2. Almost at one bound the concentration of the toxin has been carried from the 1/3000 stage, at which a bad hold-up occurred last year, to 1/20,000 this year.

Until the substance causing the liver damage is isolated in a state pure enough for it to be measured accurately there is little hope of carrying out much of the work that needs to be done. Isolation of the poison is considered of primary importance in the research.

3. A possible rapid test for toxicity of pasture has been developed from an observation made during the work of isolating the toxin. A white deposit that forms on the side of the beaker during evaporation of samples from toxic pasture does not form from non-toxic samples.

The so-called beaker test opens up great possibilities for field studies of the disease. It will be possible with this method to test a number of areas and to know within 2 days if any are likely to contain toxic grass. On such areas it will be worth while to carry out trials of management methods to control the disease and to run experiments to find which pastures contain the poison.

4. With adequate supplies of grass now available and with chemical studies at a stage where future work holds much more promise of results, both young graduates and specialists in other institutions will be much more attracted to facial eczema research.

Arrangements have been made recently for chemists elsewhere to collaborate in certain aspects of the work at Ruakura for which special equipment and training are required.

The discussion that followed the presentation of the four-paper symposium on facial eczema indicated general satisfaction with the progress of research and realisation of the complexities of the chemistry of the work.

Demonstrations at Ruakura Station during the field day showed the scope of the research. With greater quantities of toxic grass available new driers have been built and installed, and buildings, cages, grinders, and all the accessory gear for breeding much greater numbers of guinea pigs and using them for testing the grass have been assembled. These facilities, which were the centre of great interest on the field day, enabled the handling of much larger quantities of pasture samples during the past autumn. From 12 areas within 25 miles of Ruakura 8 tons of dried grass was collected from mowings of 2-acre areas at each point every second day. When conditions looked dangerous these areas were cut daily and larger amounts mown. Unfortunately little of the grass proved toxic. At Manutuke Station near Gisborne and from nearby areas the same procedure yielded nearly 5½ tons of dried grass, 1¾ tons of which is toxic.

Vaccines for Ram Infertility

Lively interest was shown in a paper by M. B. Buddle, Senior Veterinary Research Officer, Wallaceville Animal Research Station, in which results of field work with a new vaccine developed at Wallaceville for control of infertility in rams were announced. The new vaccine, used in conjunction with Strain 19 vaccine, has given very effective control of the disease causing infertility. The vaccines are being made commercially and will be available for use by veterinary surgeons on rams for sale this season.

During discussion of his paper Dr. Buddle answered many questions on the transmissibility of the disease from infected rams to other rams and ewes, and on the possibility of eventually attaining a completely clean flock by use of the vaccine on rams.

A very hearty vote of thanks to all those who had worked toward the development of the new vaccine to combat a very serious disease of sheep was requested of the meeting by Mr. F. C. Johnstone, deputy chairman of the New Zealand Meat Producers Board. In expressing the gratitude of farmers for research done at Wallaceville, Mr. Johnstone asked that they should not overlook the early work on infertility in rams done by Mr. R. Crawford and the Gisborne Veterinary Club.

"Proceedings" of Conference

Those who paid conference fees will receive a copy of the printed "Proceedings", which include all papers and principal discussions. Orders for other copies (10s. each) must be placed early with Publications Section, Department of Agriculture, Box 2298, Wellington, or with the Ruakura Animal Research Station, P.B., Hamilton.

All photographs by Niederer.

Lice, Ked, and Fly Control

How to Use Insecticides

1. If you have occasional louse trouble, never see keds, never have blowfly trouble, have always used an arsenical dip successfully, and do not like "new-fangled" things,

use an arsenical dip. You will probably have to pay more than for more modern preparations, but you will not get troubles due to stripping or exhaustion of insecticide that occur with other dips.

2. If you have lice and keds,

use a BHC dip or a low-strength aldrin or dieldrin dip and follow the instructions carefully, paying particular attention to the manufacturers' recommendations about reinforcement.

3. If you have lice and keds and a hole in the boundary fence, or a little bit of fly trouble,

use a fly dip ensuring 1 month's protection against strike and much longer protection against lice and keds; that is, 0.5 per cent. DDT or BHC; 0.025 per cent. aldrin or dieldrin.

4. For longer blowfly strike protection

use the higher-strength dips; 0.05 per cent. aldrin or dieldrin or 0.02 per cent. diazinon meet most requirements.

5. For jetting lambs at marking time

use 0.1 per cent. aldrin or dieldrin or 0.04 per cent. diazinon if there are more than 10 weeks between docking and the next preventive operation, or half that strength if a shorter time intervenes.

Relative efficiency of aldrin and dieldrin

At equal concentrations dieldrin is slightly superior to aldrin under what are considered in New Zealand to be severe conditions and the superiority is likely to be measurable in weeks, but not in months. However, under moderate conditions dieldrin will continue to give a better degree of partial protection after the break in absolute protection. There are certain price advantages in favour of aldrin.

—P. L. THOMAS, Scientific Officer, Department of Agriculture's Wallaceville Animal Research Station, in a paper to the Ruakura Farmers' Conference Week, June 1957