8 weeks. Efforts to strike difficult cuttings by the aid of growth substances have not been markedly successful. In all cases response to synthetic growth substances has been largely confined to leafy cuttings; leafless cuttings seldom respond. *Horticultural Abstracts* 9 (1939): 8.

**Application of growth substances to increase rooting capacity in cuttings of woody species and shrubs.** D. A. Komissary, C. R. Acad. Sci. U. S. S. R. (Russian) 1938, 18: 63—8. Winter and summer cuttings of 18 deciduous trees, shrubs and conifers were treated with 0.020 to 0.001 % water solutions of B-indolylacetic acid for 6 to 72 hours. Results are tabulated. A higher percentage of rooted cuttings, greater root system and earlier rooting was determined



after application of the optimal concentration, which varied from 0.02 to 0.005 % according to species. An interesting result was achieved with *Picra excelsa*, the cuttings of which are difficult to root. Cuttings made in June and treated 24 to 32 hours with 0.005 % solution of heteroauxin rooted up to 93 %. The effect of phenylpropionic, phenylacetic acid, anaphthalene acetic acid, urine and maize flour extract was similar but less pronounced than that of heteroauxin. The compounds proved ineffective on some species. The effect of growth substances depends on the plant species, age of plant, wood development and time of taking cutting. (*Horticultural Abstracts* 9 (1939) : 6)

## EXTRACTS

**Silage making by the Forest Department.** The Forest Department experimented for the first time in Kurnool District with making of silage to serve as fodder for cattle during the hot months.

Two pits were dug each 10 feet by 15 feet and eight feet deep in Sidhout and Vontimitta Ranges of this Division. These pits were filled with green grass on 29th September 1938 and 21st October 1938 respectively.

In the pit in the Sidhout Range, 11.02 tons of fodder grass *Heteropogon contortus* (spear grass) and *Schema nervosum* (nendra grass) were put in. The weather was wet at the time of collection and of filling in of pits and the pit had to be covered with a tent to prevent rain getting in.

In the pit in Vontimitta Range, 10 tons of grass were loaded mostly *Heteropogon contortus*. The weather was not so wet in September and that probably accounted for the difference in weight in the two cases, the dimensions of the pits being the same. Grass was well pressed in the pit and trampled by cattle. In the green state, it stood two feet above ground level. Earth was banked on four sides and a top covering of two feet of earth laid, after all the grass had been loaded, to make the pits water-tight. Gradually the pit contents shrank to about six feet depth from bottom with the weight of the load of earth on top. The earth was shaped pyramid fashion to drain off water on all sides.

The pit in Sidhout Range was opened on 13th April 1939, i. e., eight months after formation, to see what the silage was like. About 100 cattle were brought from neighbouring villages to feed on the silage. The cattle greedily ate the silage offered. The Deputy Director of Agriculture who was present when the pit was opened pronounced it to be quite good.

The grass in the pit when first opened was quite warm to the touch and had a sweetish, tobacco smell—not quite offensive and yet not pleasant.

The cost of construction was as follows :—

|   |     |     |            |
|---|-----|-----|------------|
| Construction of pit                                   | ... | ... | Rs. 7-4-0  |
| Collection of green grass at annas four per bundle of |     |     |            |
| 150 lbs.  | ... | ... | Rs. 41-3-0 |
| Covering, etc.  | ... | ... | Rs. 4-0-0  |

The silage taken out was offered free to cattle that were invited to the feast. Quite three-quarters of a ton was thus distributed free. The balance—about 6 tons—was sold to ryots who readily purchased it at nine pies per 60 lbs.

The only criticism which the Deputy Director had to offer was that we did not cover up the top and sides of the grass heap with mat or green leaves to prevent soil mixing with the edible silage.

We propose to try making silage with bamboo leaves and *Yepi* (*Hardwickia binata*) in other centres. From the way the ryots appreciated this demonstration, it looked as though it would not be difficult to persuade the influential ryots in