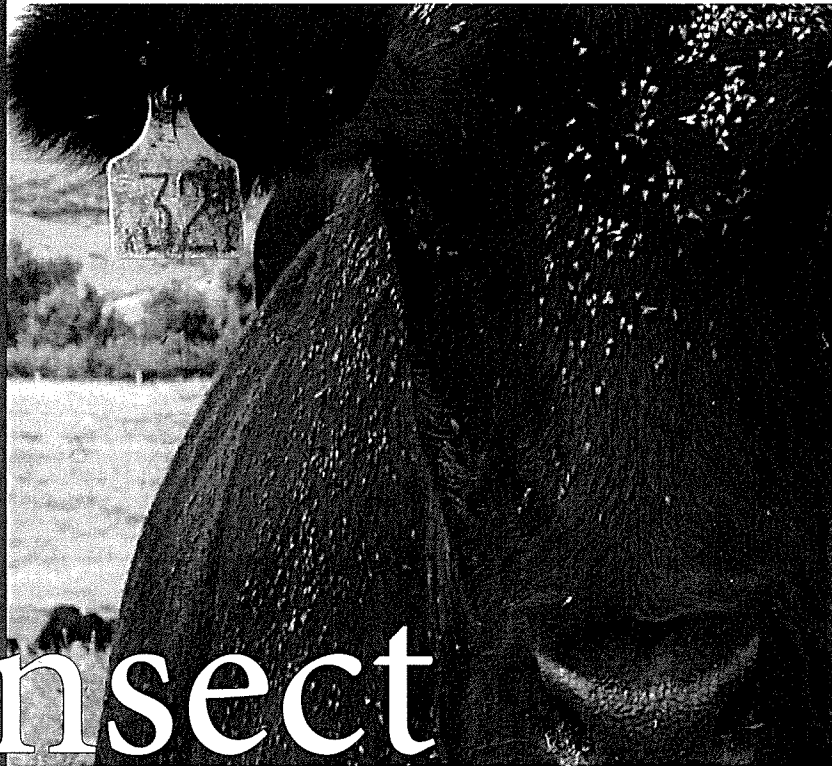


**2013  
PACIFIC NORTHWEST**



# Insect

## **MANAGEMENT HANDBOOK**

**IN CASE OF EMERGENCY, CALL YOUR POISON CENTER: 1-800-222-1222**

**If the patient has collapsed or is not breathing, call 9-1-1**

**See last two pages of book for poison safety information.**

A Pacific Northwest Extension Publication

Oregon State University • Washington State University • University of Idaho

Revised annually

- methyl parathion (Methyl 4EC) at 0.25 to 0.375 lb ai/a. REI 4 days. PHI 15 days. No more than 2 applications per year.
- pyrethrin—There are several pesticides containing various amounts of pyrethrins. Check each label for the use and amount needed.
- zeta-cypermethrin (Mustang Max) at 0.02 to 0.025 lb ai/a (wheat and triticale only). PHI 14 days also for forage and hay. REI 12 hr. Do not apply less than 14 days apart. Do not apply more than 0.125 lb ai/a per year.
- zeta-cypermethrin + chlorpyrifos (Stallion) at 0.22 to 0.28 lb ai/a. PHI for forage or hay 14 days; grain and straw 28 days. REI 24 hr. Retreatment interval 14 days. Do not allow meat or dairy animals to graze within 28 days of application. Do not exceed 0.05 lb ai/a zeta-cypermethrin and 0.5 lb ai/a chlorpyrifos per season.

### Small grain—Brown wheat mite

*Petrobia latens*

**Pest description and crop damage** Young mites are red-orange; later, they become dark brown. Feeding gives foliage a mottled appearance and stunts plants. It has been a problem primarily on barley, but it also attacks wheat and other small grains, ryegrass, some legumes, onions, and carrots.

#### Management—chemical control

*Foliar sprays*

- chlorpyrifos at 0.25 to 0.5 lb ai/a. PHI 14 days forage & hay; 28 days grain & straw. REI 24 hr. Do not exceed 2 treatments per acre per year. wheat only.
- chlorpyrifos + gamma-cyhalothrin (Cobalt) at 0.164 to 0.3 lb ai/a (wheat only). Do not feed straw from treated wheat within 30 days or graze within 7 days of application. Not more than 2 applications per year. Wheat only.
- *Chromobacterium subtsugae* (Grandevo) at 0.6 - 0.9 lb ai/a per 100 gal. PHI 0 days. REI 4 hr.
- dimethoate at 0.16 to 0.25 lb ai/a, PHI 35 days. REI 48 hr. Do not exceed 0.5 lb ai/a per season. Wheat only.
- gamma-cyhalothrin (Declare) at 0.015 lb ai/a. PHI 30 days. REI 24 hr. Maximum 0.03 lb ai/a per season. Suppression only.
- lambda-cyhalothrin (Silencer, Warrior) at 0.03 lb ai/a. Suppression only. PHI 30 days. REI 24 hr. Do not graze or forage within 7 days of application. Do not feed straw within 30 days of last treatment. Do not exceed 0.06 lb ai/a per season.
- methyl parathion (Methyl 4EC) at 0.5 lb ai/a. REI 4 days. PHI 15 days. No more than 2 applications per year.

### Small grain—Cereal leaf beetle

*Oulema melanopus*

**Pest description and crop damage** Adults are small beetles about 0.25 to 0.375 inch, with a metallic-blue head and wing covers, red pronotum, and yellow-orange legs. Larvae are yellow to yellow-brown with a dark mass of slimy fecal material on their backs.

Both adults and larvae feed on leaves. Feeding causes a characteristic stripping of the leaves.

**Sampling and thresholds** Treat when there are three larvae or eggs per plant up to the boot stage. After boot, treat at one larva per flag leaf.

#### Management—biological control

These insects are controlled easily by introduced parasitoids. The primary biocontrol agents (parasitoids) are two wasp species; *Tetrastichus julis* (a larval parasitoid) and *Anaphes flavipes* (an egg parasitoid).

#### Management—chemical control

*Foliar sprays*

- *Beauveria bassiana* GHA (Mycotrol O) at 0.5 to 2 pints/a. PHI 0 days. Do not apply more than 6 pints/a.
- beta-cyfluthrin (Baythroid XL) at 0.008 to 0.014 lb ai/a. PHI 30 days. REI 12 hr. Do not forage or graze within 7 days of application. Retreatment interval 3 days. Do not exceed 0.38 lb ai/a per season
- chlorpyrifos at 0.5 lb ai/a. PHI 14 days forage & hay; 28 days grain & straw. REI 24 hr. Do not exceed 2 treatments per acre per year. wheat only.
- chlorpyrifos + gamma-cyhalothrin (Cobalt) at 0.3 to 0.58 lb ai/a (wheat only). Do not feed straw from treated wheat within 30 days or graze within 7 days of application. Not more than 2 applications per year. Wheat only.
- *Chromobacterium subtsugae* (Grandevo) at 0.6 - 0.9 lb ai/a per 100 gal. PHI 0 days. REI 4 hr.
- cyfluthrin (Tombstone) at 0.016 to 0.028 lb ai/a (wheat only). PHI 30 days. Pre-grazing or foraging interval 3 days. REI 12 hr. Retreatment interval 3 days. Do not exceed 0.076 lb ai/a per season.
- diflubenzuron (Dimilin 2L) at 0.0625 lb ai/a. PHI for grain and straw 50 days; forage 3 days; hay 15 days. REI 12 hr. One treatment per season.
- gamma-cyhalothrin (Declare) at 0.01 to 0.015 lb ai/a. PHI 30 days. REI 24 hr. Do not apply more than 0.03 lb ai/a per season.
- lambda-cyhalothrin (Silencer, Warrior) at 0.02 to 0.03 lb ai/a. PHI 30 days. REI 24 hr. Do not graze or forage within 7 days of application. Do not feed straw within 30 days of last treatment. Do not exceed 0.06 lb ai/a per season.
- lambda-cyhalothrin + thiamethoxam (Endigo ZC) at 0.055 to 0.07 lb ai/a. PHI 30 days. REI 12 hr. Retreatment interval 7 days. Do not exceed 0.06 lb ai/a lambda-cyhalothrin or 0.125 lb ai/a thiamethoxam per season. (Barley only).
- methomyl (Lannate) at 0.225 to 0.45 lb ai/a. PHI 7 days. REI 48 hr. Do not exceed 1.8 lb ai/a per season. Do not exceed 4 applications per season.
- pyrethrin—There are several pesticides containing various amounts of pyrethrins. Check each label for the use and amount needed.
- spinetoram (Radiant SC) at 0.015 to 0.047 lb ai/a. PHI 21 day of grain or straw harvest; 3 days of forage, fodder or hay harvest. REI 4 hr. Do not exceed 0.141 lb ai/a per year. Do not apply more than three times per year. Retreatment interval 4 days.
- spinosad (Success) at 0.031 to 0.094 lb ai/a. PHI 21 days for grain and straw; 3 days for forage, fodder or hay. REI 4 hr. Do not exceed 0.28 lb ai/a per year. Armyworms only.
- zeta-cypermethrin (Mustang Max) at 0.011 to 0.025 lb ai/a (wheat and triticale only). PHI 14 days, also for forage and hay. REI 12 hr. Do not apply less than 14 days apart. Do not apply more than 0.125 lb ai/a per year.
- zeta-cypermethrin + chlorpyrifos (Stallion) at 0.12 to 0.28 lb ai/a. PHI for forage or hay 14 days; grain and straw 28 days. REI 24 hr. Retreatment interval 14 days. Do not allow meat or dairy animals to graze within 28 days of application. Do not exceed 0.05 lb ai/a zeta-cypermethrin and 0.5 lb ai/a chlorpyrifos per season.

### Small grain—Chinch bug

*Blissus* spp.

**Pest description and crop damage** A small black bug, 0.18 inch long, with a conspicuous black triangle on the outer margin of white wings. The nymphs have a white band that transverses the body. As the nymphs mature, their reddish bodies become darker.