







Home ► All Journals ► Environment & Agriculture ► Journal of Plant Nutrition ► List of Issues ► Volume 27, Issue 5 ► Foliar Burn and Wheat Grain Yield Respon

Journal of Plant Nutrition >

Volume 27, 2004 - <u>Issue 5</u>

357 20 0
Views CrossRef citations to date Altmetric
Original Articles

Foliar Burn and Wheat Grain Yield Responses Following Topdress-Applied Nitrogen and Sulfur Fertilizers

Pages 921-930 | Published online: 14 Feb 2007



Full Article



Metrics

➡ Reprints & Permissions

Read this article



Abstract

The most common fertilizer sources for topdress nitrogen (N) applications to winter wheat (Triticum aestivum L.) in Virginia are a urea ammonium nitrate (UAN) solution (30-0-0) or a UAN solution with added sulfur (S) (UAN-S; 20-0-0-4). However, there are some concerns regarding leaf burning following foliar N applications, particularly at later growth stages. An experiment was conducted from 1999 through 2002 to evaluate and quantify foliar burn associated with various topdress-applied N sources, any subsequent effect on wheat grain yield, and any yield response to added S. Ammonium nitrate (AN; 34-0-0), UAN, UAN-S, and ammonium sulfate (AS; 21-0-0-24) were topdress-applied at either GS 30 or 32. Following the GS 30 and 32 foliar applications, digital images were obtained from each plot and pixel analysis was used to estimate

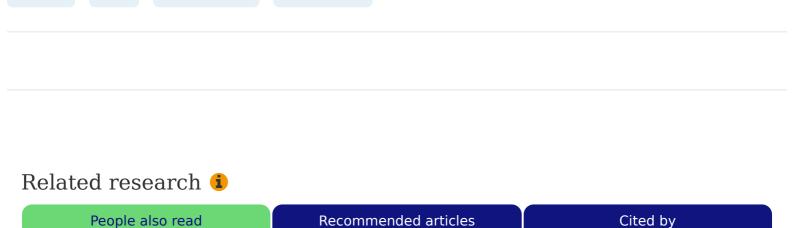
the percentage of foliar burn. At GS 30, foliar burn increased with increasing N rate with no difference in the percentage of burn being observed between sources. At GS 32, foliar burn again increased with increasing N rate; however, UAN-S resulted in significantly greater foliar burn than UAN at both N rates. Despite the increased foliar damage that occurred when UAN-S was topdress-applied at GS 32, there was no reduction in grain yield compared with UAN or either of the soil-applied sources at either growth stage. Although there was no evidence of a grain yield response to added S in this study, many soil types common to the Coastal Plain of Virginia are likely to lack sufficient S for optimum winter wheat production.

Keywords:

Nitrogen

Sulfur

Foliar fertilizer



19

Winter wheat

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email



Sign me up











Accessibility



Copyright © 2025 Informa UK Limited Privacy policy Cookies Terms & conditions



Registered in England & Wales No. 01072954 5 Howick Place | London | SW1P 1WG