INSECT PROBLEMS ASSOCIATED WITH STORED PEANUTS IN GEORGIA - USA

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Peanut production in the United States is centered in the southwest and southeast. At present Georgia produces approximately 44 percent of the peanuts produced in the United States.

All sections of Georgia have a suitable climate for growing peanuts. However, the heavy-textured clay soils and shorter growing season of north Georgia are less suitable than are the sandier soils and the longer growing season in south Georgia. Also it is more difficult to remove peanuts at harvest time from the heavier soils without excessive pod loss. Peanuts are generally planted from mid-April to mid-May in Georgia and harvest of the florunner variety usually begins about 140 days after plantings (mid to late September). Maturity and harvest date may vary with climatic conditions.

Georgia's peanut production area is located in the southern half of the state with the highest concentration of acreage in the southwestern corner of the state. Most of the production (1,517,480,000 lbs. in 1982) is held in storage in the area where produced for varying periods. The storage period may vary from a few hours up to 12 months. The climate in south Georgia is favorable for insect development throughout the year especially in storage structures. Peanuts are initially stored in the shell as delivered to the receiving warehouse (Farmers Stock Peanuts). Sound (unbroken) peanut pods inhibit insect damage, however many pods may be broken or split resulting in loose shelled kernels which provide a readily available food supply for insects.

Peanuts are subject to insect damage and contamination by stored product insects from the time they are dug from the soil until they are processed and consumed. Insecticides have been applied as protectants to farmers stock peanuts as they are placed into storage but often this treatment is not effective due either to poor application or in more recent years some insect resistance to malathion. Malathion has been used as a protectant on farmers stock peanuts since 1961 but has lost some favor in the past 4-5 years, since resistance has occurred.

Fumigation of farmers stock peanuts is often ineffective since many warehouses are of such design and construction that adequate fumigation is impossible. In most warehouses reinfestation would occur soon after fumigation from areas around the warehouse.

The insects mentioned here are those encountered in responding to problem calls from peanut warehousemen and shelling plant operations. It is not a comprehensive list nor the result of a survey of stored product insects in these facilities. Many of the peanut warehouses in Georgia are adjacent to structures in which corn, wheat and other small grain and animal feed are stored. In some warehouses both peanuts and grain products may be stored in

adjacent bins. This may contribute to insect problems and make control more difficult.

Early in the storage season (for the first 3-4 months) either the Indian meal moth, Plodia interpunctella (Hubner) or the Almond moth, Cadra cautella (Walker) is the predominant insect species found in peanuts. As the storage season lengthens various beetles may be found in peanuts in storage. Among these are:

1. Red flour beetle, Tribolium castaneum (Herbst)
2. Longheaded flour beetle, Latheticus oryzae Waterhouse
3. Flat grain beetle, Cryptolestes pusillus (Schoenherr)
4. Cigarette beetle, Lasioderma serricorne (F.)
5. Corn sap beetle, Carpophilus dimidiatus (F.)
6. Hairy fungus beetle, Typhaea stercorea (L.)
7. Foreign grain beetle, Ahasverus adrena (Waltl)
8. Lesser grain beetle, Rhizopertha dominica (F.)
9. Driedfruit beetle, carpophilus hemipterus (L.)
10. Drugstore beetle, Stegobium paniceum (L.)

Several other insects are commonly found in warehouses or mills (shelling plants) where good sanitation practices are not followed and peanut residues are allowed to build up in the warehouse or handling equipment. Some of these insects are:

1. Cadelle, Tenebroides mauritanicus (L.)
2. Brown spider beetle, Ptinus clavipes (Panzer)
3. Shiny spider beetle, Gibbium psylloides (Czenpinski)
4. Hide beetle, Dermestes maculatus DeGeer
5. Warehouse beetle, Trogoderma variable Ballion
6. Varied carpet beetle, Anthrenus verbasci (L.)
7. Black larder beetle, Dermestes ater DeGeer
8. Maize weevil, Sitophilus zeamaiz Motschulsky
9. Rice weevil, sitophilus oryzae (L.)

Some of the insects found in peanut warehouses and processing facilities may not be as important in their feeding on the peanuts as they are as a contaminant in the shelled peanuts or peanut products. In most of the warehouses and processing plants a good sanitation program, the use of residual insecticide treatment, periodic application of insecticide fogs and spot or crack and crevice treatments would eliminate or greatly reduce the insect problems in stored peanuts.