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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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Russian Wheat Aphid a Potential Concern in Western Kansas this Spring:

Surveys of wheat fields in western regions of the state indicate that Russian wheat aphids are present in many fields this spring. Infestations are heavier than they have been for several years and spotty infestations have been reported as far east as Hays. The mere presence of the aphid in a field does not imply that yield losses will result, or that fields require treatment with an insecticide. While some fields in far western Kansas are being treated many healthy stands have aphids present at non-economic levels and show little in the way of damage symptoms. In addition, some of the heaviest infestations appear to be in thin, stressed stands and patches of volunteer where treatment may not be warranted.

In addition to the fact that the Russian wheat aphids appear to be more abundant than normal, there is also a concern that the potential for economic losses will be much greater if these infestations turn out to be comprised of the "Biotype 2" form of the aphid that has caused problems in eastern Colorado over the past two years. Colonies of Biotype 2 Russian wheat aphids have much faster growth rates than Biotype 1 aphids, and the progression of damage symptoms occurs much more rapidly, especially at warmer temperatures, making timely treatment of economic infestations that much more important. All commercial wheat cultivars currently grown in Kansas appear uniformly susceptible to Biotype 2. (Various samples from around western Kansas are currently being tested to verify their biotype identity, but the results of these tests will not be available for several days.)

Now is the time for farmers to determine if their fields are at risk. Begin by looking for patches of wheat with characteristic damage symptoms (purple or white striping and rolled leaves). Once signs of infestation are detected growers should examine a series of randomly selected tillers at several locations in each wheat field to determine if infestations are abundant enough to justify an insecticide treatment. Generally, treatment should be considered when between 10 to 20 percent of tillers show symptoms and have live aphids present during the jointing stage or when 30-40% of primary tillers are infested anytime between

flowering and the soft dough stage. The higher the yield potential of a wheat field, the lower the threshold for treatment of a Russian wheat aphid infestation. Unthrifty stands are less likely to generate sufficient yield for a grower to recover the costs of treatment. Materials with some systemic activity tend to be more effective in killing the aphids within rolled leaves.

When populations are spotty or patchy within a field treatment decisions can be more difficult. The final determination will need to rest on the percentage of the field that appears to be suffering injury and whether the infested spots appear to be spreading or expanding. Repeated observations may be needed to determine if populations are increasing or remaining stable.

Also be aware that some fields are suffering from a combination of Russian wheat aphids and wheat streak. If the wheat streak is severe then it will probably not pay to treat for the Russian wheat aphids.

More detailed instructions on scouting and treatment options for Russian wheat aphid can be found in the K-State Wheat Insect Management Guide 2005, available online at: <http://www.oznet.ksu.edu/library/ENTML2/MF745.PDF> or from the web page on the Russian wheat aphid web page linked to: <http://www.oznet.ksu.edu/entomology/extension/InsectInfo/Wheat/WheatInsects.html>



Russian Wheat Aphid on Leaf



Russian Wheat Aphid Damage

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ILLEGAL USE OF SODIUM CYANIDE:

The United States Environmental Protection Agency (EPA) and state departments of agriculture have recently been alerted that some beekeepers have been using **sodium cyanide compound** to control pests in their honey bee colonies/hives. Specifically, apiarists have been purchasing and using a **sodium cyanide compound** as a fumigant in beehives to destroy or mitigate wax moths including the caterpillar and larvae, as well as to cull out weaker hives. These practices are illegal and have the potential for serious harm to human health and the environment.

All pesticides distributed in the United States must be registered by the EPA. The Federal pesticide law [the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)] defines “pesticide” to include any substance intended for controlling, mitigating or destroying pests. A substance is a pesticide and requires registration as such if the person distributing the substance (1) makes claims, either expressed or implied, that the substance can be used as a pesticide or (2) distributes the substance with the knowledge that the substance will be used to control pests. **Any individual selling or distributing sodium cyanide compound for mitigating any pest, including the wax moth, caterpillar and larvae, or any other pest for use in bee hives or colonies is selling and distributing an unregistered pesticide and subject to penalties of up to \$6,500 per violation under FIFRA.**

Currently, there are no sodium cyanide or similar cyanide compound products registered by the EPA for pest control in honey bee colonies/hives. Also, there are no established residue tolerances for any cyanide compound in honey or beeswax. Honey analyzed and found to contain any cyanide compound residue would be considered adulterated under the Federal Food, Drug and Cosmetic Act, and could be seized. The seizure of honey due to adulteration with a highly toxic chemical would be detrimental to the entire apiary industry.

Further, use of sodium cyanide in an apiary setting can be extremely dangerous. The compound is highly toxic to humans and other warm-blooded animals, and it is a Toxicity Category I compound - EPA’s highest toxicity level for pesticides. This rating indicates the greatest degree of acute toxicity for oral, dermal, and inhalation effects. It is highly corrosive to the skin and eyes. Cyanide can be absorbed through the skin and its vapor is absorbed extremely rapidly via the respiratory tract.

Beekeepers who are currently in possession of the highly toxic, unregistered sodium cyanide compound or related products should contact their state agricultural agency for instructions on proper storage and disposal of the product. The state agricultural agency can also provide information on registered pesticides, such as paradichlorobenzene and aluminum phosphide products, that are legal to use to mitigate pests in honey bee colonies/hives.

¹Wax moth includes both the Greater Wax Moth, *Galleria mellonella*, and the Lesser Wax Moth, *Achroiz grissella*, both of which are sometimes referred to the wax wing moth.

Sharon Dobesh

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Sincerely,

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