



REPORT

David Wright, Ph.D.
Plant Health Initiative Coordinator

Demand for foods made with more wholesome ingredients, such as soy protein, is increasing at an astonishing rate. The concept of everyday food products that provide positive health benefits is here to stay.

The expansion of the soyfoods market has come at a critical time when producers are searching for ways to increase their operational efficiency. Couple this with new technology to identify preserved grain and the innate ability of the American soybean producer to “adapt and overcome,” and you get more profit potential.

Several companies have offered premium-based contracts for various food-grade soybeans. Producers should be aware that these contracts commonly have a “grain quality” clause to ensure that requirements for traits like seed size and appearance are met.

Maintaining high quality seed appearance may not be an easy task this year due to an abundance of two very nasty insects. The bean leaf beetle and the Chinese aphid can infect the plant with viruses, causing severe seed coat discoloration, which could cause the grain to be rejected. Bean pod mottle virus and soybean mosaic virus most commonly infect the plant.

However, Dr. Kevin Steffey, extension entomologist at the University of Illinois, reports that few, if any, of the overwintering beetles are able to transmit bean pod mottle virus. Steffey indicates that further research is needed to better understand the relationship between the presence of bean leaf beetles and the virus.

Clear or yellow-hilum soybeans are not immune from seed coat discoloration. The effects of the viruses are the same. Although mottled seed of a clear hilum variety doesn't look as bad as mottled seed from a black hilum variety, the grain is still likely to be rejected and the premium will be lost.

The benefits of growing specialty soybeans under premium-based contracts far exceed the challenges producers may face. Premiums range from \$.20 per bushel for non-GMO soybeans to an estimated \$10.00 per bushel for certified organically grown soybeans.

Checkoff-funded research

Genetic resistance to diseases is on the way thanks to research funded with your checkoff dollars. Researchers at Iowa State

Scout your fields now

Different viruses often cause similar symptoms, and infection by more than one virus is not uncommon. Plants infected with a combination of bean pod mottle virus and soybean mosaic virus will be more severely affected than either virus alone. Most virus-infected plants have fewer pods and are stunted to some degree. Leaves, especially younger leaves, have a mosaic of light and dark areas. Leaf margins may curl downward. Pods may be flatter and smaller. Sometimes symptoms resemble injury from herbicide drift.

Once viruses infect the plant, there isn't anything a producer can do to prevent the mottled seed appearance. Scouting and controlling the insects prior to the reproductive stage is the best way to reduce the impact of the viruses. Producers should consult their local agronomist or log onto www.planthealth.info for management and harvesting options.



PHOTO CREDIT: CRAIG GRAU

Mottled leaf appearance caused by soybean virus infection.

University recently reported success in engineering stable genetic resistance to soybean mosaic virus. Because of this achievement, seed companies may soon be able to offer varieties highly resistant to multiple diseases. Disease resistance developed through genetic engineering will eventually be more cost-effective and is more dependable than when developed through current selection methods.