

Title: PEI Certified Organic Producers Co-op 2012 Soybean Field Trial Results and No-Till Organic Soybean Production Field Trials with Roger Henry

Time: Saturday November 24th, 2012 3:00 pm

Executive Summary:

A comparison of 4 different ways of planting no-till soybeans into winter rye was done in 2012: The rye was destroyed or knocked down by either a crimper roller, land roller, flail mower or roto-tilling in the rye. This study compared the 4 methods and used 2 different varieties of soybean.

Summary of yields – 2 varieties and 4 reps, both yielded more with the crimper roller than with the flail mower. The land roller method was comparable to the crimper roller.

Slide 1 – Simple 4 Step Procedure

Plant the winter rye in September

Roll the rye

Plant the soybeans no-till

Harvest the crop

If you plant your winter rye in September, it will be 50% in flower by the first week of June. If it's not in 50% flower, there is too much of the rye in the vegetative stage and you will not be able to destroy it enough by rolling. The later you plant the rye, the later it will go to seed the next spring.

Slide 2 – Rolling Rye – crowfoot roller, traditional land roller

Slide 3 – image of rye after being passed with the traditional Roller

Slide 4 – Tye drill with wavy coulters, this was the more aggressive coulters. This was done with no fertility added to the

field. Ph was 6-6.2

Slide 5 – image of field following planting

Slide 6 – image of crop Aug 31, 2011 with virtually no weeds.

Slide 7 – image of harvest Nov 2,

Slide 8 – image of good ground cover

Slide 9 – image of field that had Round-up ready soybeans, they can cause erosion problems. Once Round-up is used, there's nothing left.

Slide 10 – 2012 – setup of experiment to compare four different ways to knock back the rye. Plots were 8m x 8m and then split each plot with 2 varieties.

If you plant your winter rye in September, it will be 50% in flower by the first week of June

Slide 11 – option #1 crimper roller, able to borrow it from NSAC, but it causes more destruction of the rye plant itself than the land roller.

Slide 12 – this systems does offer a one pass planting option (didn't use this method)

Slide 13 – option #2 land roller, rolled it one way and then rolled it in the opposite direction

Slide 14 – option #3 Flail mower, left 2-inch stubble freshly mowed

Slide 15 – option #4 Roto - tilling in the rye, tilled-in and planted a few days after tilling

Slide 16 – image of crimper roller crop

Slide 17 – image of land roller crop, odd weed

Slide 18 – image of flail mower, seem to have more rye in those plots

Slide 19 – conventional one

Slide 20 – Plots at Harrington Research Farm, had no rain between July 4th and August 20th so it was very dry

Slide 21 – DH420 soybean variety

Slide 22 – combined the crop in mid-October, had too many

Weeds, went back Nov 5th and could combine it easily.

Slide 23 – No till plot Nov 5th –

Slide 24 – Summary of yields – 2 varieties and 4 reps, both did better with crimper roller than with the flail mower. Land roller was comparable to the crimper roller.

Slide 25 – harvesting options – recommending screen on the bottom of the elevator column to reduce weed seed from the soybeans

Slide 26 – plans for next year, hoping to repeat the trial and to attract interested partners

Rye has an incredible ability to suppress other plants. Almost had 100% suppression when I no-tilled in the rye of grass plants and brassica plants.