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Abnormal ear development in corn

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Ear abnormalities found in corn fields in recent years. Photo by Lana Johnson.

Abnormal corn ears have been reported for over a century, but after more than 100 years of studying this species, many situations can still raise questions. In recent years, widespread abnormal ears affected commercial corn fields, reducing productivity and pointing researchers to search for the causes.

New *Agronomy Journal* research sought to summarize previously reported abnormalities, document the abnormalities of concern that were associated with yield losses in 2016, and describe the current understanding of the potential cause(s) and timing(s).

Ten previously reported abnormal ears were described. In addition, the main three abnormalities that affected corn fields in 2016 were discussed: multi-ears, barbell-ears, and short-husk ears. The information available was limited and causes unknown for several symptoms. Despite this, possible causal factors and development timing(s) were summarized.

Abnormal ears harm grain yield and quality. Field observations suggest that not a single factor is to blame but rather a combination. Abnormal ears can be framed as the response to susceptible genetics, unfavorable environments, and conducive management practices. The mitigation of abnormal ears is imperative to efficient corn systems, crop resiliency, and sustainability.

Dig deeper

Ortez, O.A., McMechan, A.J., Hoegemeyer, T., Ciampitti, I.A., Nielsen, R., Thomison, P.R., & Elmore, R.W. (2022). Abnormal ear development in corn: A review. *Agronomy*

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