

2006

Solution Days

The New Soybean – *A Changing System*

Use & Copyright

The materials in this document were developed by and for use by University of Nebraska–Lincoln Extension in the Institute of Agriculture and Natural Resources. The materials are copyrighted by the Board of Regents of the University of Nebraska–Lincoln on behalf of the University of Nebraska–Lincoln Extension. All rights are reserved.

Copies may be printed for individual personal use; however, these materials can not be republished in print, on another Web site or used commercially without prior written permission. To seek permission to print a publication for educational use, please email us at dpittman1@unl.edu.

Disclaimer

Reference to commercial products or trade names in these publications is made with the understanding that no discrimination is intended and no endorsement by University of Nebraska-Lincoln Extension is implied.

2006 University of Nebraska-Lincoln Extension
Solution Days

The New Soybean – A Changing System

Loren J. Giesler
UNL Extension Plant Pathologist

Bob Kacvinsky
Technical Support Representative, Syngenta

2006soldays-change001

Feed Your Crop Not the Weeds

Weed Management

2006soldays-change002

Feed Your Crop – Not the Weeds Weed Management

Part of a Total Management System

- Quality Seed Matched to Agronomic Needs
- Plant Uniform Population, Depth, Spacing, Timing
- Seed Treatment to Establish Maximized Stands
- Control Weeds to Prevent Nutrient, Moisture Losses
- Insect and Disease Management-Soil and Foliar
- Water Preservation - Irrigation/Water

2006soldays-change003



York, NE 2006



Lexar 3 qts Pre

Weed Competition

Weeds Compete For:

- Water – Soil Moisture
- Nutrients
- Space

**In Nebraska – Water
Is Our Most Limited
Production Input**

2006soldays-change004

Nutrient & Water Use of Weeds

Plant	N*	P*	Water*
Corn	10.1 lbs 1X	2.2 lbs 1X	349 gal = 1X Soybeans 646 gal
Lambsquarters	1.6 X	1.5 X	1.9 X
Common Ragweed	1.4 X	1.3 X	1.7 X
Redroot Pigweed	1.1 X	1.3 X	.85 X
Mustards	2.1 X	2.7 X	6.9 X

*Pounds of nutrients or gallons of water required to produce equal amounts of dry matter
Source: University of Nebraska; Weed Ecology Second Edition, Implications for Management
Ratio is fixed to Corn as 1X

2006soldays-change005

Yield Loss from Weed Competition

Weed Height at Glyphosate Application*	Average Corn Yield Loss vs. Weed-Free Control*	Bu/A Lost (180 Bu/A Goal)**	Dollars/A Revenue Lost (Corn @ \$2.10/Bu)**
2"	7%	12.6	\$26.46
4"	6%	10.8	\$22.68
6"	7%	12.6	\$26.46
9"	9%	16.2	\$34.02
12"	21%	37.8	\$79.38

Weed control = 1 application of glyphosate at weed height

*Data summarized by S. Gower and M. Loux, The Ohio State University
**Bu/A and \$/A calculated by Syngenta based on research findings: 35 University Locations

2006soldays-change006

Weed Removal Greater than Crop



**How Many
Velvetleaf ?**

**153 Velvetleaf
per sq yd
740,520 per acre**

2006soldays-change007

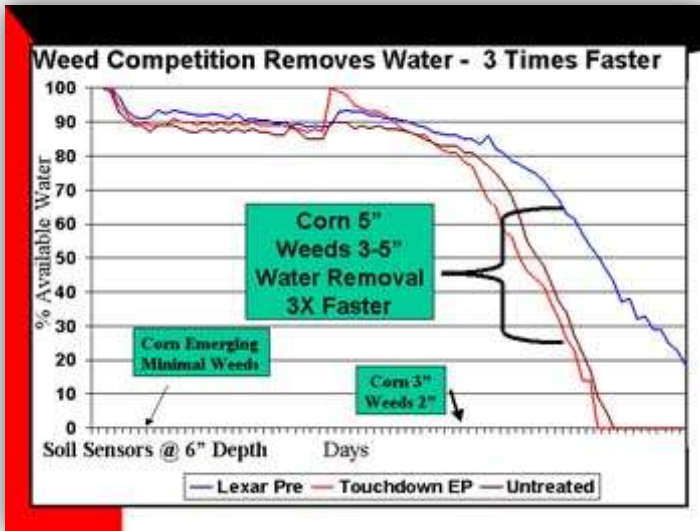
Weed Removal Greater than Crop

Plant Dry Matter

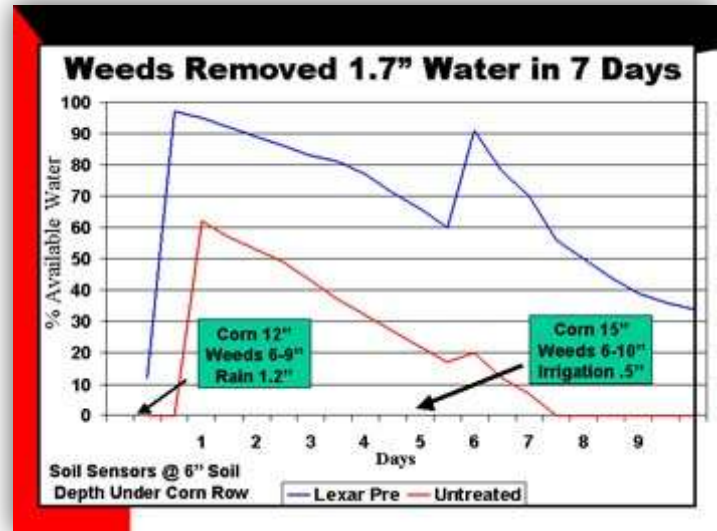
Plant (@5")	Pop	lbs/Ac	Ratio
Corn	32,000	75.9#	
Soybeans	150,000	659#	1X
Grass (3")	1.96 mil	2710#	4.1X
Kochia	740,520	2556#	3.9X
Waterhemp	740,520	3640#	5.5X
Velvetleaf	740,520	2710#	4.1X

Avg Soybean/Weed Ratio: 1:5

2006soldays-change008



2006soldays-change009



2006soldays-change010

Weed Resistance ?

Common Lambsquarters

Touchdown Total
32 fl oz + 17# AMS
Target: 6-8" Weeds

97 % Control
3 % Activity Levels
Range 20-50%

2006soldays-change011

Value of Pre Herbicide

Early Vigor and Moisture Management

No Pre Herbicide Boundary 1.5 pts Pre

York, NE 2006 Trial

2006soldays-change012

CruiserMaxx Seed Treatment

Photos: York Solution Days Trials, 5/25/2006



Untreated Soybeans
35% Defoliation
Bean Leaf Beetles

CruiserMaxx Treated
<2% Bean Leaf Beetle
Feeding Levels

Prevent Stand Loss – Maintain Plant Vigor
Get Beans Off to Strong Start

2006soldays-change013

Fungal Seedling Diseases



Pythium



Rhizoctonia



Fusarium



Phytophthora

2006soldays-change14

Insect Vected Diseases



BPMV & SMV



2006soldays-change15

Fungicidal Activity of Mefenoxam on Pythium

Apron Maxx

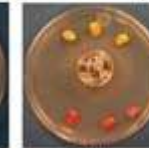
Warden



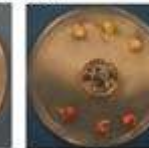
24 hr



72 hr



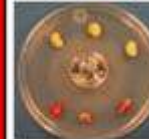
24 hr



72 hr

Cruiser

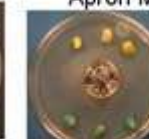
Apron Maxx + Cruiser



24 hr



72 hr



24 hr



72 hr

2006soldays-change16

Soybean Rust Update

United States Department of Agriculture
Plant Information Platform for Extension and Education
sbrusa.net

2006soldays-change17

Phytotoxicity with Fungicide Tank Mixes

- Triazole injury can occur, but varieties vary in their response.




Cross listed as
Sudden Death Syndrome triazole injury
06\$MFD-Problems005.jpg

2006soldays-change18