Evaluation of Soybean Yield by Relative Maturity in a Barley Double Crop System

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Objective

To compare 2.8 and 3.4 relative maturity soybean varieties by yield in a barley double crop system.

Background

Crop Year: 2009
Location: Glen Feichtner Farm
County/Town: Crawford
Soil Type: Bennington
Drainage: non - systematic
Previous Crop: Barley
Tillage: No – tillage
Soil Test: pH 6.6, P 23 ppm, K 123 ppm
Planting Date: June 24, 2009
Fertilizer: 102-69-60 for barley and soybeans
Soybean Seeding Rate: 210,000 seeds/acre
Soybean Harvest Date: Nov. 11, 2009

Methods

Fall planted Pennco barley was harvested June 23 and yielded 84 bushels over the treatment area. Soybeans were planted June 24, 2009 with 20 foot Great Plains Drill in 8 inch row spacing. Treatments were two soybean varieties of different maturities (average wheat harvest date was estimated to be July 1 in Crawford County). A completely randomized design was used with uneven treatment replications of four for the Asgrow 3402 variety and 3 for the Pioneer 92Y80 soybean variety. Soybean plots were 20 feet by about 600 feet long (individual plots were measured to determine length). A weigh wagon was used to determine soybean yield.

Treatments
1) Asgrow 3402
2) Pioneer 92Y80

Results

Table 1. Moisture and Yield of Double Cropped Soybeans by Maturity

	Moisture	Yield (bu/A)
Asgrow 3402	13.8	38.8
Pioneer 92Y80	14.0	38.4
LSD (P=0.05)		NS
CV(%)		3.4

Summary

This study was conducted in north central Ohio where soybean double cropping following wheat harvest is not well adopted because there is often not sufficient time for the growth and development of the double crop soybeans.

For this single-year relative maturity soybean yield study in a barley double crop system, there was not any significant difference between the soybean varieties over yield. It should be noted that harvest (November 11) was relatively late due to slow maturing soybeans. However, when soybean samples were taken to a local elevator to be graded, there was not any dockage assigned to the samples.

There is not an established market for barley; however it is an excellent livestock feed for beef cattle with a relative feed value similar to corn and the farm cooperator is feeding barley in a beef finishing ration (replacing corn in the ration). For a steer on feed 200 days, approximately 10 bushels of corn might be replaced by rolled barley (depends upon the specific ration being used).

Barley will often mature and be harvested about 2 weeks prior to wheat harvest. The extra 2 weeks of growing season afforded by the earlier harvest of barley relative to wheat offers a better probability of obtaining higher yields of double crop soybeans (conventional soybeans for county averaged 52). Thus, for those producers who have an option to feed barley, a barley double crop system may offer another cropping alternative. Depending upon the level of yield increase of the soybeans, barley/soybean systems may offer greater returns where barley can replace corn in a livestock ration than wheat/soybean double crop systems. Further evaluation of this system is planned for 2010.

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