What to look for in choosing soybean varieties

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Abstract
It’s important to give as much thought to the process of choosing soybean varieties as you give to choosing corn hybrids. If you only choose one or two soybean varieties and don’t take into consideration the management and environmental factors of your farming operation, you are likely limiting yield potential.

Disciplines
Agricultural Science | Agronomy and Crop Sciences | Plant Breeding and Genetics | Plant Pathology

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RIGHT CHOICE: When harvest wraps up, evaluate the soybean varieties you planted and begin thinking about what seed to plant next year.

What to look for in choosing soybean varieties

You can’t achieve high yields from low-yielding genetics.

Oct 13, 2017

By Mark Licht

It’s important to give as much thought to the process of choosing soybean varieties as you give to choosing corn hybrids. If you only choose one or two soybean varieties
and don’t take into consideration the management and environmental factors of your farming operation, you are likely limiting yield potential.

Many of the factors that apply to choosing corn hybrids apply to soybean variety selection as well. Choose high-yielding soybean varieties. You can’t achieve high yields from low-yielding genetics. Look for varieties that perform well from field to field and year to year. Take into account your unique management and environmental situation by choosing varieties that are well-suited for your management practices and field conditions.

When weighing these factors, use all the data you can find to make your decision. Look at performance trials conducted by a university, your own performance trials, seed company reports, and strip trial results from other farmers, FFA chapters and cooperatives.

**Maturity selection**
Maturity selection is another thing to keep in mind when you choose soybean varieties. You can minimize the effects of adverse weather and expand the harvest window by planting varieties with different maturities. Generally, later-maturing soybeans have higher yields. But it can be a challenge to compare maturities among seed companies. Actual maturities may vary and are highly influenced by environmental factors.

It is recommended to plant varieties with a range of 0.5 to 1.0 maturity group. For example, if 2.5 maturity group beans are recommended for your area, you can probably plant a variety that’s in the 2.0 to 3.0 maturity group range and be fine. A 1.5 to 3.5 might be too early or too late.

**Disease and herbicide traits**
Transgenic options in soybean varieties are limited to the various herbicide traits. Choose the herbicide traits and technologies that make sense to achieve control of your weed populations. Plant breeding efforts have resulted in the development of soybean varieties with resistance or tolerance to soybean cyst nematodes (SCN),
sudden death syndrome (SDS), brown stem rot, iron deficiency chlorosis (IDC), white mold and phytophthora.

In Iowa, the most important trait to look for is resistance to SCN, since SCN can reduce soybean yield by up to 30%. SCN is known to interact with SDS and IDC. Because of this, managing SCN is extremely beneficial in the presence of SDS and IDC. Management of SDS and IDC can be particularly effective when using genetic selection to minimize impacts in the field. However, newer pesticide technology is also available for SDS control.

Soybean varieties are often rated for phytophthora and white mold resistance. Identifying varieties with resistance or tolerance to these diseases should be considered. However, don’t sacrifice high-yielding genetics. All these factors need to be balanced with what can be managed by genetic selection or other available control measures.

**Standability and shattering**
Standability and shattering should also be considered. Soybeans planted at higher seeding rates or in fields with high fertility are more susceptible to lodging due to taller plant growth. If lodging becomes a significant factor in your fields, it could reduce yield and slow harvest progress. Pod shattering is typically associated with harvest delays, where seed moisture falls below 13% and then goes through rehydration and drying cycles. Shattering can be minimized by paying attention to variety scores, as well as selecting a range of soybean maturity groups.

Finally, as you consider all these factors, don’t forget to keep seed cost in mind. The highest-yielding variety may not be the most profitable. Seed cost must be balanced with yield potential, as well as other management costs. Using genetics to manage weeds, insects and diseases may provide a greater return on investment than relying on pesticides, or at least it will provide an alternative for risk management.

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