Nutrient Management for a No-Till Rotation in the Argentinean Pampas. (S04-garcia170755-Poster)

Authors:

- A.A.Bianchini AAPRESID, Rosario, Argentina
- M.Ambrogio AAPRESID, Rosario, Argentina
- F.O.Garcia PPI-PPIC Southern Cone, Argentina.

Abstract:

No-tillage systems have grown significantly in the Argentinean Pampas during the last decade (a total of 11 million ha in 2001). Soil fertility and plant nutrition have been a main concern for grain crops in the Pampas. A threeyear on-farm experiment was conducted in replicated field strips. Ten sites were cropped in a rotation of no-till wheat, double crop soybean, corn, and full season soybean. Soil samples (20-cm depth) were taken before planting and leaf samples were taken from the corn crops at R1 growth stage. Treatments were 1) Control, 2) NP, 3) NPS, 4) NPSK, 5) NPSKMg, and 6) NPSKMg + BZnCuMo. Significant yield responses to NP were found in wheat (1120 kg ha-1), and corn (3350 kg ha-1) in all sites, and S (NPS vs. NP) only in corn (1112 kg ha-1) in 5 of 10 sites. Double crop soybean was affected by drought, but 3 sites showed responses to S. One site showed significant responses to NP and S for full season soybean. Soil test P showed high temporal variability at one site (soil P (Bray 1) varied from 12 to 31 mg P kg-1 in the control). There was a significant correlation between corn yield and leaf N (R2=0.83) and P (R2=0.80), but there was no correlation with leaf S.

Corresponding Author Information:

Fernando Garcia PPI-PPIC Southern Cone Ayacucho 2928 Olivos, BA 1636 Argentina phone: 54 11 4798 9939 fax: 54 11 4798 9939 e-mail: fgarcia@ppi-ppic.org

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