Transition Challenges Associated With Implementing Organic Agriculture Research. (S06-karlen090328-Poster)

Authors:

- D.L.Karlen USDA-ARS, Ames, IA
- K.Delate Iowa State University
- L.R.Gibson *Iowa State University*
- E.C.Brummer Iowa State University

Abstract:

The conversion of 8 ha from conventional corn and soybean production to multi-year rotations including alfalfa, red clover, corn, food-grade soybean, medic, and triticale initiated this participatory, field-scale watershed study. Weed control was our major challenge because of high populations of giant and yellow foxtail, waterhemp, common lambsquarters, Pennsylvania smartweed and velvetleaf. First-year crop yields averaged 3 Mg/ha for the alfalfa/red clover hay, 13,400 marketable ears/ha for sweet corn, 4.8 to 7.7 Mg/ha for field corn, and 0.8 to 1.4 Mg/ha for soybean. Cumulative red clover and alfalfa yields averaged 5.6 and 7.1 Mg/ha after two cuttings in the second year of transition. Medics did not perform well because of poor stand establishment. The triticale variety ('Pika') was extremely tall and had to be harvested as forage (14.6 Mg/ha) because of lodging. However, because of excellent weed control the sweet corn/triticale/medic crop sequence may be an effective two-year rotation for making the transition from conventional to organic production. Starting the transition process with row crops (corn or soybean) was not practical because of the high weed seed population.

Corresponding Author Information:

Douglas Karlen USDA-ARS, NSTL 2150 Pammel Drive Ames, IA 50011-4420 phone: (515)-294-3336 fax: (515)-294-8125 e-mail: Karlen@nstl.gov

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