

The lyophilizing process had no detrimental effect on the vitamin B<sub>12</sub> potency of soft-shell clams. If clams are found useful for therapeutic purposes, this fact is of interest, because large amounts can be conveniently prepared for storage in this manner.

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<sup>1</sup> Lang, D. A., S.M. thesis, Dept. Food Tech., Mass. Inst. Tech., May 1950.

<sup>2</sup> Winsten, W. A., and Eigen, E., *J. Biol. Chem.*, **181**, 109 (1949).

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<sup>1</sup> Stamp, J. T., McEwen, A. D., Watt, J. A. A., and Nisbet, D. I., *Vet. Rec.*, **62**, 251 (1950).

### Use of a Sheep Abortion Virus as a Test Virus for Chemotherapy Work

A STRAIN of abortion virus, isolated by us from a local case of sheep abortion in March 1950 and apparently similar to the virus isolated by Stamp, McEwen, Watt and Nisbet<sup>1</sup>, has been extensively used in an *in ovo* 'screening test'. It has proved so satisfactory for this purpose that it is felt its usefulness should be more generally known. The virus in infected membranes remains viable indefinitely at -20° and for some weeks at 0°, and regularly produces well-defined lesions on the chorioallantoic membrane; in both these respects it is superior to many other large viruses. So far as is known, it is not pathogenic to man.

Drug	Inhibitory dose (mgm./egg)		* Activity in mice against Nigg virus (drug given subcutaneously from day of infection)
	Abortion	Nigg	
Chloromycetin	1.0	2.0	++ (0.02 mgm./gm./day)
Aureomycin	0.25	0.25	+++ ( " " )
Terramycin	0.06	0.06	+++ ( " " )
Penicillin	Inact. 2,000 u.	2,000 u.	+
Sulphathiazole	Inact. 14.7	14.7	+
p-Aminobenzoic acid	Inact. 27.4	Inact. 13.7	0 (2 mgm./gm./day, orally)

\* + = prolongation of life only; ++ = no deaths, but lungs involved; +++ = no deaths, lungs not involved.

Groups of 10-day chick embryos are used for the test. The drug, in 0.2 ml. diluent containing 1,000 u. penicillin and 1,000 u. streptomycin per ml., is introduced into the yolk sac; 0.2 ml. of a broth suspension of the virus is inoculated on to the chorioallantoic membrane within four hours. After a further seven days incubation, the membrane is removed and, since the lesions are very distinct, readily assessed.

To date 250 compounds have been tested, but only terramycin, aureomycin and chloromycetin have been found active.

It is probable that the abortion virus is related to the psittacosis group. To test this hypothesis an investigation into the effect of drugs on mouse pneumonitis (Nigg) virus was carried out under the same test conditions; results are given in the accompanying table. Both viruses are sensitive to terramycin, aureomycin and chloromycetin, but the abortion virus, unlike Nigg virus, is not attacked by penicillin or sulphathiazole; the implications of these results are being studied further. Full details of the work will be published elsewhere and evidence presented to justify the belief that this type of *in ovo* test will detect compounds likely to be of chemotherapeutic value. It requires smaller amounts of drug and provides indications similar to those yielded by the more laborious mouse tests (see table).

### Is Age of Parents Important in Sheep?

A SITUATION provoking speculation has been found during the course of a preliminary investigation of one-shear (1½-year old) rams offered for sale at the Feilding Stud Ram Fair. Stock entered in the Fair, the most important of its kind in New Zealand, come from the Manawatu and neighbouring Wairarapa and Hawke's Bay districts and are purchased by breeders throughout New Zealand, Australia and South America. Data used in these analyses were derived from the catalogues of the 1948, 1949 and 1950 sales and the 1948 Flock Book of the New Zealand Romney Marsh Breed Society.

Of the 612 rams offered for sale in the three years, 52.6 per cent were sired either by lambs or by one-shear rams. The offspring of the one-shear rams brought the highest average price and had a lower rejection-rate than any other age. Similarly, an analysis of the 1948 Flock Book involving all Romney stud sheep in the Dominion shows that 49.5 per cent of the 1,580 rams single-entered (that is, to be used as stud sires) were sons of either ram lambs or untried one-shear sires. However, Goot<sup>1</sup> has shown that one-shear sires comprise only 27.8 per cent of the sires available for use in those flocks static in numbers and consisting of 400 or more ewes.

Selection of rams for the Stud Fair and for single-entry in the Flock Book is almost solely on phenotype and certainly without reference to age of the parents, nor does this latter point interest buyers. Because of this, it would be expected that the sires of rams chosen for single-entry and for sale would be represented in the same proportion as they are used in the flocks. In this case only 27.8 per cent of the rams single-entered or offered for sale would be the sons of one-shear rams. However, the results show that they produce almost twice this number.

An analysis of the influence of age of dam shows that progeny of the youngest ewes achieve the highest average price, though the proportion of these is not greatly different from that expected from the age composition of dams<sup>1</sup>.

For every sire recorded in the sale catalogues there are on an average a little less than two sons offered for sale.

Further analyses are planned to throw more light on these rather perplexing problems.

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<sup>1</sup> Goot, H., *N.Z. J. Sci. and Tech.*, **28** (A), 83 (1946).