

Pest Alert: Aphids and Barley Yellow Dwarf Virus

Cruiser, The First Line Of Defense

Barley yellow dwarf virus (BYDV) is one of the most detrimental viruses of small grains. Transmitted entirely by aphids, BYDV can lead to severe yield loss and reduced grain quality. Because aphids are the only vector of BYDV, the severity of the virus is entirely dependent on their activity. Cruiser® seed treatment insecticide serves as the first line of defense against these destructive insects to help stop the spread of BYDV throughout fields.



Bird cherry-oat aphid



Corn leaf aphid



English grain aphid



Greenbug

Aphids

Adult aphids are tiny insects varying in lengths up to a tenth of an inch long with pear-shaped soft bodies. They may be winged or wingless. There are multiple species of aphids, but only certain species transmit BYDV. The most common of the BYDV-transmitting aphids include:

- Bird cherry-oat aphid
- Corn leaf aphid
- English grain aphid
- Greenbug

Infection

Aphids contract the virus by feeding on infected plants, and then BYDV is spread as infected aphids feed on healthy plants. These tiny insects can also fly in from distant places, carrying the virus with them. In addition, BYDV can survive crop cycles in volunteer wheat, barley, oats and grass weeds. Severe infestation occurs when conditions are favorable for aphid multiplication—typically cool, moist weather with temperatures ranging from 50 to 65 degrees Fahrenheit. As aphid offspring feed on the infected plants they, too, become vectors of BYDV.

Visible Symptoms

Visible symptoms of BYDV usually do not appear until aphids are gone, which can lead to misdiagnosis such as environmental stress or nutritional disorders. Symptoms include:

- Winterkill
- Plant stunting
- Curled leaves
- Yellow to red-purple leaf discoloration
- Small grain heads

BYDV leads to...

- Underdeveloped root systems
- Decreased tillering
- Delayed maturity
- Nutritional disorders
- Reduced grain quality and yield



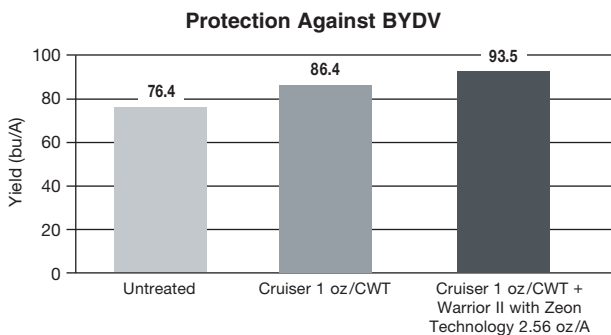
BYDV Damage

Management

Researchers have identified fall attacks as the most damaging and the source of the majority of the BYDV that is evident in the spring. Later fall planting dates are recommended to give aphids less time to transmit the virus before cold temperatures set in. Other recommendations include proper fertilization, which helps develop stronger plants with less susceptibility to the virus; and controlling volunteer wheat, barley, oats and grasses to help eliminate sources of infection for future crop cycles.

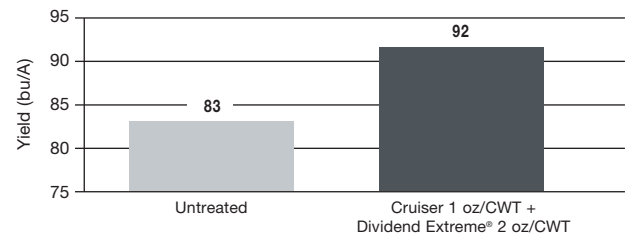
In addition to these management options, planting seeds treated with Cruiser seed treatment insecticide can help. Cruiser protects cereal crops from fall aphid attacks and serves as a first line of defense against BYDV. With Cruiser, protection is in place from the moment seeds are planted, and works systemically to protect plants as they grow.

To help control the impact of spring attacks, consider an application of Warrior II with Zeon Technology® insecticide in the spring. Warrior II with Zeon Technology provides excellent control of all types of aphids and impedes the spread of BYDV.



Source: Miles Farm Supply, Owensboro, KY, 2004

Effect of BYDV on Yields



Source: E. Stromberg, Virginia Tech, 2003

Cruiser Performance Advantages

- Excellent performance against aphids reduces the transmission of BYDV
- Superior protection against aphids and wireworms
- Consistent performance under a wide range of growing conditions
- Rate flexibility tailored to each field
- Convenient, seed-delivered insect protection
- Favorable environmental and safety profile
- Fully compatible with superior performance of Dividend Extreme® seed treatment fungicide to protect against insects and diseases at the same time

For more information, visit www.farmassist.com/crops/cereals or call the Syngenta Customer Resource Center at 866-SYNGENTA (866-796-4368).

