

reasons, it was decided to give practical training in carbon making to a number of departmental demonstrators and to as many private individuals as desired this training. As a result, it has been possible to start carbon making this season, in the Agricultural Research Stations at Anakapalle (Vizagapatam) and Palur (South Arcot). A few enterprising and enthusiastic ryots have taken advantage of this training and have also been preparing carbon for their own use.

9. The cost of producing one pound of active carbon from paddy husk roughly works out to 0-1-9 ps. and it has been found that carbon once used can be reactivated at least twice again by strong heating only. The reactivation thus costs very little and it appears therefore certain that the carbon process will not be economically unsound provided arrangements are made for reactivating the used carbon for further use.

10. Paddy husk carbon can also be profitably used for preparing white sugar under the open pan system of boiling. The quality is much better and the yield of sugar or rab is much more than is obtained without charcoal treatment, and one sugar factory has made enquiries about its use for white sugar making.

11. Palmyrah and coconut palm juices have also been found to respond well to charcoal treatment. There is a striking improvement in the colour and quality of the sugar and jaggery obtained from these juices as a result of carbon treatment. The characteristic palmyrah odour usually present in these products is entirely removed.

12. Yet another use to which paddy husk carbon has been put is for the clarification of oils. Coconut oil becomes colourless and brilliant on filtration through this carbon. Castor oil is deprived of almost all of its repulsive odour and Gingelly and Groundnut oils become considerably lighter and purer after carbon treatment.

## ABSTRACTS

**Resistance of Sorghum to stem borers.** It was noticed from field tests that the extent of infestation by stem borers in Sorghum varies with varieties. The results obtained under controlled conditions would appear to show that the host selection of moths is one of the causes of the phenomenon. There has been observed a significant association between infestation and height of plants which may be explained by the assumption that tall plants present more space to the borers attacks than the short and dwarf plants. With a large number of grain colours present in sorghums, white grain varieties have shown comparatively less infestation by borers than varieties with other grain colours. Under controlled conditions 'sorgos' as a group were more susceptible to the attack than the nonsaccharine varieties. (*Amer. Sci. Agronom.*, Vol. 28, No. 4, pp. 271-278). K. R.

**An Electrical Remedy for Tree Borers.** The writer recently rigged up a magneto as an amusement device for a pair of growing youngsters, with which they could give mild shocks to themselves and other youngsters of the neighbourhood. Later, having heard of the method of driving earth-worms out of the ground by electric current, the magneto was turned to this use. When a pair of steel rods wired to the magneto were thrust into wet ground about six inches apart and the crank turned, the earth-worms came crawling out. Still later, when the writer was engaged in the laborious task of digging elm-borers out of a tree with a pocket knife, the idea came of turning the magneto to use for this job. When two nails were driven into the bark a few inches apart in the affected area, the nails attached to the magneto and the crank turned, the elm-borers came out in a few seconds. Subsequent digging in the electrically treated bark proved that the borers had vacated 100 per cent.



The system is much less laborious than digging out the borers and far more amusing. A magneto somewhat more powerful than the writer's would no doubt be quite valuable to orchardists and commercial tree surgeons. (*Science, New Series*, Vol. 84, No. 2167).

Victor H. Schmidt, Kansas City, Missouri.

**Lucerne as a food for human consumption.** (*The South African Institute for Medical Research Laboratory Report No. 3. Johannesburg*).

The publication contains a summary of all the available knowledge on the subject. It deals about the history of lucerne cultivation in S. Africa, the chemical composition of the plant at various stages of growth and suggestions for using lucerne as human food. There are two useful appendices to the publication one dealing about the method of cultivation and the other containing suggestions regarding the value and methods of using lucerne as part of the ration for mine labourers.

Lucerne is remarkably rich in the antiscorbutic vitamin C, being about five times as rich as the same weight of orange juice. It contains a considerable amount of mineral matter, calcium and iron, about three times as much calcium as milk and twice as much iron as spinach. Besides vitamin C, it is also rich in vitamins A, D and E. There is also an appreciable quantity of proteins.

It is advisable to use only the leaves and young shoots as the stalks unless very young are apt to be fibrous. When it is chopped, it should be used as soon as possible and its vitamin C value diminishes rapidly when the cells are damaged. The leaves can be incorporated in a salad just like any other green stuff. It can be chopped and put in omelettes or in soups and stews. The leaves can also be cooked as spinach but in so doing the minimum amount of water should be used. It appears tea can also be made with the leaves. Experiments have shown that even a tablespoonful of chopped lucerne per boy is a useful addition to the ration and an ounce a day is regarded as a fully protective ration against scurvy even without the addition of other vegetables.

While it is admitted that, lucerne as usually grown for forage purposes, is apt to be somewhat coarse and lacking in flavour, it is however possible with sufficient attention to cultivation using rich soil and plenty of water to obtain a vigorous and tender growth which would make it more suitable as a vegetable.

K. R.

## Correspondence.

To The Editor, Madras Agricultural Journal.

Sir,

I shall be glad if you will kindly inform me whether the injury due to leaves of tamarind trees falling on a paddy field will be confined to that particular field or it is likely to be transmitted to other fields in case water from that particular field flows to the other fields.

PALGHAT,

1-9-36.

Yours truly,

O. M. MENON

### Reply.

The presence of tamarind trees in the vicinity of cultivation is generally considered undesirable owing to the acid nature of the leaves. It is well known that grass does not grow well under tamarind trees, since the leaves are supposed to make the soil acid in reaction.

In the case of paddy fields it is likely that the leaves falling on the field may be deleterious, but it is hardly likely that the acidity so formed will affect other fields, by water flowing into them.