

Designer Crops



Bill Wiebold
Agronomy
University Extension



One reason to contract crop sales is to capture value in an identity preserved system

Identity Preserved Crops



There is something about the variety that is worth remembering.

the "something" is what you contract



Variety identification is "preserved" throughout the growth, transport, and processing cycle.

ID includes prevention of contamination

A New Way of Thinking



A specified product, not a commodity

Value is in quality, not just yield

Consider what happens after
the farm gate, not just in the
field



Commodity Grain Grading

US Federal rules and regulations

Established to aid and standardize grain commerce

Emphasizes speed of process and uniformity of commodity

Grain price is reduced by failing grade

Grain Grading

US #2 Yellow Corn

Minimum test weight	54 lb/bu
Maximum heat damage	2%
Total damage	5%
Broken corn & foreign material	3%

US #2 Yellow Soybean

Minimum test weight	54 lb/bu
Maximum heat damage	0.5%
Maximum total damage	3%
Foreign material	2%
Splits	20%
Soybeans of other color	2%

Identity Preserved Crops

~~US Federal~~ No standard rules and regulations

Established to enhance specific trait ~~and~~
~~standardize grain commerce~~

Emphasizes ~~speed of process and uniformity in~~
~~commodity~~ uniqueness

Grain price is ~~decreased~~ increased by increased
quality and lost completely by failing grade

Identity Preserved Crop Management

Use production practices that enhance the "something" that makes the variety useful

Try to limit events and conditions that decrease the "something" that makes the variety useful

Limit contamination (0% contamination is an expensive dream)

Identity Preserved Crop Management

Contamination can occur:

- seed

- planting

- in the field

- harvesting

- handling and merchandising

Limiting Contamination

Field selection

Seed selection

Isolation

Harvest and storage

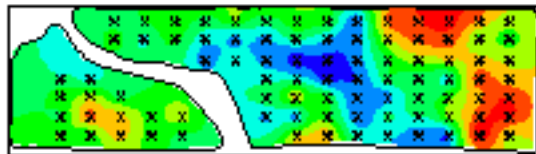
Records

Limiting Contamination

Field selection

Do soil and field characteristics affect trait?

Stearic acid



Limiting Contamination

Field selection

Do soil and field characteristics affect trait?
Reduce contamination from volunteer plants

MSIA standards:

wheat: not planted on land that was planted to
wheat in two previous seasons

soybean: not planted on land that was planted to
soybean in previous season

corn: no requirements

GMO/non-GMO???

Limiting Contamination

Seed selection

Approved list?

Non-GMO certified??

Limiting Contamination

Isolation strategies

Depends on pollination type

Self-pollinated: soybean, wheat

Cross-pollinated: corn, canola, rye

Limiting Contamination

Isolation strategies

Depends on pollination type

Self-pollinated: soybean, wheat

MSIA standards

soybean: separated by 1 row width

wheat: separated by 5 feet

Limiting Contamination

Isolation strategies

Depends on pollination type

Self-pollinated: soybean, wheat

Cross-pollinated: corn, canola, rye

MSIA Corn Standards

Rule of thumb: 660 feet, sometimes reduced to 410 feet

Minimum distance (ft) from other corn	Field size	
	1-20 acres	20 acres+
	minimum number of border rows	
410	0	0
307	2	1
330	4	2
290	6	3
245	8	4
205	10	5
165	12	6
125	14	7
85	16	8
0	-	10

Limiting Contamination

Isolation strategies

Depends on pollination type

Self-pollinated: soybean, wheat

Cross-pollinated: corn, canola, rye

Also means removal of quality reducing weeds
garlic, black nightshade, etc.

Limiting Contamination

Field selection

Seed selection

Isolation

Harvest and storage

Records

Reality Check

IP will not solve all price problems



USA corn and soybean production
9+ billion bushels of corn
2.5+ billion bushels of soybean



3 million hopper cars: 8,000 cars a day



56 miles high!

