Dealer Provides "Recipe For High-Yielding Soybeans"

Shows customers how to become top producers by following proven six-step program.

Opportunities exist each year for high-yielding soybeans. It is an ongoing process at Twin State to encourage our customers to update and follow specified procedures or steps with an eye toward improving current yield levels. That such a program deserves our attention is made abundantly clear by a recent survey that shows most farms are planting as many acres of soybeans as corn (Table 1).

Extra 15.2 bu/A

The Iowa Soybean Association's "Producers' Profi tability Program" survey has clearly demonstrated that there are signifi cant production levels (yields) and cost of production differences between the top 20 percent producers and the bottom 20 percent. The top 20 percent are producing an extra 15.2 bu/A at an additional cost of only $18.52/A.

Value of rotating

The value to the grower of soybeans in a crop rotation is well supported by data that show it:

- produces 10 percent higher corn yields
- requires 50 lbs/A less nitrogen (N) for the corn crop in a corn/soybean rotation
- generally requires no soil insecticides for first-year corn
- promotes biodiversity for weed management and disease control options.

Bunching the above together, they have a value to the farmer approaching $65/A when soybeans

Table 1. Planted acres for 1999 to 2003 in the U.S.

Year	Corn	Soybeans
	millions of acres	
1999	80.2	72.0
2000	77.4	73.7
2001	79.6	74.3
2002	75.8	74.1
2003	79.1	73.8

Table 2. Critical observations on high-yielding soybeans in the new millennium (2001 to 2004).

Observations	2001	2002	2003	2004	Avg.
Avg. yield (bu/A)	75.1	68.9	71.8	70.2	71.5
P&K fertilizer applied	16/18	15/18	12/20	15/18	78%
Chisel	15/18	11/18	14/20	16/18	76%
Previous crop (corn)	18/18	18/18	20/20	18/18	100%
P_1 (ppm)	38	27	35	22	30
K (ppm)	280	202	324	165	243
Zn (ppm)	3.8	2.4	3.5	1.7	2.8
Mn (ppm)	15	10	10	10	11
CEC (Meq)	17.5	18.6	16.5	17.5	17.5
Planting date	4/26	5/03	4/26	4/18	4/26
Highest yielding plot (bu/A)	78.6	75.8	76.5	72.5	75.8

Source: Twin State, Inc., Ag 10 Research Center, Walcott, IA.

are grown in cropping rotation.

Seed and hope?

The typical management program for too many of our current soybean producers is to plant the seed, spray RoundUp throughout the growing season, and hope and pray they get a crop. For some producers, this kind of program may be acceptable; but for top producers, such a program is unacceptable and falls short of profitable production levels.

Six-step program

From the Twin State, Inc. Agronology 10 Research Center, as well as university research, a proven recipe for high-yielding soybeans has been formulated. The specific elements of this recipe are outlined in a six-step program that directs the grower to:

- plant early
- use fungicidal seed treatment
- select varieties with defensive traits
- use narrow rows
- directly fertilize the soybeans
- kill damaging insects and control soybean diseases.

The results of this total soybean management program are fully attested to in Table 2, showing the yield levels attained in the new millennium at Twin-State's Agronology 10 Research Center in Walcott, Iowa. By using our "Recipe for High-Yielding Soybeans" program, we have controlled downside risks not only for ourselves but also for our growers, and greatly enhanced their yield opportunities.

Averaging 71.5 bu/A

In each of the last four years, the top-yielding 18 or 20 plots (total of 74 over four years) have been reviewed. The combined yield average of these 74 plots is 71.5 bu/A. Of these 74 high-yielding plots, approximately 80 percent were directly fertilized in the fall with a dribble band fertilizer application of 13-40-80, which would approximate the phosphorus (P) and potassium (K) removal values for a 60 bu/A soybean crop (x-36- 84). The addition of 10 lbs/A of sulfur (S) via ammonium thiosulfate (ATS) to fall dribble-applied 13-40-80 has enhanced yields by an average of 3.4 bu/A (Table 3).

Selecting varieties

Thus far, we have shown the value of fertilization in a high-yielding recipe for soybean production. While your growers may well be focused on their fertility needs, they need to be equally focused and educated concerning varietal selection. Items that need their attention include:

- maturity grouping
- disease rating

1. phytophthora – needs Rps 1k or Rps 1c
2. brown stem – medium to high field tolerance
3. white mold – high tolerance is best
4. sudden death – desire moderate resistance (MR)
5. other considerations:
   a. soybean cyst - new cyst hybrids
   b. iron chlorosis
   c. emergence scores.

No half way

To gain maximum benefi ts for soybean yields, the *entire* recipe (six-step program) for high-yield soybeans must be followed. Each component adds to the overall yield potential of the soybean crop. Advise your grower that there is *no halfway* on this. To become a top soybean producer, he must adopt the six-point program outlined in this article, or a production plan similar to it.

Table 3. Influence of sulfur on soybeans for 2001 to 2004

Fall Dribble Band	Avg. yield (bu/A) 2001-2004	$/A	
		Cost	Net
13-40-80	66.1	–	–
17-40-80-10S	69.5	3.52	16.20

Source: Twin State, Inc., Ag 10 Research Center, Walcott, IA
ATS = 183.48 T; soybean price: $5.80/bu

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