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**Principle Stored Grain Insects of South Dakota**

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For safe and effective use of insecticides, always identify the problem correctly.

1. Granary weevil
2. Saw-toothed grain beetle
3. Red flour beetle
4. Larger cabinet beetle
5. Lesser grain borer
6. Rice weevil
7. Indian-meal moth
8. Cadelle
9. Flat grain beetle
10. Angoumois grain moth

Some of these stored grain insects are also kitchen pests.
The saw-toothed grain beetle, red flour beetle, larger cabinet beetle, and Indian-meal moth develop in flour, cake mixes, corn meal, breakfast foods and similar products. The Angoumois grain moth infests popcorn.

Prepared by Extension Entomologists of the North Central States in cooperation with the Federal Extension Service, U. S. Department of Agriculture
PRINCIPAL STORED GRAIN INSECTS OF SOUTH DAKOTA

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1. GRANARY AND RICE WEEVILS (6.) are the most common insects found infesting stored grain. Females lay their eggs in a hole cut in the intact kernel. Larvae hatch and feed inside the kernel hollowing it out as they develop. Adults feed on whole or broken grain. Life cycle requires about four weeks for completion.

2. SAW-TOOTHED GRAIN BEETLE is a small, slender, brown beetle. There are six saw-toothed projections on the thorax, from which this pest gets its name. This beetle attacks a wide variety of stored flour, meal, fruit, candy, and grains. Eggs are laid in the food; the life cycle takes three-four weeks for completion.

3. CONFUSED FLOUR AND THE RED FLOUR BEETLE both larvae and adults prefer to feed on cracked grains, flour and other cereal products. Eggs are laid loosely in the food material and development takes place in the foodstuff. The life cycle takes about six weeks for completion.

4. DERMESTID BEETLES, LARGER CABINET BEETLE AND OTHER SPECIES are scavengers on animal material such as hides, furs, and woolens. They will also feed on stored grain and grain products. The larvae and pupae are able to survive rigorous environmental conditions. Under such conditions the life cycle may be as long as two or three years.

5. INDIAN MEAL MOTH larvae feed on grains, grain products, nuts, dried fruit, and other food stuffs. The adults are colored a characteristic coppery-brown on the wings. Eggs are laid singly or in groups on the food stuff. The life cycle takes from six to eight weeks for completion.

6. LESSER GRAIN BORER larvae are internal feeders on grain kernels. Eggs are laid outside the kernels, larvae hatch and bore into the kernels hollowing them out as they grow. Adults can feed on whole and cracked grain. The life cycle takes three to four weeks for completion.

7. CADELLE is one of the largest of stored grain insects. It is primarily a wood-boring insect but will also feed on whole grain, flour or meal. Both adults and larvae can survive without food for long periods of time, hidden in the woodwork of bins. When new grain is put in the bin, the insects then move into the grain. The life cycle may vary from a few months to two years, depending on conditions.

8. FLAT GRAIN BEETLE this is one of the smallest grain infesting beetles. Since it cannot feed on sound grain it usually follows the attack of other insects especially in grain products that are out of condition. Under favorable conditions the life cycle may require about five weeks.

9. ANGOUMOIS GRAIN MOTH larvae are internal feeders on grain kernels. Females lay their eggs on the outside of the kernel, the larvae bore in and develop inside the kernels. Besides the feeding damage, adults cover the inside of the bin and the surface of the grain with webbing.

For control recommendations see the annual INSECTICIDE RECOMMENDATIONS or GRAIN PESTS Farmer’s Bulletin No. 1260, or METHODS AND EQUIPMENT FOR BULK TREATMENT OF GRAIN AGAINST INSECTS, Marketing Bulletin No. 20. If stored grain insects are found in household, refer to HOUSEHOLD INSECTS, Bulletin No. 96. These are available at your County Extension Agent’s Office or Extension Entomologist office at South Dakota State University, Brookings, South Dakota, 57006.