

February 11, 2000

TO: SCN and Uniform Test Participants

FROM: Cecil D. Nickell, 217-333-9461, FAX 217-333-9817
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RE: Release of LN95-5414 (*Loda*) from Illinois.

The Director of the Illinois Agricultural Experiment Station (IAES) at the University of Illinois has approved the multiplication and release of the soybean strain, LN95-5414 (*Loda*). An application for Plant Variety Protection Certificate will not be filed. **Seed will be sold through seed certification, limited to Foundation and Certified classes of seed.** Publicity release will be August 1, 2000.

Loda originated as an F₄Bplant selection from the cross of Jack H IA3003 made at the Illinois Agricultural Experiment Station. The cross was made in the field in the summer of 1992, and the F₁ generation was grown in the field in 1993. The F₂ and F₃ generations were advanced by single-pod bulk method in Puerto Rico during the winter of 1993B1994 and the F₄ generation was grown at Urbana in the summer of 1994. In the greenhouse during the winter of 1994B1995, progeny from single plants selected in the summer of 1994 were evaluated for resistance to Races 3 and 4 of SCN and resistance to Races 1 and 3 of phytophthora rot (*Phytophthora sojae* M.J. Kaufmann & J.W. Gerdemann). The F₅ generation was grown as plant rows in 1995. Single plant rows were selected, composited, and evaluated in replicated yield trials in Illinois, 1996 through 1999. *Loda* was evaluated as LN95-5414 in the Uniform SCN II Test in 1998 and 1999 in the Northern Regional Soybean Cyst Nematode Test, 1999 (Table 1) and in the Uniform Northern Regional Test, 1999 (since the seed source had poor germination, Uniform Regional data is not presented).

Loda is an indeterminate line classified as Group II maturity (relative maturity 2.1) maturing the same as IA2036, 1 day later than IA2021 and 3 days earlier than Dwight. Compared with IA 2021 at 10 locations without SCN, *Loda* was 5% higher in seed yield. Compared with IA 2021 at 17 SCN-infested locations, the averaged seed yield of *Loda* was 29% higher (44.4 vs. 57.1 bu/a). When compared with IA2021 at 27 locations, *Loda* was 2 in. taller, and had 1.2 % higher seed protein (40.5 vs. 41.7 %).

Loda has purple flowers, gray pubescence, brown pods at maturity, and dull yellow seeds with gray hila. It may have up to 2% other types. *Loda* is susceptible to phytophthora rot (Races 1, 5, 7, 25, and 30), brown stem rot (*Phialophora gregata* (Allington & D.W. Chamberlain) W. Gams], and sudden death syndrome (*Fusarium solani* (Mart.) Sacc.). When evaluated against SCN in the greenhouse, *Loda* is resistant to Races 3 and 4. 76 units (50 lbs/unit) of seed were produced in 1999.

Seed production of *Loda* is restricted to **Foundation and Certified** classes beyond Breeder seed. A research and development fee of \$.70 per 50-lb. unit will be collected on **Certified** seed sold.

This fee collected in each state will be shared, one-half could remain within the state and one-half would be returned to D. Thompson, Illinois Crop Improvement Association (fee collection agent in Illinois). No Plant Variety Protection application will be filed.

In addition, **Loda** will be handled through a seed marketing system similar to Kansas, Illinois, and Missouri (see attachment). Dennis Thompson 217-359-4053, Illinois Crop Improvement Association, 3105 Research Road, P. O. Box 9013, Champaign, IL 61826-9013 will be the contact to implement and organize the marketing system.

Table 1. Agronomic performance of selected soybean lines in Regional Soybean Cyst Nematode Tests, 1998-1999.

	Yield		Maturity NI	Lodging score	Plant in	Seed			
	I	NI				height score	quality cg	weight %	protein %
	bu/a		date	score	in	score	cg	%	%
Locations	17	10	26	28	27	21	27	14	14
Dwight	55.1	59.3	Sept. 22	1.5	34	1.5	14.0	41.9	19.8
IA2021	44.4	56.3	Sept. 18	1.6	31	1.5	15.9	40.5	21.2
IA2036	52.5	51.9	Sept. 19	2.6	40	1.8	14.7	42.1	19.5
Loda	57.1	58.9	Sept. 19	1.5	33	1.7	16.8	41.7	20.6

NI = non-infested and I = infested with soybean cyst nematode.

Lodging score: 1 = all plants erect to 5 = all plants down.

Seed quality score: 1 = very good to 5 = very poor considering the degree of wrinkling, defective seed coat, greenishness, and rotten seeds.

cc: R. Warner
D. Kranz
G. Heichel
R. Denhart
D. Thompson