

Corn Kernel Sprouting

Corn kernel sprouting can occur under wet and warm conditions and is more likely to occur with products that have open husks and upright ears.

Kernel Sprouting

Premature germination or sprouting of kernels prior to harvest occurs when moisture becomes trapped in the husk and absorbed by the kernels (Figure 1). While it is more common after physiological maturity, immature kernels on ears that have been subject to injury may also sprout.

Conditions that result in kernel sprouting on the cob prior to harvest are:

- Moisture continues to re-wet kernels and kernel moisture is 20% or less,
- Temperatures are warm.

Factors that may contribute to kernel sprouting include: erect ears with open husks, bird or insect injury to the ear tip opening up the husk and allowing moisture to penetrate, hail injury, and wet weather. When premature kernel sprouting occurs seed quality will be reduced. Sprouted kernels are usually lighter, lower in test weight, and more susceptible to mold and mycotoxin development and may result in the grain being discounted when sold.

Management

Planting a range of corn products with different maturities and growing degree unit (GDU) requirements until flowering is a good practice to help spread out harvest and reduce the likelihood of corn maturing at the same time. If kernel sprouting is occurring, harvest fields as soon as possible. Once harvested, if a high number of kernels are affected, dry grain at higher temperatures to prevent any further growth of the seedlings. Prior to storage, screen grain to remove green growth or damaged kernels. Core the stored grain after filling to remove additional fines or broken kernels from the center of the bin.



Figure 1. Corn kernel sprouting is usually limited to several rows of kernels at the butt end of the ear because this is where water can be trapped in the husk. Sprouting can also occur from uncovered kernels near the ear tip or on the ear in general under the right conditions.

Sources: Nielsen, R. 2012. Premature corn kernel sprouting (aka Vivipary). Purdue University Corn News Network. <http://www.agry.purdue.edu>.; Rees, J., Cassman, K., Kruger, G., and Glewen, K. 2013. Sprouting corn kernels on hail-damaged ears. University of Nebraska - Lincoln CropWatch. <http://cropwatch.unl.edu>. Web sources verified 07/12/18.

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields. 160922212513 071618MW