

Kansas Agricultural Experiment Station Research Reports

Volume 2

Issue 3 Southeast Agricultural Research Center
Reports

Article 13

January 2016

Use of a Fungicide to Reduce Stomatal Conductance in Sweet Corn Planted at Different Populations with Limited Irrigation

D. W. Sweeney

Kansas State University, dsweeney@ksu.edu

M. B. Kirkham

Kansas State University, mbk@ksu.edu

Follow this and additional works at: <https://newprairiepress.org/kaesrr>

 Part of the [Agronomy and Crop Sciences Commons](#)

Recommended Citation

Sweeney, D. W. and Kirkham, M. B. (2016) "Use of a Fungicide to Reduce Stomatal Conductance in Sweet Corn Planted at Different Populations with Limited Irrigation," *Kansas Agricultural Experiment Station Research Reports*: Vol. 2: Iss. 3. <https://doi.org/10.4148/2378-5977.1198>

This report is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Kansas Agricultural Experiment Station Research Reports by an authorized administrator of New Prairie Press. Copyright January 2016 Kansas State University Agricultural Experiment Station and Cooperative Extension Service. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. Brand names appearing in this publication are for product identification purposes only. No endorsement is intended, nor is criticism implied of similar products not mentioned. K-State Research and Extension is an equal opportunity provider and employer.



Use of a Fungicide to Reduce Stomatal Conductance in Sweet Corn Planted at Different Populations with Limited Irrigation

Abstract

In 2015, increasing seeding rates increased the number of harvested sweet corn ears; however, total fresh weight did not increase above 22,500 seeds/acre. Sweet corn was little affected by limited irrigation or a fungicide applied for stomatal control.

Keywords

sweet corn

Creative Commons License



This work is licensed under a [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/).

Use of a Fungicide to Reduce Stomatal Conductance in Sweet Corn Planted at Different Populations with Limited Irrigation

D.W. Sweeney and M.B. Kirkham¹

Summary

In 2015, increasing seeding rates increased the number of harvested sweet corn ears; however, total fresh weight did not increase above 22,500 seeds/acre. Sweet corn was little affected by limited irrigation or a fungicide applied for stomatal control.

Introduction

Sweet corn is a potential value-added, alternative crop for producers in southeastern Kansas. Corn responds to irrigation, and timing of water deficits can affect yield components. Even though large irrigation sources, such as aquifers, are lacking in southeastern Kansas, supplemental irrigation could be supplied from the substantial number of small lakes and ponds in the area. However, this may not be enough to improve the water use of the plant. Reducing stomatal conductance and adjusting seeding rate may also help reduce water stress and/or improve water use efficiency. The objective of this study was to determine the effect of limited irrigation, seeding rate, and fungicide applied for stomatal control on sweet corn yield.

Experimental Procedures

The experiment was established in spring 2015 on a Parsons silt loam on the Parsons field of the Kansas State University Southeast Agricultural Research Center. The experimental design was a split-plot arrangement of a randomized complete block with three blocks (replications). The whole plots were a 2 × 3 factorial of two irrigation schemes (no irrigation or 2.5 cm at VT [tassel]) and three fungicide treatments (none or application at either V6 or at both V6 and R1 [silk] growth stages). Subplots were three target populations of 15,000, 22,500, and 30,000 plants/acre. Sweet corn was harvested at R3 (milk) and number of marketable ears, total fresh weight, and individual ear weight was determined. Sweet corn was planted on April 30, 2015 and picked by hand on July 20, 2015.

Results and Discussion

In 2015, increasing the sweet corn seeding rate from 15,000 to 30,000 seeds/acre resulted in greater number of ears harvested; however, total fresh weight was not increased above a seeding rate of 22,500 seeds per acre. Sweet corn was little affected by limited irrigation or a fungicide applied for stomatal control.

¹ Kansas State University Department of Agronomy, Manhattan.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service