

Kansas Insect Newsletter

For Agribusinesses, Consultants,
Applicators and Extension Personnel



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REMEMBER: THERE ARE NEW BT CORN PLANTING GUIDELINES FROM EPA:

You have probably read recent news reports stating that EPA has notified the Bt corn seed industry of regulations affecting the 2000 planting season. The plan is based on the concept that enough corn borers with genes for susceptibility to Bt toxins must be permitted to survive so any Bt-resistant moths emerging from Bt cornfields will not be able to find mates that also are resistant to the Bt toxin. Larvae resulting from the mating of Bt-resistant corn borer moths with Bt-susceptible moths should be killed when they try to feed on Bt corn. In contrast, matings involving only Bt-resistant moths could allow the increase of resistance in the corn borer population.

Most Kansas growers choosing to plant Bt corn will be required to plant at least 20% of their corn acres to non-Bt varieties during the year 2000 growing season. Putting it another way, a producer could actually plant up to 80% of his/her corn acres to Bt corn on each farm if he/she chooses to do so. In southern, Bt-cotton growing states, corn growers will be limited to planting no more than 50% of their corn acres to Bt hybrids.

Non-Bt corn refuges must be planted within one half mile of all Bt corn plantings on a farm if no spraying of the refuge with a corn borer active insecticide is anticipated. If spraying of the refuge

with a corn borer insecticide is likely, then the non-Bt corn refuge should be planted within a quarter mile of the Bt corn. This arrangement is designed to meet the EPA mandate that sound resistance management guidelines must be followed when crops genetically enhanced for pest resistance are planted.

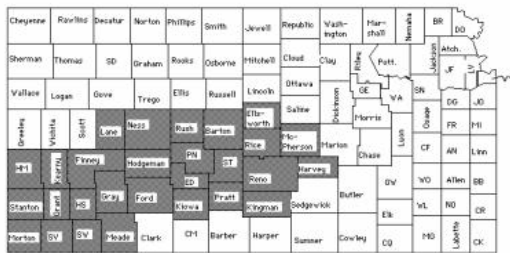
The EPA also is suggesting that planting patterns designed to minimize exposure of non-target insects (such as immature stages of the Monarch butterfly) to Bt corn pollen should be employed. Planting the non-Bt corn as a pollen trap around the field has been suggested as one option. Another approach involves considering prevailing wind direction and likely Monarch habitat locations when deciding where the Bt and non-Bt corn plantings will be located. Research to define the risks that Bt corn pollen might represent to non-target insects is continuing at a number of locations around the country. Some of this research indicates that the risk to the total Monarch population could be much less than a few widely distributed reports have speculated. Under field conditions, wind and rain tend to eliminate most corn pollen that lands on milkweed according to some reports. Further updates will be provided as the information becomes available.

Restrictions on the sales of hybrids containing certain Bt events in some historically heavily insecticide-sprayed areas are also part of the plan.

Growers trying to purchase some hybrids may be told by their seed dealer that he/she can no longer sell certain hybrids in some counties within Kansas and other nearby states after a given date.

their particular product. The letter is available on-line and the attachments are linked to the letter. Here is the web address:
http://www.epa.gov/pesticides/biopesticides/otherdocs/bt_corn_ltr.htm

Counties where corn hybrids containing events 176 and DBT418 are no longer being sold.



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Thanks are expressed to the Kansas Corn Commission for helping to fund some of the printing costs associated with this information.

These strategies are designed to maintain the durability of Bt corn as a remarkably effective pest control tool for many years. Farmers purchasing Bt corn seed will be required to sign a statement indicating that they understand and will abide by the regulations.

ALFALFA WEEVIL - START LOOKING!:

Seed dealers also are good sources of information on this subject since it is in the interests of their company’s management that they be kept informed as to how the new regulations affect the purchase and planting of their products. For most corn growers, the year 2000 Bt corn planting regulations should not present an unworkable challenge.

Eggs laid inside alfalfa stems in the fall are hatching in some areas. These small, light green, black-headed, legless larvae have a distinct white stripe down the center of the body. Larvae feed on the terminal and upper leaves of the plant early in the spring, reaching 1/4-inch in length in about 3 weeks. Given the mild winter, fall-laid egg survival is likely to be high. Adult weevils also probably continued to lay a limited number of eggs during warm periods, resuming heavier levels of egg laying the last few weeks. Appropriate timing of control measures is very important. Insecticides and timely cutting remain the most widely used tools to prevent economic damage. Biological control provided by insect predators, parasitoids, and disease helps lower the magnitude of the population, though not enough in many years so that insecticide treatments are not needed. Late frosts can sometimes force the alfalfa to start spring growth all over without knocking out the weevil larval population. Low temperatures will sometimes limit the larval weevil population, but you need to sample to be sure.

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WEB ADDRESS FOR EPA LETTERS TO BT REGISTRANTS

Copies of the letters EPA sent to Bt registrants about the year 2000 refuge requirements are now on the web. Each registrant was sent a standard letter with an attachment that was customized for

Early Season Infestation. If the alfalfa is very small or if frost knocks back the new growth, then stem count sampling (our recommended approach) may be very difficult or not practical. Treating when feeding is becoming evident on the top inch of

growth usually requires 1 to 2 larvae per stem, depending upon expected value of the hay. Retreatment may be necessary before the first cutting can be harvested. Realize that some products preclude more than one application per cutting and that frost may kill off early growth, making benefits from insecticide treatment less definite.

Stem Count Method. As the alfalfa gains some height, the Stem-Count Decision Method can be employed to reach a treat/no-treat decision. Individually break off 30 to 50 alfalfa stems in a manner that does not dislodge the weevil larvae when separating the stem from the crown. Each randomly-selected stem then is shaken individually into a deep-sided bucket. Height of the alfalfa, nearness to cutting, and the average number of larvae per stem are used to guide management decisions. Refer to the Alfalfa Weevil Stem Count Decision Guide in the alfalfa insect management recommendations (MF-809) to determine the next step (doing nothing, resampling in a few days, or spraying). As the alfalfa value increases, fewer larvae are required to reach a treatment threshold. For instance, \$70/ton alfalfa should be treated at just over 2 larvae per stem when the alfalfa is approximately 17 inches tall. As the price climbs further, even fewer alfalfa weevil larvae may be needed to trigger treatment.

Spray gallonage for ground equipment: 10 to 12 gallons per acre for 7-inch alfalfa; 15 to 20 gallons for 8- to 15-inch alfalfa; at least 20 gallons per acre on alfalfa more than 15 inches tall. Use 30 psi, use hollow cone nozzles and adjust spray pattern to overlap as suggested by the nozzle manufacturer near the top of the canopy. Spray gallonage for aerial equipment: The use of less than 2 gallons of spray per acre has sometimes resulted in less than satisfactory control. Overall efficacy frequently increases as even more carrier is used. Length of control (below) refers to maximum larval suppression interval.

Alfalfa Weevil Insecticides Recommended in Kansas:

Carbofuran* (Furadan 4F)

0.25 to 1 lb a.i./acre. Rates above 0.5 may provide protection for up to 21 days. The lower rates are recommended for late season larval control. For adult control, use the 0.5 to 1 lb. rates. PHI 7 to 28 days depending on rate.

Chlorpyrifos (Lorsban 4E)

0.5 to 1 lb. a.i./acre. The higher rate can provide from 10 to 14 days of protection. PHI 7 to 21 days depending on rate.

Cyfluthrin (Baythroid 2)

0.025 to 0.044 lb. a.i./acre. Rates of 0.03 to 0.04 can provide 14 to 21 days protection against larval damage. PHI 7 days.

Methyl Parathion*

0.5 lb. a.i./acre provides up to 10 days protection against larval damage. PHI 15 days.

Phosmet* (Imidan)

0.7 to 0.93 lb. a.i./acre provides 12 to 14 days protection against larval damage. PHI 7 days.

Malathion

1.25 lb. a.i./acre provides 3 to 7 days protection against larval damage. Two applications will likely be needed if a long period of residual protection is needed. PHI 0 days.

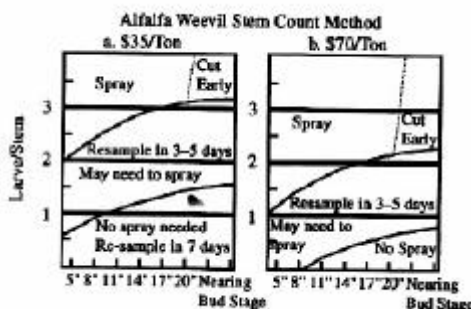
Permethrin (Pounce 3.2EC, Ambush 2E)

0.2 lb. a.i./acre. Results in Kansas research trials have been variable. PHI 14 days.

Lambda-cyhalothrin (Warrior T)

0.02 to 0.03 lb. a.i./acre, data reviewed so far indicates that the higher rate should provide 14- to 21-day protection. PHI 1 day for forage and 7 days for

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