Crop Diseases and Drought: Frequently Asked Questions

July 25, 2012 Webinar

Question: Should soybeans get sprayed with a fungicide to slow down transpiration of the soybean plant? How much could this benefit yield?
There is one published paper from 2007 in which soybeans were sprayed with a strobilurin. Transpiration was reduced, but so was net photosynthesis and carbon dioxide concentration in the cell. The authors went on to say there is “limited scope for using strobilurins to improve water status of crops grown under conditions of water stress.”

Question: What are some fungicide options for beans?
Please see Daren Mullers’s article:  
http://www.extension.iastate.edu/CropNews/2012/0726muellerbestor.htm

Question: Is it practical to apply fungicides to drought stressed soybeans?
No I don’t think so. One study showed that while transpiration was reduced with an application of a strobilurin fungicide, so too was net photosynthesis and carbon dioxide concentration in the cell. The authors went on to say there is “limited scope for using strobilurins to improve water status of crops grown under conditions of water stress.”

Question: Should you be sampling for nematodes in fields for next year or in fields that you may have in years to come?
Sample fields you plan on planting to soybeans in the fall. One can also sample fields of soybeans now during the growing season if the beans look bad and if you want to know if it is due to SCN.

Question: The drought seems to have raised the spider mite population. What are threshold levels and is treatment economically effective?
If the crop is worth protecting, I would scout often for developing spider mite populations. You want to be proactive and treat before widespread discoloration and leaf drop occur. I encourage you to read a recent ICM News article for spider mite management recommendations in corn and soybean:  
http://www.extension.iastate.edu/CropNews/2012/0709hodgson.htm

Question: Spider mites vs. nematodes in appearance and treatment?
Prolonged spider mite feeding will look similar to soybean cyst nematode. Plants will be yellow and stunted. Both can cause severe yield loss in drought-stressed weather. Typically spider mite colonies will be on the undersides of leaves and in the lower canopy. Mites often cover themselves in a fine webbing, making leaves looking dirty/dusty.

Question: Does Headline fungicide help in stopping aspergillus ear rot and/or charcoal rot?
Doubtful that Headline will control Aspergillus ear rot. There is limited data on fungicides and ear rots, but in all cases fungicides did not stop ear rot. Charcoal rot is a soil-borne disease, thus a foliar fungicide will have no effect.
Question: Are you collecting samples for Goss's wilt, how?
We are not repeating the survey we did last year. If you suspect Goss’s wilt, you may send a sample of ~12 leaves with varying amounts of disease to the ISU Plant Disease and Insect Clinic at 351 Bessey Hall, Ames, IA 50010.

Question: We are seeing some spider mites in spots in soybean in SW/WC Iowa ...
I encourage you to read a recent ICM News article for spider mite management recommendations in corn and soybean: http://www.extension.iastate.edu/CropNews/2012/0709hodgson.htm

Question: As we discussed aflatoxins, can corn then be harvested at greater moisture percent over 32% and be “safe”?
Good question – I am not sure. Maybe – but I don’t know that I would want to try.

Question: Also on aflatoxin, can the harvested corn be used in ethanol production?
In theory yes, but aflatoxin will concentrate three times in the DDGS.

Question: Will aflatoxin die off after a killing frost?
The fungus Aspergillus flavus will survive a killing frost and then when conditions favor growth of the fungus, the potential to produce aflatoxin is there.

Question: Are aflatoxins isolated to parts of a field or will they affect a whole field?
Risk is greater in those parts of the field where the crop was most stressed, so can be isolated to parts of the field, but not always guaranteed.

Question: Does spraying fungicides on beans show any benefits in a drought year?
We have no local data to suggest benefits. One study showed that while transpiration was reduced with an application of a strobilurin fungicide, so too was net photosynthesis and carbon dioxide concentration in the cell. The authors went on to say there is “limited scope for using strobilurins to improve water status of crops grown under conditions of water stress.”

Question: Will aflatoxin form on corn after it's been put in dry storage?
Yes – if storage conditions are not well managed. Moisture content of stored grain should be below 16% and temp below 50 F to stop growth of the fungus, and therefore, the risk of aflatoxin production.