Cornstalk Sap Nitrate as a Late-Season Nitrogen Sufficiency Test. (S08-piekielek084533-Poster)

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Abstract:

A convenient tissue N test done before silage harvest could provide PA farmers with valuable information on their corn (Zea mays L.) crop's N status and their N management program. We have been evaluating how accurately sap nitrate concentration of cornstalk sections (20 cm sections cut at a point 15 cm above the ground) collected at the early-dent maturity stage can predict crop N sufficiency. We determined cornstalk sap nitrate concentrations in replications of 135 N-rate treatments from 25 N response experiments conducted over a six-year period. Using a critical level of 60 mg/kg sap nitrate-N this test predicted N sufficiency at a 94.1% accuracy rate. This accuracy is comparable to that of a stalk nitrate test done at either the early-dent stage (91.1%) or shortly after grain blacklayer formation (89.6%). Preliminary results indicate that several different portable test instruments can be used to analyze samples on-site.

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