

4-30-2007

Bean leaf beetles are the principal vectors of bean pod mottle virus (BPMV). Last week we discussed the affects of seed-applied insecticides on bean leaf beetles and whether such insecticides can substitute for an early-season foliar application within a BPMV disease management program. Although there is a positive relationship between bean leaf beetles and BPMV, the effect of chemical control on the disease is different than that for the insect vector. As we discussed last week, a management program that included seed-applied insecticides resulted in improved yield but lower

Recommended Citation

Pedersen, Palle, "Bean leaf beetles are the principal vectors of bean pod mottle virus (BPMV). Last week we discussed the affects of seed-applied insecticides on bean leaf beetles and whether such insecticides can substitute for an early-season foliar application within a BPMV disease management program. Although there is a positive relationship between bean leaf beetles and BPMV, the effect of chemical control on the disease is different than that for the insect vector. As we discussed last week, a management program that included seed-applied insecticides resulted in improved yield but lower seed quality. Why does this happen and how is BPMV affected?" (2007). *Integrated Crop Management News*. 1091.

<http://lib.dr.iastate.edu/cropnews/1091>

The Iowa State University Digital Repository provides access to Integrated Crop Management News for historical purposes only. Users are hereby notified that the content may be inaccurate, out of date, incomplete and/or may not meet the needs and requirements of the user. Users should make their own assessment of the information and whether it is suitable for

seed quality. Why does this happen and how is BPMV affected?

Palle Pedersen

Iowa State University, palle@iastate.edu

Follow this and additional works at: <http://lib.dr.iastate.edu/cropnews>

 Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), and the [Agronomy and Crop Sciences Commons](#)

Bean leaf beetles are the principal vectors of bean pod mottle virus (BPMV). Last week we discussed the affects of seed-applied insecticides on bean leaf beetles and whether such insecticides can substitute for an early-season foliar application within a BPMV disease management program. Although there is a positive relationship between bean leaf beetles and BPMV, the effect of chemical control on the disease is different than that for the insect vector. As we discussed last week, a management program that included seed-applied insecticides resulted in improved yield but lower seed quality. Why does this happen and how is BPMV affected?

Abstract

After receiving more than 5 inches of precipitation last week in central Iowa, many were thinking back to 1993. Last week's rainfall was not like 1993. Fortunately, very few acres were planted last week in central Iowa prior to the rain. About 10 to 15 percent of the corn was planted last Sunday when it started to rain, and the soybean acres planted were not measurable by USDA. Probably it was just soybean research plots that were planted! Many producers may be fortunate that they still have their seed in the bag. Poorly drained fields and fields in river bottoms will stay wet for a few more weeks, and there may even be areas that cannot be planted this year.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

INTEGRATED CROP MANAGEMENT

Search

Get the latest research-based information on crops. [Sign up to be notified](#) when new content is available!

ICM > 2007 > IC-498 (8) -- April 30, 2007

Current Newsletter

You are viewing **archives** for the newsletter from 1993-2007. For current news, see [Integrated Crop Management News](#).

Archives 1993-2007



Announcements



Crop Production



Insects and Mites



Pesticide Education



Plant Diseases



Soils



Weed Management

[Image Gallery](#)

Printable Version

Printable version of this page

Related Articles

Planting and replanting scenarios
June 4, 2007

Wet conditions: Challenges and opportunities
May 7, 2007

Farmers advised to weather the storm and stick to their original plans

Soybean plant mortality may be greater this year

by *Palle Pedersen, Department of Agronomy*

After receiving more than 5 inches of precipitation last week in central Iowa, many were thinking back to 1993. Last week's rainfall was not like 1993. Fortunately, very few acres were planted last week in central Iowa prior to the rain. About 10 to 15 percent of the corn was planted last Sunday when it started to rain, and the soybean acres planted were not measurable by USDA. Probably it was just soybean research plots that were planted! Many producers may be fortunate that they still have their seed in the bag. Poorly drained fields and fields in river bottoms will stay wet for a few more weeks, and there may even be areas that cannot be planted this year. Hopefully, this water will dry up quickly, barring no more excessive rainfall. I assume that we will start see planters rolling in central Iowa again at the end of this week if we do not get more rain.



A muddy field near Ames. (Palle Pedersen)

If we are looking back at the last two years, we have to admit that we have been spoiled with nearly perfect spring conditions for most farmers in Iowa. There were areas in 2005, especially in north-central Iowa, that were very wet in the spring, but in general, we have been very fortunate with our planting conditions recently. Corn and soybean planting have been done in record time. That will not be the case in 2007.

For southern and central Iowa, the optimum time to plant soybeans to achieve maximum yield

May 7, 2007

Corn survival in flooded
or saturated fields

April 30, 2007

Flooding or drought?

July 21, 2003

Corn survival in wet
conditions

May 24, 1999

has passed. In many areas, soil moisture is excessive with standing water in fields. Many producers still have not started on corn and want to start planting soybean as soon as possible, maybe with fields a little bit on the "wet side" to reduce yield loss from delayed planting. That is not recommended! Even though some producers are getting "desperate" to get back into the field, it is highly recommended to wait until the soil is dry before taking heavy machinery into the field. Soil compaction contributes to reduced root growth and can affect the crop throughout the year. Yield can be reduced significantly, and the long-term consequences can be considerable.



More than muddy—a flooded field near Ames. (Palle Pedersen)

The wet conditions that many are going to deal with this year will influence our stand. Over the last four years, with support from the checkoff and the Iowa Soybean Association, Iowa State University has investigated seeding rate recommendations from Iowa. Our data are very consistent and show that final stand of 100,000 plants per acre is enough to maximize your yield and return. The challenge is determining what seeding rate will give a final stand of 100,000 plants per acre because that varies so much with equipment, operator, soil type, and seedbed conditions. On the [Soybean Extension and Research Program Web page](#), I have described the variables that will influence your stand in more detail.

Based on our research from previous years with saturated soils and wet seedbed conditions like this one, we can, on average, expect a plant mortality (the difference between seeding rate and final stand at harvest in percent) of 30 to 40 percent compared to 20 to 25 percent under more perfect seedbed conditions. My recommendations for growers using a planter in Iowa, regardless of row spacing, is using a seeding rate of 125,000 to 140,000 seeds per acre to get to a final stand of 100,000 plants per acre. The lower end of the scale (125,000 seeds per acre) is under "perfect" seedbed conditions, and then the high end of the scale (140,000 seeds per acre) is for the areas in central Iowa where field conditions this year are far from optimum. A fungicide seed treatment also would be a wise suggestion this year, especially one that will protect against Pythium and Phytophthora root rot. The wet conditions that we currently are facing will favor seedling diseases that will reduce our stand. Phytophthora root rot could be a common problem this year with the very wet and potentially warm seedbed conditions. For more information go to www.soybeanmanagement.info.

Palle Pedersen is an assistant professor of agronomy with research and extension responsibilities in soybean production.

This article originally appeared on pages 125-126 of the IC-498 (8) -- April 30, 2007 issue.

