

GLOBAL PARTNERSHIP ON NUTRIENT MANAGEMENT

BMP Case Study

Overview

Name: Site-specific Soil Management for Improved Water Use Efficiency

Location/Terrain: Santa Rosa, La Pampa, Argentina

Crop(s): Cover Crops

Nutrient(s): Water Usage, Conservation Tillage/Erosion Control

Rationale: Improve crop water use efficiency through site-specific management

Issue(s) of Concern/Challenges:

Improve crop water use efficiency.

Practice Description:

Use scientifically proven criteria to delineate management zones in order to improve crop water use efficiency. Site-specific management is of particular interest for which agro-ecological conditions impose strong limitations for crop production. Site-specific management will result in higher economic and environmental benefits in marginal lands.

Practice Objectives:

Representative Project Land with approximately 800 hectares of corn, soybeans, sunflowers and sorghum has been rotated with cover crops of annual legumes, cereal with zero tillage and rational grazing of beef cattle. Differential plant densities and rates of fertilizer application were also incorporated. These practices were implemented through consultation among farmers in the area and collaboration between Facultad de Agronomía UNLPam and CREA Oeste arenoso and Atreuco groups.

Outcomes:

Reduced wind and water erosion, less salinization in the low areas affected by saline groundwater, improved crop productivity and higher profitability. Gully erosion was completely prevented by the continuous cover on the soil using no-till and cover crops. Wind erosion in the high slopes was also greatly reduced by the combination of these techniques. The use of site specific and fertilizer management



improved crop performance in different landscape positions and therefore contributed to better crop development and soil cover.

Significance:

This project has shown that soil conservation saves financial and natural resources and can be profitable.

Data/Graphs:

Cost in Argentine pesos:

Cover crop seeds and planting: ~ 120 ARS/ha

Rental of a precision agriculture planter: 250 ARS/ha



For more information, please contact Chuck Chaitovitz at chuck.chaitovitz@gef.org or visit www.gpa.unep.org/index.php/global-partnership-on-nutrient-management.

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