

DESTRUCTION OF SORGHUM MIDGE IN SEED GRAIN

It is well known that sorghum midge (*Contarinia sorghicola* (Coq.)), is spread as diapause larvae in consignments of seed sorghum. In Queensland this pest has been found in many samples of commercial seed, and, with the rapid expansion of grain sorghum growing during the past decade, has appeared in first crops in widely scattered, isolated areas.

During 1951-1953, experiments on eliminating the midge from sorghum seed consignments were carried out. Treatments were based on the BHC dusting of seed grain recommended for the control of insect pests of stored grain (McDougall 1951), and the commercial fumigation of grain with carbon bisulphide (Caldwell 1947). A 2 lb. glass jar was used as the unit, and treatments were replicated 10 times. The grain included large numbers of aborted spikelets containing diapause larvae. At examination a specified number of aborted spikelets were selected at random and dissected. During the earlier examinations many of the larvae subjected to fumigation were bleached but otherwise appeared normal: none of these recovered.

Details of treatments and results are given in Tables 1 and 2.

Table 1.

NUMBERS OF LIVING AND DEAD LARVAE.
(1951-52 EXPERIMENT.)

Treatment.	Examination Date.					
	Nov. 8, 1951 (3 months after treatment.)		Apr., 1952 (8 months after treatment.)		Oct., 1952 (11 months after treatment.)	
	Living Larvae†.	Dead Larvae†.	Living Larvae*.	Dead Larvae*.	Living Larvae*.	Dead Larvae*.
BHC dust (0.5% gamma isomer) 3 oz./bus.	30	20	37	25	15	66
Control	23	15	33	23	34	44

†From 100 spikelets per treatment.

*From 200 spikelets per treatment.

Cleaning, grading and chemical dusting of sorghum seed are sufficient for most purposes in Queensland where sorghum midge is widespread. The results of these experiments, however, demonstrate that for quarantine against this pest fumigation with carbon bisulphide is an additional requirement.

Table 2.
 NUMBERS OF LIVING AND DEAD LARVAE.
 (1953 EXPERIMENT.)

Treatment.	Larvae†.	
	Living.	Dead.
BHC dust (1.0% gamma isomer) 3 oz./bus.	110	24
CS ₂ (10 lb./1,000 cu. ft.) for 24 hours	Nil	160*
Control	98	14

* At examinations shortly after treatment many of the larvae were bleached; most of these did not dry out or break down until 12 months later.

† From 400 spikelets per treatment, examined on Oct. 13, nine months after treatment.

REFERENCES.

- CALDWELL, N. E. H. 1947. Stored products pests. Qd Agric. J. 64: 265-287.
 McDOUGALL, W. A. 1951. The protection of stored seed with dusts. Qd Agric. J. 73: 27-29.

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