

Low-Linolenic Oil Organic Soybeans

Iowa is a leader in a new kind of soybean thanks to ISU plant breeder Walt Fehr and to several farmer organizations that are promoting soybeans low in linolenic acid. The oil from these “low-lin” soybeans does not require hydrogenation to prolong shelf life, and thus it is healthier for the consumer. Soybeans that are low in linolenic acid but otherwise conventionally grown can bring a nice premium to the grower through producer associations like Asoyia™

Ron and Dottie Dunphy (Creston) compared organically grown low-linolenic acid soybeans and tofu soybeans at their 2005 field day. So did the **Neely-Kinyon Research Farm** (Greenfield) in a variety trial carried out by ISU organic specialist Kathleen Delate. Most organic farmers in Iowa grow soybeans for the tofu and soymilk markets. The market for organic low-lin soybeans is not well developed, but so far the premium is less than that for tofu soybeans. Ron figured \$20 per bushel and \$14 per bushel for tofu and low-lin, respectively. On the other hand, low-lin varieties are reputed to yield better than tofu beans. And unlike tofu bean producers, low-lin growers do not have to be concerned if seed staining occurs.



Vivan Jennings of ASOYIA showing products from low-linolenic acid soy beans.

So what did the trials tell? [Table 3 \(click to view\)](#) shows in the Dunphy trial there was a small but statistically significant (1.2 bushel) yield advantage to the low-linolenic acid soybeans. But 1.2 bushels wasn't nearly enough to make up for the \$6-per-bushel price difference on the other 50 bushels. At the Neely-Kinyon Farm, tofu-type beans yielded the same or even more than the low-lin soybean, making the premium difference irrelevant. Based on current conditions, organic low-linolenic acid soybeans is a niche probably “not ready for prime time.” This could change if the organic low-lin market develops and if transportation becomes easier.

Table 3. Organic Low-Linolenic vs. Tofu Soybean Trials

Organic Low-Linolenic vs. Tofu Soybean Trials

| COOPER- ATOR | CROP | TREATMENT "A" | | | TREATMENT "B" | | | DIFFERENCE | | | | COMMENT |
|-----------------------------|--------------|--------------------------------|----------------|------------------------|-----------------------------------|----------------|------------------------|----------------|---------------------|-------------|--------------------------|-----------------------------------------------------------------|
| | | DESCRIPTION | YIELD (bu.) | TREAT- MENT COST | DESCRIPTION | YIELD (bu.) | TREAT- MENT COST | YIELD DIFF. | YLD LSD (bu.) | YLD SIG. | \$ BENEFIT OF TRT "A" | |
| DUNPHY (2005) | SOY- BEAN | LOW-LIN SOY- BEAN, ISU 3017 | 51.0 | \$20.00 | TOFU SOYBEAN, ISU 3011 | 49.6 | \$20.00 | 1.4 | 1.2 | * | (\$277.75) | LOW-LIN VAR YIELDED SIG. MORE BUT TOFU VAR. PAID BETTER |
| NEELY-KIN- YON (2005) | SOY- BEAN | LOW-LIN IA-3017 | 50.7 | | TOFU BEAN SCHIL- LINGER 240F.Y | 54.1 | | -3.4 | | N.S. | | RESULTS COURTESY OF KATHLEEN DELATE, ISU ORGANICS PROGRAM |
| | | | | | TOFU BEAN PIONEER 9305 | 60.1 | | -9.4 | | * | | LOW-LIN SOYBEAN YIELDED SAME OR WORSE THAN TOFU BEANS |