RED SQUILL AS A RAT POISON.*

THE Ministry advocates the use of red squill poison in baits intended for the destruction of rats and mice, in preference to other stronger poisons sometimes used, such as strychnine, arsenic and phosphorus. Red squill is particularly recommended for use on farms and in places where, owing to the presence of poultry, live stock, domestic animals or stored food supplies, special care is necessary.

Red squill poison is extracted from the red squill bulb (*Urginea maritima*) which grows on the sandy shores of the countries bordering the Mediterranean Sea. It may be used in powdered or liquid form in baits consisting of bread (or oatmeal), fat, syrup and a few drops of aniseed, or in biscuit or other forms supplied by firms who deal in rat destruction preparations and appliances.

From experiments recently carried out on behalf of the Ministry, the following general conclusions were arrived at:—

(*a*) Female rats are killed by doses of red squill approximately only half as great as those generally needed to kill male rats.

(*b*) The finer the red squill powder is ground the more toxic it becomes.

(*c*) The best red squill baits for general use are those made from a finely ground and completely dried product of the bulb itself.

(*d*) The average lethal dose for male and female rats is, approximately, ·50 and ·27 grammes, respectively.

(*e*) The white squill (used for medicinal purposes) is useless as a rat poison.

A series of experiments was also carried out with calves, sheep, pigs and rabbits, which were given red squill powder in their feed, and, in spite of the fact that they had been given no other food for the preceding 24 hours, it was found almost impossible to induce the animals to eat any appreciable quantity of the poisoned feed. It would appear, therefore, that on the grounds of palatability alone, there is little danger of such animals eating a sufficient quantity of red squill baits to cause ill-effects. In those cases where the animals were induced to take the poison, it was found that unless a considerable quantity of the poison was consumed no ill-effects were noticed. Experiments with fowls showed that they took the poison more readily, but even then it was found that to kill a fowl required a dose between 20 and 30 times as large as that necessary to kill a rat.

These experiments appear to show that, while fatal to rats, red squill poison is comparatively harmless to larger animals, and rat officers are urged to consider the desirability of using preparations containing this toxic agent, particularly in those cases where domestic animals and poultry are kept in the vicinity.

* From a memorandum published by the Ministry of Agriculture and Fisheries. 1st August, 1927.

MEETINGS, CONFERENCES, ETC.

BOARD OF AGRICULTURE.

ESTATE PRODUCTS COMMITTEE.

Minutes of the forty-third meeting of the Estate Products Committee of the Board of Agriculture held at the Head Office of the Department of Agriculture at 2·30 p.m. on Tuesday, May 7th, 1929.

Present:—The Acting Director of Agriculture (*Chairman*), the Acting Mycologist, the Government Agricultural Chemist, the Organizing Secretary, Rubber Research Scheme, Sir Solomon Dias Bandaranaike, K.C.M.G., the Hon. Mr. C. E. Hawes, the Hon. Mr. A. Canagaratnam, Messrs. E. C. Villiers, Gordon Pyper, J. Sheridan-Patterson, John A. Coombe, Gate-Mudaliyar A. E. Rajapakse, Messrs. Wace de Niese, S. Pararajasingham, J. E. P. Rajapakse, Graham Pandittasekera, J. B. Coles, C. D. Sparkes, G. O. Trevaldwyn, H. D. Garrick, C. C. du Pre Moore, J. D. Dunlop, C. A. M. de Silva, C. E. A. Dias and G. Harbord (*Acting Secretary*).

Visitors:—Messrs. C. L. Horsfall, F. P. Jepson, F. Burnett, N. K. Jardine, R. Murdoch, and J. I. Gnanamuttu.

Letters or telegrams regretting inability to attend were received from Messrs. G. C. Slater, R. P. Gaddum, H. L. De Mel, N. D. S. Silva, G. Robert de Zoysa, I. L. Cameron, J. Horsfall, C. W. Reid, the Government Veterinary Surgeon, Major J. W. Oldfield, Mudaliyar S. M. P. Vanderkoen and the Hon. Mr. A. Mahadeva.

AGENDA ITEM 1.—CONFIRMATION OF MINUTES.

The minutes of the last meeting which had been circulated to members were taken as read and were confirmed.

At this stage, the Chairman referred to the subject of seed gardens. He said that the response to advertisements calling for land for seed gardens had been disappointing, and therefore he proposed with the approval of the Committee to go into the question of the availability of Crown forest or other land in rubber-growing areas.

The meeting agreed that steps should be taken in this direction.

AGENDA ITEM 2.—THE LATE DR. C. A. HEWAVITARNE.

Before proceeding to the business of the agenda, the Chairman referred to the death of the late Dr. C. A. Hewavitarne who had been a member of the Committee for some years. A vote of condolence with Dr. Hewavitarne's relations was passed, all standing.

AGENDA ITEM 3.—PROGRESS REPORT OF THE EXPERIMENT STATION, PERADENIYA FOR THE MONTHS OF MARCH AND APRIL, 1929.

Mr. Harbord briefly reviewed the report.

Mr. G. O. Trevaldwyn, referring to the deaths in tea, enquired whether the bushes had been recently pruned.

Mr. Harbord replied that the tea was pruned in October 1927.

Mr. Trevaldwyn also asked whether there was a larger percentage of deaths in tea which was clean weeded or in tea in which there was a cover crop.

Mr. Harbord replied that there was no apparent difference.

Mr. Sparkes enquired whether the tea had been lightly or clean pruned.

Mr. Harbord replied that clean pruning had been done.

Mr. Trevaldwyn enquired whether the cutting of *Indigofera* included eradication.

Mr. Harbord explained that the operation was designed to avoid eradication. The alternate rows intended for manuring were prepared in the following manner: The carpet of *Indigofera* was cut through along one side of the row to allow of its being rolled back towards the other side; the manure was spread along the ground thus exposed which was then envelope-forked, and finally the carpet of *Indigofera* was replaced.

AGENDA ITEM 4.—LATEX TUBE BORE.

Mr. C. E. A. Dias said he desired information as to whether any member of the Department of Agriculture or of the Rubber Research Scheme had investigated Mr. Ashplant's discovery with regard to latex tube bore.

The Chairman stated that a certain amount of work had been done by an officer of the Rubber Research Scheme and he called upon Mr. Mitchell (Organizing Secretary) to explain the position. He added that Mr. Ashplant's lecture in London and the discussion which followed it would be reproduced in *The Tropical Agriculturist* and pointed out that Mr. Ashplant had not yet produced complete proofs of his thesis.

Mr. Mitchell then reviewed the position and said that Mr. Taylor of the Rubber Research Scheme had tried to test Mr. Ashplant's statements. The results had indicated that there was a definite relationship between latex tube bore and yields just as there was a relationship between latex yield, girth and bark thickness. Mr. Taylor's work was restricted by lack of apparatus. It was hoped that Mr. Ashplant would publish a full account of his work and methods at an early date.

AGENDA ITEM 5.—PASPOLAKANDA.

Mr. C. E. A. Dias proposed that a small sub-Committee be appointed to revise the proposals which were submitted to the Committee in March 1928 with regard to the opening of Paspolakanda. He was of opinion that the proposed experimental station should not be devoted entirely to providing mother trees and suggested that the station should be divided into three divisions (a) to find out the best method of opening land, (b) to carry out manuring experiments, and (c) to test mother trees.

Mr. Wace de Niese supported the proposal.

The Chairman explained that the future ownership of Paspolakanda had not been settled and that the Rubber Research Scheme might be concerned with the work. He was of opinion that Mr. Dias' suggestions should be considered and he suggested that he should be empowered to ask the Planters' Association, the Low-Country Products Association and the Ceylon Estates Proprietary Association for their views regarding the experimental work they would like to see undertaken at Paspolakanda.

Mr. Dias then withdrew his proposal.

AGENDA ITEM 6.—TORTRIX RETURNS.

Mr. Jardine reviewed the Tea Tortrix returns of the quarter ended in December 1928 and compared them with previous returns. He promised a future tabulated statement which would make the position clear.

Mr. Trevaldwyn said that one of the most interesting features of the returns was the immunity from the pest of a large percentage of estates in the chief Tortrix districts. Whether such estates were grouped together or scattered he was not in a position to say. He considered that investigation in the cause of such immunity would be of value.

The Chairman said the subject of the bionomics of Tortrix required investigation and would receive attention as soon as convenient.

AGENDA ITEM 7.—CAN COCONUTS ECONOMICALLY PRODUCE SUGAR, ALCOHOL OR ACID?

Mr. J. E. P. Rajapakse explained that he brought up this question because of the great disparity in income to be derived from a coconut estate used for the production of copra or for tapping. He was well aware that the manufacture of arrack, vinegar and jaggery was lucrative, but, as the local markets were limited, he asked the question with the object of ascertaining whether a world market could be found for these products.

The Chairman said that the Agricultural Chemist had been asked to deal with the points raised.

Mr. Joachim then dealt with each commodity in turn and supported his contentions with facts and figures which he had collected. He summarised by expressing the opinion that the manufacture of sugar and alcohol might probably give a small margin of profit over that derived from copra at present-day prices, but that at the present time these articles could not compete in the open market with imported articles. This was especially the case with acetic acid.

AGENDA ITEM 8.—SUGGESTIONS FOR RECOMMENDATIONS TO GOVERNMENT IN CONNECTION WITH THE PRESENT DEPRESSED CONDITION OF THE COCONUT INDUSTRY.

The Hon. Mr. A. Canagaratnam declared that the cultivation of coconuts had become unremunerative and that there was little likelihood of a revival of trade in the near future; he considered that the position was so serious that some measure of immediate relief was required to save the industry from ruin. The discussion on item 7 concerning the by-products of the coconut industry had disclosed the fact that no alternative means of profit could be derived from coconuts with the exception of arrack which was a Government monopoly. He suggested, therefore, as one of the measures of relief which might be recommended by the Committee, the temporary suspension of the export duty. He left it to the Committee to suggest other measures.

A lengthy discussion then ensued in which Messrs. Garrick, Dunlop, Rajapakse, Trevaldwyn, Huntley Wilkinson, Wace de Niese, Sheridan-Patterson, Pararajasingham and Villiers took part.

The concensus of opinion was that it was necessary for full data concerning the economics of the coconut industry to be placed before the Committee before it could take action on the lines suggested by Mr. Canagaratnam.

Mr. Canagaratnam eventually withdrew his motion and the discussion was closed.

AGENDA ITEM 9.—DANTHONIA GRASS.

Mr. Wace de Niese referred to a letter which had appeared recently in the press giving a description of *Danthonia* grass. It was highly esteemed as an economic grass in New South Wales. He expressed the opinion that in view of all that was said in its favour, it was a grass which might usefully be tried in Ceylon. It might help to solve the fodder problem in the north and other dry districts.

The Chairman stated that there were twelve kinds of Australian grass now on order and that seven of them were species of *Danthonia*.

(Sgd.) G. HARBORD,
Secretary,
Estate Products Committee,
Peradeniya.