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Low Linolenic Soybean Variety Trial

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Abstract

This project is designed to compare the yields of the new Iowa State low linolenic soybean varieties with soybean varieties commonly grown in the territory covered by the Southeast Research Farm near Crawfordsville, Iowa. The territory where these low linolenic soybeans were grown was fairly broad, so the varieties used in this trial varied by one maturity range. The new low linolenic soybean varieties are adapted to the area surrounding the research facility, and producers will need performance data to determine whether the premium offered for growing the new soybeans is adequate. Premiums are designed to cover yield drag and identity preservation costs.

Disciplines

Agricultural Science | Agriculture

Low Linolenic Soybean Variety Trial

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Introduction

This project is designed to compare the yields of the new Iowa State low linolenic soybean varieties with soybean varieties commonly grown in the territory covered by the Southeast Research Farm near Crawfordsville, Iowa. The territory where these low linolenic soybeans were grown was fairly broad, so the varieties used in this trial varied by one maturity range. The new low linolenic soybean varieties are adapted to the area surrounding the research facility, and producers will need performance data to determine whether the premium offered for growing the new soybeans is adequate. Premiums are designed to cover yield drag and identity preservation costs.

Materials and Methods

The study was planted into cornstalks that had been fall-chiseled and spring-field cultivated before planting. No fertilizer was applied to the plot area since a soil test indicated that fertility levels were adequate (pH 5.9, P 55 ppm, K 200 ppm). The plots were planted on May 11 at a rate of 178,000 ppa in 30-in. rows. The herbicides used in a burndown on May 13 were Pursuit Plus, Roundup Weather Max, AMS, and NIS. A postapplication of Poast Plus, crop oil, and AMS was applied on June 25.

Results and Discussion

The characteristics of the six varieties grown in this trial are shown in Table 1. The plot area had an SCN count of 400 eggs/100 cc of soil (data not shown), which suggests that nematodes were not a major problem in this trial. The plot yield average was 55.1 bushels/acre with individual variety yield results shown in Table 2.

This was a good year for soybean yields, especially when compared with the low yields experienced last year. No appreciable damage was observed due to weather, disease, or insects. The two low linolenic soybean varieties performed differently. The early-maturing IA2064 variety had a significantly lower yield when compared with the plot average and also when compared with the variety in the same maturity range. A three to five bushel difference is consistent with plot tests done at other locations. The IA3017 variety yield was not significantly different from the plot average and also not significantly different from the other variety in the same maturity range. The IA3017 variety does not appear to carry any yield drag when compared with varieties in the same maturity range. This trial did show the typical trend of the later-maturing varieties yielding better, especially in a good soybean year. Improved varieties are presently being grown in Argentina to replace both the IA2064 and IA3017 varieties. The improved varieties have been shown to yield better in separate yield trials.

Table 1. Characteristics of varieties used in the low linolenic soybean variety trial.¹

<u>Company</u>	<u>Variety</u>	<u>Maturity</u>	<u>Comments</u>
Iowa State	IA2064	2.7	Low linolenic
Mycogen	5B288RR	2.8	SCN
Pioneer	93B09	3.0	RR
Iowa State	IA3017	3.1	Low linolenic
Stine	S3532-4	3.5	RR, SCN
DeKalb	DKB37-51	3.7	RR, SCN

¹The study was randomized and replicated three times.

Table 2. Yield results of varieties grown in the low linolenic variety trial.

<u>Variety</u>	<u>Yield</u>	<u>Maturity</u>
IA2064	49.8	2.7
5B288RR	55.4	2.8
93B09	54.5	3.0
IA3017	54.7	3.1
S3532-4	59.6	3.5
DKB37-51	56.8	3.7