

How to Select Soybean Products

- When selecting a soybean product, growers look to maximize yield potential and minimize production risks.
- The maximum yield potential of a soybean product is genetically determined and can only be achieved under ideal environmental and management conditions.¹
- Planting products with different relative maturities can help decrease production risks and improve harvest efficiency.

For most growers, the main goal when selecting a soybean product is to maximize profit potential. It may be tempting to select a soybean product with the highest yield based on trial data; however, this may not be the best choice for a given operation or field environment. Managing risk is very critical with the increasing cost of soybean production. Soybean characteristics that should be considered in the soybean product selection process are yield potential, disease/pest resistance, maturity group (MG), product traits, plant height, and standability.

Field characteristics should be analyzed and then matched to a soybean product for the best fit. Refer to field history for past problems with pathogens, insects, or weeds to determine what soybean product characteristics or traits can provide the highest yield potential.

Product Yield Potential

Generally, the first selection criteria when evaluating soybean products is yield potential, followed by various agronomic characteristics. Product performance in plots across multiple locations and years can indicate the consistency and yield potential of a product. Yield data also can help indicate which environmental conditions the product tends to excel in. Multiple locations and several years of data can help provide reliable yield information on which to base selection decisions.

Yield trial information is typically available from seed companies for their own product trials in comparison to competitors for a given region. State University Extension Services also have soybean product trial results available to growers.

Disease/Pest Resistance

It is important to evaluate products for tolerance or resistance to pests that are common in your geography.

The characteristics of a soybean product selected should match with key management issues for a field. Planting a soybean product with resistance to major soybean diseases or nematodes species is an effective and

economical method of risk management (Figure 1). Many companies rate soybean products according to their tolerance or resistance to different soybean pests. Some soybean products have been bred for resistance or tolerance to Phytophthora root rot, soybean cyst nematode, root knot nematode, and some leaf diseases.² When any of these pests are a known problem, selection of a soybean product with resistance or tolerance can improve yield potential and reduce the need for other forms of pest management.

Maturity Groups

Soybean maturity classification describes the time from flowering to harvest maturity.¹ Selection of a soybean product that is too early or too late for a specific location can result in reduced performance potential.² It is suggested that the latest soybean product selected is one that reaches physiological maturity just prior to the date when there is a 20% chance of a killing frost. Growers



Figure 1. Soybean products are bred for tolerance or resistance to diseases of pests such as root knot nematode (top left), frog-eye leaf spot (bottom left), and Phytophthora root rot (right).



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should plant a combination of different MGs to help minimize the risk of drought by spreading out flowering, seed fill, and maturity.¹

Standability and Soybean Plant Height

Taller soybean varieties are more susceptible to lodging (Figure 2). Fertile soils with adequate moisture stimulate vegetative growth, increasing lodging potential. Refer to the lodging rating of the soybean product to help with selection. If lodging is a problem with a full-season product, a shorter season product, may reduce standability problems.

Other agronomic practices that can help reduce lodging potential include: lower seeding rates, planting earlier or later than normal, or selection of a product that is a shorter plant type.

Additional Considerations

Some soybean products have unique grain composition characteristics that will provide growers a premium price when sold. Soybean seeds with high oil, protein, and amino acid content may improve the value of a soybean crop, depending on marketing. Soybean products may also be grown for a specific food use with required management practices. In these situations, a soybean product or specific listing of products may be provided.

Only high-quality seed should be planted with uniform size, no cracked coats or discoloration, and with a high germ rating. Certified seed from dealers must meet quality requirements. High quality seed is always important to the overall performance of a soybean product.



Figure 2. Lodged soybean plants. Soybean products should be selected based on their susceptibility for lodging.

Summary

It can be difficult to determine what soybean product is best fit for each field situation, but evaluating university and company research trials and testing with on-farm plots can help in determining the right soybean for an operation.

Sources:

¹ Pederson, P. Variety selection. Iowa State University Extension. <http://extension.agron.iastate.edu/> (verified10/14/14).

² Helsel, Z.R. and H.C. Minor. Soybean variety selection. University of Missouri Extension. Pub. G4412. <http://extension.missouri.edu/> (verified10/14/14).

For additional agronomic information, please contact your local seed representative.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

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