



DROOPY EARS IN CORN
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Ears of corn normally remain erect until sometime after physiological maturity, has occurred (black layer development), after which the ear shanks eventually collapse and the ears decline or "droop" down. This year, corn field connoisseurs have reported droopy ears in fields before they reached physiological maturity.

Droopy ears are cute on certain breeds of dogs, but

droopy ears on corn plants prior to physiological maturity are a signal that grain fill has slowed or halted. Premature ear declination (the fancy term for this problem) results in premature black layer formation, lightweight grain, and ultimately lower grain yields per acre.

What Causes Droopy Ears?

The few times over the years that I have observed this symptom, severe drought stress has been a common denominator. Similar instances of premature ear declination occurred in areas of drought

stress in 1991 and 1995. Under severe drought conditions, but where a sizable ear nonetheless exists, a reduction in the turgidity of the ear shank occurs and the weight of the developing causes the ear shank to collapse.

In some instances, collapsed ear shanks can also result from extensive tunneling by European corn borer larvae. Such tunneling weakens the ear shank, allowing it to collapse, and can ultimately also cause ear droppage from the plant.

Impact on Yield?

Remember that the ear shank is the final "pipeline" for the flow of photosynthates into the developing ear. An ear shank that collapses prior to physiological maturity will greatly restrict, if not totally prevent, the completion of grain fill for that ear, and will likely cause premature black layer development in the grain. If the droopy ears you've looked at have not black layered yet, they will soon.



The timing of the onset of droopy ears determines the magnitude of the expected yield loss. If grain fill were totally shut down at the full dent stage of grain development (milk line barely visible at dent of kernels), the yield loss would be as much as 40 percent. If grain fill were totally shut down at the late dent stage of grain development (milk line halfway between dent and tip), yield losses for the affected ears would equal about 12 percent.

Multiplying the percentage of affected ears in a field by the estimated yield loss per ear will give you an estimate of whole field loss. For example, if 10 percent of the field contained plants whose ears drooped prematurely at the late dent stage, whole field loss would be estimated at 1.2 percent (10 percent of the ears

multiplied by 12 percent yield loss per ear).

Don't forget this and other timely information about corn can be viewed at the Chat 'n Chew Cafe on the World Wide Web at <http://www.kingcorn.org/cafe>. For other information about corn, take a look at the Corn Growers' Guidebook on the World Wide Web at <http://www.kingcorn.org/>.



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