

Insect-Pests of Stored Grains

Insect-Pests	Preventive/Curative measures
(i) Insect-Pests of Stored Grains	
<p>(i) Wheat, barley and other grains : Stored grain insect-pests attack the stored grain products as a result of which the grains lose their nutritive value and germinative capacity. Important insect-pests of these grains are <i>khapra</i> beetle, lesser grain borer, rice weevil, red rust flour beetle and grain moth.</p>	<ol style="list-style-type: none"> 1. Store new grains in a clean godown 2. Fill cracks, crevices and holes with cement. 3. Use brand new gunny bags. Old gunny bags if used, must be disinfected by dipping in Malathion 50 EC (1 part of cythion/ malathion) in 500 parts water for 10 minutes and dried in shade before filling the grains. 4. Disinfect empty godowns in April-May by spraying Malathion 50 EC (1 part of cythion/ malathion) in 100 parts water on floor, walls and ceiling or by using aluminium phosphide (celphos/ phostoxin) 25 tablets for 100 cubic meter (3600 cubic ft.). 5. Mix 250g Cythion/Malathion 5% dust per quintal grains meant for seed only. <p>Caution</p> <ol style="list-style-type: none"> 1. Where there is infection of <i>khapra</i>, fumigation of godown with Celphos/ Phostoxin (aluminium phosphide) is essential by using double the recommended dose for grains. 2. Do not mix BHC with grains meant for consumption. 3. Fumigate only in air-tight stores. Do not use fumigants in houses.
Pulses	
Gram dhora, mung dhora	Aluminium phosphide (Phostoxin/celphos) @ one tablet of 3 g/metric tonne or 25 tablets/100 cubic metre of space. Do not expose for 7 days.
(ii) Insect-Pests of Nursery Beds	
<p>Cutworms : They are polyphagous and especially damage nursery and newly transplanted seedlings by cutting them at ground level. Dirty grey caterpillars remain in soil at day time and at night come out of their hide-outs and damage the crop.</p>	<ol style="list-style-type: none"> 1. At sowing time or when the crop is to be transplanted, apply 2.5 ml chlorpyrifos 20 EC/ litre of water in the soil.
(ii) Non Insect-Pests and Their Control	
<p>Root-knot nematodes : Leaves of affected cole crops, tomato, brinjal and bhindi plants become discoloured after the invasion of their roots by the larvae. Occasionally, leaves dry up and plant height is affected. On the roots, distinct galls or knots develop and in case of severe infestation, side roots develop profusely which gradually weaken the plants.</p>	<ol style="list-style-type: none"> 1. Flood the soil and destroy alternate weed hosts. 2. Do not take same crop in the same plot regularly. Follow suitable crop rotation. 3. Use carbofuran 3G(Furadon) @ 33 kg/ha before sowing or transplanting.
<p>Field rats and house rats : They cause heavy losses and destroy the stored grains and other products by consuming and contaminating with their excreta, urine, hair and extraneous matter. They also spoil storage bags, clothes etc.</p>	<ol style="list-style-type: none"> 1. Use traps for catching rats and kill by drowning in water. 2. Close all burrows in the evening and fumigate reopened burrows of field rats with Aluminium (Phostoxin/Celphos) one tablet per hole. 3. Bait with zinc phosphide : smear 19.5 kg wheat, gram, maize or bajra grains with sarson oil and mix with it 500 g zinc phosphide. Put one table spoon of these poisoned grains in and outside the burrow.

<p>Birds : Some birds such as sparrows, parrots, crows etc. are harmful to grains, crops, vegetables and fruits.</p>	<ol style="list-style-type: none">1. Scare them away by means of mechanical bird scarer.2. Sparrows can be killed by feeding them soaked wheat grains containing 2% Lebaycid 100 EC (fenthion).3. Crows can be killed by feeding them on <i>chapatis</i> soaked in water containing 2% Lebaycid 100 EC (fenthion).4. Destroy eggs and nests during breeding season. <p>Caution: Soak 1 kg wheat in 1/2 L water containing 2-3 ml Lebaycid 100 EC (fenthion) for 6 hours and then dry under shade. These grains should be spread on cloth late in the evening so that sparrows may eat them early in the morning. Pets, cattle and children should be kept away from baits.</p>
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Note: The quantity of water recommended for different sprays in insect control is according to the conventional high volume sprayers that are in general use. If motorised knapsack sprayer is used, then the amount of water would be 40-125 L per hectare. However, the quantity of the insecticide would remain the same in both the cases.