

“Bubble Kernel” In Corn Showing Up Again



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Several years ago we had reports of an unusual phenomenon in which corn kernels seem to start to develop after pollination but are empty of content, containing only clear liquid with perhaps a small amount of white material – probably starch – that may later turn yellow. The liquid in these “bubbles” will eventually dry up, leaving what are essentially seedcoats without an embryo or endosperm. These may flatten as kernels on both sides press in during grainfill, if there are only a few, scattered “bubble kernels” on an ear.

I just received a report of this showing up again in 2010, with the photo here sent by Mike Vose at the Orr Research Center in western Illinois. Mike learned, after an initial period of head-scratching, that the producer in this case had sprayed glyphosate into the first few rows in the field from the side, when the corn and weeds were both tall-well off label. Those rows are the only ones showing this symptom.

While this report decreases our concern that this might be a widespread phenomenon without a good explanation, we also know that a lot of glyphosate was sprayed late this year. Much of this was off-label in terms of crop size. It appears likely that conditions after application this year might have favored the development of this effect.

At this point we'd like to bring this to every-

one's attention and to suggest that fields with late glyphosate applications be checked. It would also be interesting to know if any of this phenomenon is showing up without late glyphosate application. We didn't have much stress during pollination and have not had many reports of silk feeding. But we also don't know much about this phenomenon, so now that we know it has developed in 2010 we want to watch for it. It will appear in fields where plants look normal (other than large, hopefully dead, weeds), at least until late in grainfilling,



Ear showing symptoms of the "bubble kernel" phenomenon, in this case the result of late glyphosate spraying.

Photo courtesy of Mike Vose, University of Illinois Orr Research Center.

when plants may show purpling. It's not a very pleasant surprise to find it with the combine. Δ

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