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EVALUATION OF SOME FUMIGANTS AGAINST THE RED FLOUR BEETLE ON PEANUT

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ABSTRACT

Phosphine (Delicia-Gastoxin) caused complete mortality of the red flour beetle, Tribolium castaneum (Herbst), within two days of confined fumigation followed by ordinary petroleum oil. Dichlorvos (Nogos 100) and kerosene oil has no effect against the beetle within this period. Germination of the peanut seeds was apparently not affected by these products.

INTRODUCTION:

Khapra beetle, Trogoderma granarium Everts, red flour beetle, Tribolium castaneum (Herbst) and unknown lepidopterous larvae were observed as pests of stored peanut seeds at the Agric. Res. Station Mingora (Swat). Their feeding and faecal matter imparted a very bad smell to the infested peanut seeds. During the winter of 1985-86 the degree of infestation of the red flour beetle was much higher on the stored peanut seeds and control studies were, therefore, concentrated mainly against this beetle. Delicia-Gastoxin (aluminium phosphide), dichlorvos (Nogos 100), petroleum and kerosene oils were tested in the laboratory as fumigants against this beetle from control point of view. Previously phosphine (1,3,4,5,6,11) and petroleum oil (7,8) have been reported to give effective control of T.castaneum. Some workers (7,8) found dichlorvos least toxic while others (2,10) reported it highly toxic against this beetle.

MATERIALS AND METHODS

A laboratory experiment was carried out on January 1, 1986 at Agric. Res. Station Mingora (Swat). The desired rates of aluminium