

2005 Solution Days

Technology

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Managing Seed Technology On Your Farm

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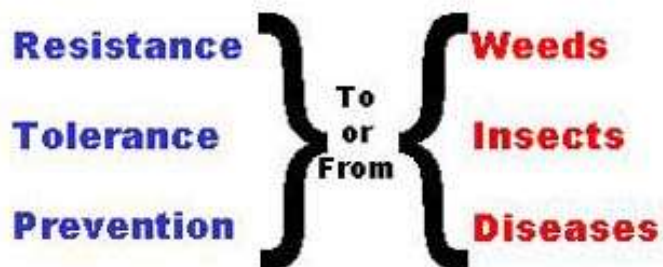
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WHAT'S IN THE BAG? Corn & Soybean



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INPUT TRAITS



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WHAT DO YOU NEED?

1. How do you know?
2. What are the alternatives?
3. What's effective?
4. What are the costs?

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WHAT'S AVAILABLE?

1. Transgenics
2. Non Transgenic
3. Seed treatments
4. Conventional plant breeding
5. Other alternatives

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CORN INSECT CONTROL TRANSGENICS

European Corn Borer

- AgriSure CB - Syngenta - BtLL Cry 1ab
- YieldGard - Monsanto - Mon 810 Cry 1ab
Corn Borer
- Herculex 1LL - Dow/Mycogen - ___ Cry 1F
Pioneer

Corn Rootworm

- AgriSure CRW - Syngenta - MIR 604
- YieldGard - Monsanto Cry 3Bb
Rootworm

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CORN INSECT CONTROL TRANSGENICS

It's Gone - Starlink **Cny 9C**

It's Coming - Syngenta VIP3

Lepidoptera Resistance	Broad Spectrum
Black Cut Worm	Fall army worm
Corn Ear Worm	Southern Stalk Borer
European Corn Borer	Southwestern Stalk Borer
Corn Rootworm	Western Bean Cutworm

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CORN WEED CONTROL TRANSGENICS

Syngenta - **AgriSure GT**

Monsanto - **RoundUp RR2**

NON-TRANSGENIC CORN WEED CONTROL

BASF - **Clearfield** - **Lightning**

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SOYBEAN WEED CONTROL TRANSGENICS

1. **Glyphosate Tolerance**
99%+ of the soybean seed sold in NE is glyphosate tolerant
2. **IC - Dicamba Tolerance**
?????

NON-TRANSGENIC SOYBEAN WEED CONTROL

1. **STS - Synchrony STS** ?????

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SEED TREATMENTS

Corn Seedling Disease

1. 60% of all NK corn hybrids are treated with Cruiser Extreme Pak
2. All seed corn is treated with some fungicide

Corn Seedling Insects

1. NK - CruiserMaxx
2. Most seed corn has an insecticide coating

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SEED TREATMENTS

Soybean Seedling Disease

1. 30% of soybeans planted in NE are treated by private seed retailers
2. NK seed treatment - ApronMaxx
- CruiserMaxx

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FUNGICIDE SEED TREATMENTS

**Corn - Maxim XL Apron
with Dynasty**

**Soybeans - ApronMaxx
- CruiserMaxx**

Primarily for seedling disease protection

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INSECTICIDE SEED TREATMENTS

OLD – Planter Box

Diazinon Chlorpyrifos

Lindane Permethrin

NEW – Seed Applied by Company

Cruiser }
Poncho } Neonicotinoids

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CRUISER – SYNGENTA

1. Thiamethoxam
 - Corn – field, sweet, pop
 - Soybeans, wheat, sorghum
2. Seed Attacking Insects
 - 1.28 to 5.1 fluid oz/100 lbs seed
 - 0.125 mg ai/kernel
 - Sold as “Extreme Pak” with Dynasty fungicide
3. Corn Root Worm
 - Moderate to light infestations
 - 5.1 to 9.0 fluid oz/100 lbs seed
 - 1.125 mg ai/kernel

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PONCHO – GUSTAFSON

1. Clothianidin
 - Registered for corn June 2003
 - Replaces imidacloprid (Gaucho & Prescribe)
2. Seed/Seedling Insects
 - 250
 - 0.25 mg/kernel
 - Black cutworm
 - 1250
 - 1.25 mg/kernel
 - Seed/seedling insects +
 - Corn root worms

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CORN ROOTWORM INSECTICIDES & YIELDS 2004

With Seed

Product	YIELD	
	Clay Center	Haskell Ag Lab
Cruiser 1.25	-	134
Poncho 1250	184	127
Capture	172	137
Rogent	196	135
Untreated 1	118	110
Untreated 2	117	128

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CORN ROOTWORM INSECTICIDES & YIELDS 2004

Soil Applied

Product	YIELD	
	Clay Center	Haskell Ag Lab
Fortress 2.5G	-	131
Aztec 2.1 G	192	121
Force 3.0 G	190	125
Lorsban 15 G	173	136
Untreated 1	118	110
Untreated 2	117	128

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PLANT BREEDING

Corn Diseases

Common Smut

Head Smut

Gray Leaf Spot

Goss's Wilt

Anthraenose Stalk Rot

Gibb Ear Rot

Fusarium Ear Rot

Corn Agronomics

Yield and Maturity

Adapt to population

Stalk strength

Root strength

Drought tolerance

Plant height

Ear height

Green snap

Dry down

Test weight

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PLANT BREEDING

Soybean Pests

Phyto resist - Gene Sp

Phyto field tolerance

White mold

S D S

S C N Race 3

S C N Race 14

Brown Stem Rot

Soybean Agronomics

Yield and Maturity

Reduced tillage

Field emergence

Hypocoty/length

Iron chlorosis

Harvest ability

Canopy width

Shattering

Plant ht

% oil

% protein

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IRM - CORN BORER - REFUGE

1. Size

20% of total field non CB

2. Distance

Within ½ mile

3. Insecticides

**- Treat non Bt/conventional
insecticide**

- No Bt Insecticide

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IRM – CORN ROOTWORM

1. **Size**
20% of total field non CRW
2. **Distance**
Within the same field
3. **Soil applied insecticides on refuge - ok**

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MANAGING HERBICIDE RESISTANCE

1. **Rotate Crops**
2. **Rotate Herbicides**
- *Different Modes of Action*
3. **Use Short Residual Herbicides**
4. **Use Best Management Practices**
5. **Tillage**

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MAKING THE DECISION ON YOUR FARM

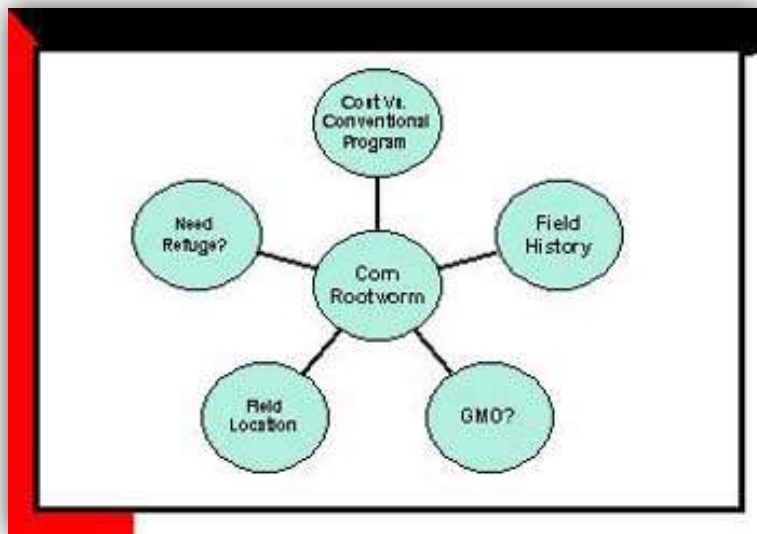
- **What technology do I use for my Farm(s)?**
 - **What drives that decision?**
 - **Profitability**
 - **Performance**
 - **Convenience**
- **Input traits vs Output Traits**

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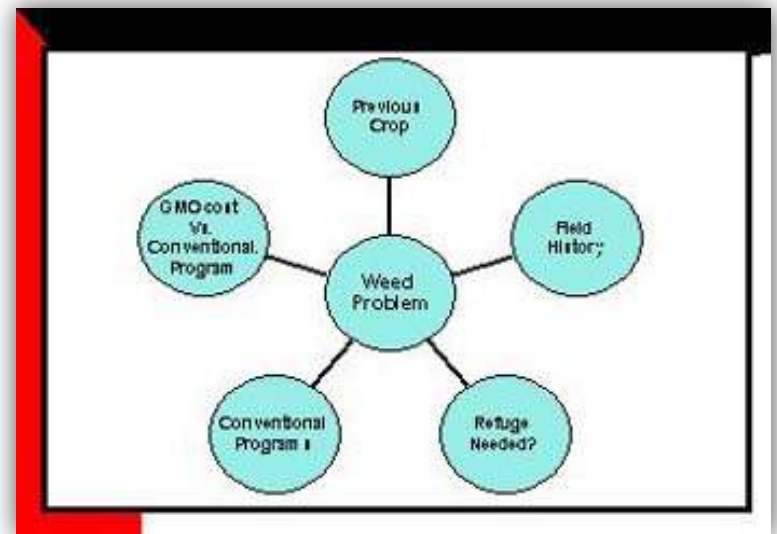
MAKING THE DECISION ON YOUR FARM

- **Other factors to consider**
 - **Resistance Management**
 - **Irrigated Vs. Dryland**
 - **Current Cultural Practices Used**

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“THE CHALLENGE”

- **Making sound management decisions when using technology products**
 - **Rotation of chemistries**
 - **The Affect on the “microenvironment” as**
 - **Economics still an “Overriding Factor”**
 - **Think about the following crop season**
 - **Keep “Excellent” records**

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