

## Field Corn XI-2

### Banks Grass Mite

*Frank B. Peairs*



*Banks Grass Mite*

#### Identification (and life cycle/seasonal history)

Banks grass mites (BGM) are minute, 0.45 millimeter (0.017 inch), greenish colored arthropods with eight legs and a rounded body. BGM has dark pigmentation along both edges of the body near the rear and along the sides. Fertilized female BGM move into winter wheat in the fall as their summer hosts, especially field corn but also other grasses, begin to dry down. These over-wintering forms are bright orange in color. They return to the corn by walking short distances or by being windborne on silk threads over longer distances. In the spring small pearly white eggs are laid which eventually give rise to pale to bright green male and female adults.

#### Plant Response and Damage

Webbing on leaves and discoloration are often the first signs of an infestation. Initially, BGM are most abundant on the lower third of the plant and density declines as the infestation moves up in the plant. Mites damage corn and small grains by piercing plant cells with their mouthparts and sucking the plant juices.

#### Management Approaches

##### Chemical Control

Banks grass mite builds up on the plant from the bottom up. Treat when there is visible damage in the lower third of the plant and small colonies are present in the middle third of the plant before hard dough stage. An alternative method for determining the need for control of Banks Grass Mite in grain corn, developed by T. Archer and E. Bynum at Texas A&M University at Lubbock, is based on total infested leaves and total percentage of leaf area damaged (Table XI-1).

After calculating the percentage of infested leaves look at the position in the above table corresponding to your expected control cost and crop market value per acre. If the percent infested leaves is greater than the value given in the table, then determine the percent leaf surface showing chlorotic and stippled mite feeding damage. If this value exceeds the second value in the table, then a miticide treatment should be cost-effective. If the mites build up early and hot, dry weather persists, a second application may prove necessary. Areas of stressed plants are often the main source of infestation for the rest of the field. All registered materials have failed to control mite outbreaks at one time or another. Control with Comite may not last for the full season.

In the areas where both Banks grass mite and two-spotted mite species occur, the only effective chemical treatment seems to be an application of Comite II, bifenthrin 2ER or Oberon 2SC, as described for Banks grass mite control. Other materials registered, but not recommended, for this situation include dimethoate.

Table XI-1. Economic threshold for Banks grass mites in grain corn (based on % infested leaves/% leaf area damaged).

Control Cost (\$ per Acre)	Market Value \$ per Acre				
	350	400	450	500	550
10	17/9	15/8	13/7	12/6	11/6
15	25/13	22/12	20/10	18/9	16/9
20	34/18	29/16	26/14	24/13	21/11
25	42/22	37/20	33/17	29/16	27/14

Product list for Banks grass mite

Pesticide	Product/Acre (Fl oz. or oz. product)	Preharvest Interval, remarks
bifenthrin <sup>R,1,2</sup>	5.1 - 6.4	30 days. Research indicates that this product is more effective if applied in combination with dimethoate and crop oil. <b>Highly toxic to Bees!</b> Do not apply to blooming crops, weeds.
Hero <sup>R,1</sup>	10.3	30 days. <b>Highly toxic to Bees!</b> Do not apply to blooming crops, weeds.
dimethoate <sup>1,2</sup>	See labels	14 days. Not more than 3 applications/yr. <b>Extremely Hazardous to Bees!</b> Do not use during pollen shed. Buffer to pH 5.0.
Comite II	36 - 54	30 days. This material will prevent buildup, but will not control already high populations. Apply at flagleaf or pretassel stage when populations are still low. A second application may be applied under a Colorado 24(C) registration. The label must be in your possession at the time of application.
Oberon 4SC <sup>1</sup>	2.85 – 4.25	30 days grain or stover, 5 days green forage. Maximum two applications per season, with a minimum of 14 days between applications.

<sup>R</sup>Restricted use pesticide. <sup>1</sup>Labeled for chemigation. <sup>2</sup>Generic active ingredient, may be additional formulations.

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*products or equipment not listed is neither implied nor intended. Due to constantly changing labels, laws and regulations, the Extension Services can assume no liability for the suggested use of chemicals contained herein. Pesticides must be applied legally complying with all label directions and precautions on the pesticide container and any supplemental labeling and rules of state and federal pesticide regulatory agencies. State rules and regulations and special pesticide use allowances may vary from state to state: contact your State Department of Agriculture for the rules, regulations and allowances applicable in your state and locality.*

Categories: Field corn, Insects, Banks grass mite

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