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# Corn Production 2012

Paul W. Bodensine, C.P. Ag.

# Cost to Produce Corn

Year	USDA avg. price rcvd	Variable Costs/A 140 bu.	bushels to produce
2001	\$1.97	\$203	103
2002	\$2.32	\$196	84
2003	\$2.42	\$205	85
2004	\$2.06	\$225	109
2005	\$2.00	\$232	116
2006	\$3.04	\$251	83
2007	\$4.20	\$263	63
2008	\$4.06	\$282	69
2009	\$3.55	\$457	129
2010	\$5.15	\$623	121
2011	\$6.75*	\$450	67
2012	\$5.50*	\$483*	88
Avg	\$3.59	\$308	96

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\* forecasted

<b>Conventional Tillage : irrigated</b>	<b>Cotton</b>	<b>Peanuts</b>	<b>Corn</b>	<b>Soybeans</b>	<b>Sorghum</b>	<b>Wheat</b>
<b>EXPECTED YIELD</b>	<b>1,200</b>	<b>4,200</b>	<b>200</b>	<b>60</b>	<b>100</b>	<b>75</b>
<b>EXPECTED SEASON AVG PRICE</b>	<b>\$0.90</b>	<b>\$540</b>	<b>\$6.20</b>	<b>\$12.00</b>	<b>\$5.20</b>	<b>\$6.20</b>
<b>GROSS RETURN</b>	<b>\$1,080</b>	<b>\$1,134</b>	<b>\$1,240</b>	<b>\$720</b>	<b>\$520</b>	<b>\$465</b>
<b>VARIABLE COSTS</b>						
Seed	88	193	98	54	14	56
BWEP	1.58					
Fertilizer & Lime*	151	53	298	81	185	150
Chicken Litter						
Chemicals	75	168	12	77	18	42
Custom Application/Hand Weeding	15					
Scouting	10					
Fuel and Lube**	46	69	26	21	26	35
Repairs and Maintenance	23	46	16	13	16	22
Irrigation***	93	70	93	58	41	
Labor	26	32	11	10	11	14
Insurance	24	32	23	28	19	12
Land Rent						
Interest on Operating Capital	18	22	19	11	11	11
Gin & Warehouse (net after cottonseed)	-10					
Drying and Cleaning		51	61		31	7
Marketing and Fees		14				
<b>TOTAL VARIABLE COSTS</b>	<b>\$561</b>	<b>\$749</b>	<b>\$657</b>	<b>\$353</b>	<b>\$370</b>	<b>\$349</b>
<b>RETURN ABOVE VARIABLE COST</b>	<b>\$519</b>	<b>\$385</b>	<b>\$583</b>	<b>\$367</b>	<b>\$150</b>	<b>\$116</b>
<b>BREAKEVEN PRICE</b>	<b>\$0.47</b>	<b>\$356</b>	<b>\$3.29</b>	<b>\$5.88</b>	<b>\$3.70</b>	<b>\$4.65</b>

<b>FIXED COSTS</b>	<b>Cotton</b>	<b>Peanuts</b>	<b>Corn</b>	<b>Soybeans</b>	<b>Sorghum</b>	<b>Wheat</b>
Machinery and Equipment	107	139	58	53	55	57
Irrigation	110	110	110	110	110	
Buildings						
Miscellaneous Overhead	28	37	33	18	19	17
<b>TOTAL SPECIFIED FIXED COSTS</b>	<b>\$245</b>	<b>\$287</b>	<b>\$201</b>	<b>\$180</b>	<b>\$184</b>	<b>\$74</b>
<b>TOTAL COST EXCL. LAND &amp; MGT</b>	<b>\$806</b>	<b>\$1,035</b>	<b>\$858</b>	<b>\$533</b>	<b>\$554</b>	<b>\$423</b>
<b>RETURN TO LAND AND MGT</b>	<b>\$274</b>	<b>\$99</b>	<b>\$382</b>	<b>\$187</b>	<b>-\$34</b>	<b>\$42</b>
<b>BREAKEVEN PRICE (Total Costs)</b>	<b>\$0.67</b>	<b>\$493</b>	<b>\$4.29</b>	<b>\$8.89</b>	<b>\$5.54</b>	<b>\$5.64</b>
<b>BREAKEVEN YIELD</b>	<b>896</b>	<b>3,835</b>	<b>138</b>	<b>44</b>	<b>107</b>	<b>68</b>

# Steps to High-Yield Corn

- Field Prep/ Pre-Season
- Planter Operations
- Fertility
- Early Season
- Late Season Management

# Field Prep/ Pre-Season

- Minimize spring tillage to reduce compaction and soil moisture loss
- Burndown four weeks before planting
- Use pre-emergence residual herbicide: young corn cannot compete with any weeds
- Calibrate planter

# Field Prep



Winter annuals harbor insects, disease and nematodes: do not allow to grow over winter



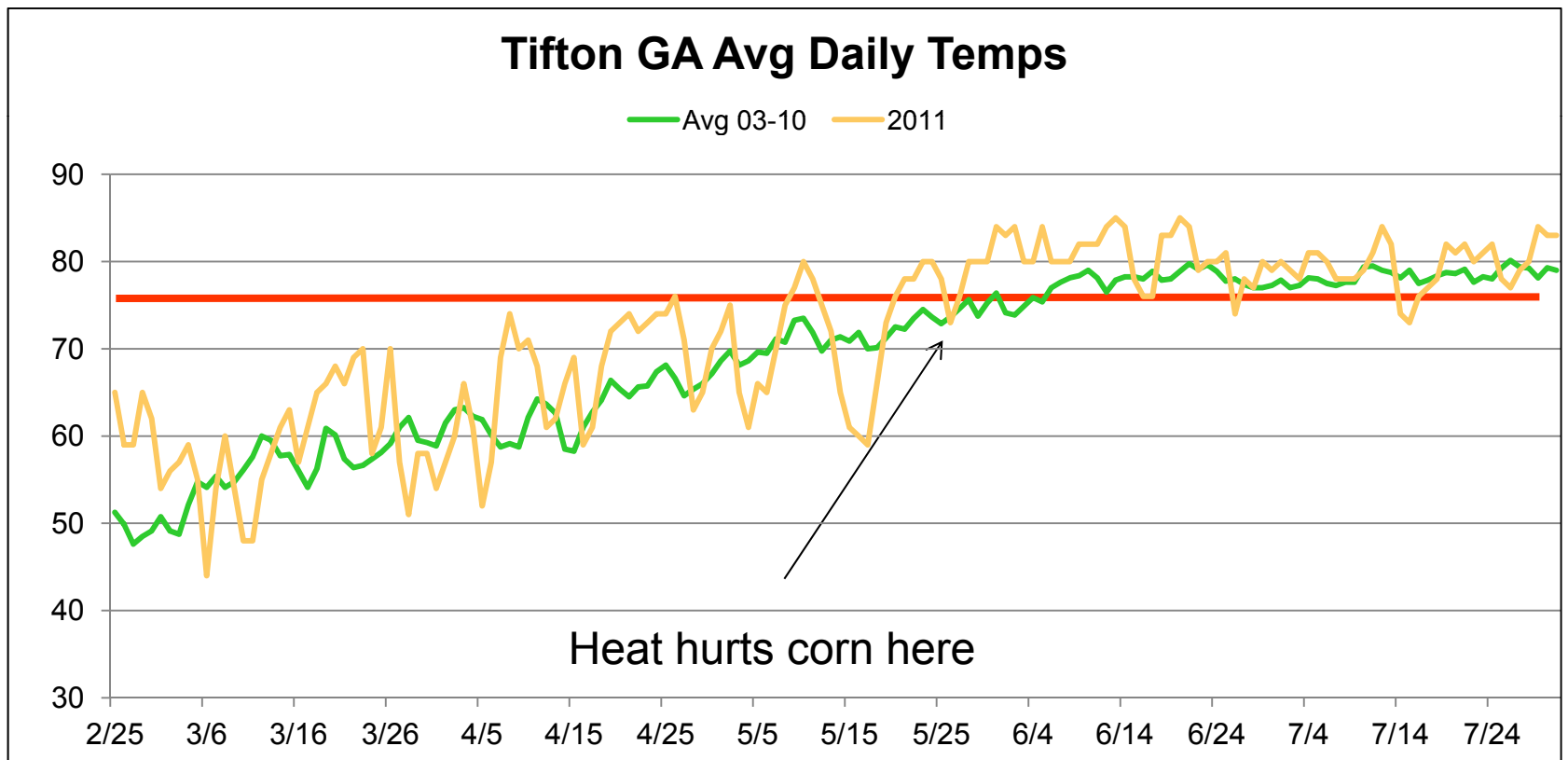
# Planter Calibration

- Pioneer study showed an average yield improvement of 4.2 to 20 bu./ acre due to planter calibration.
- Purdue showed yield losses in the range of 7 to 15 bu./ acre were observed in uneven stands.

# Planter Operations

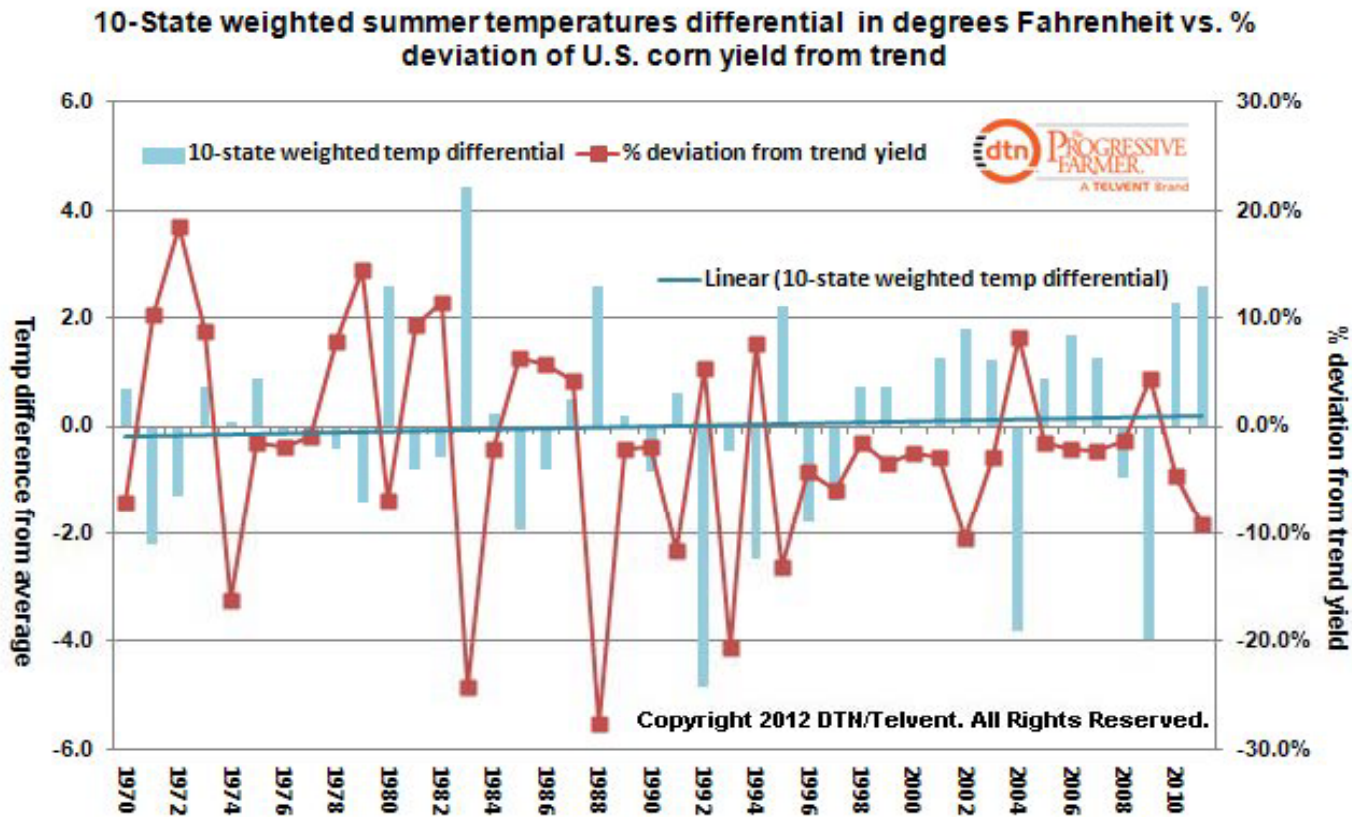
- When to plant
- Hybrid selection
- Seed treatments
- Planter operations

# Tifton Avg. Daily Temps



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# Heat Impact on Corn

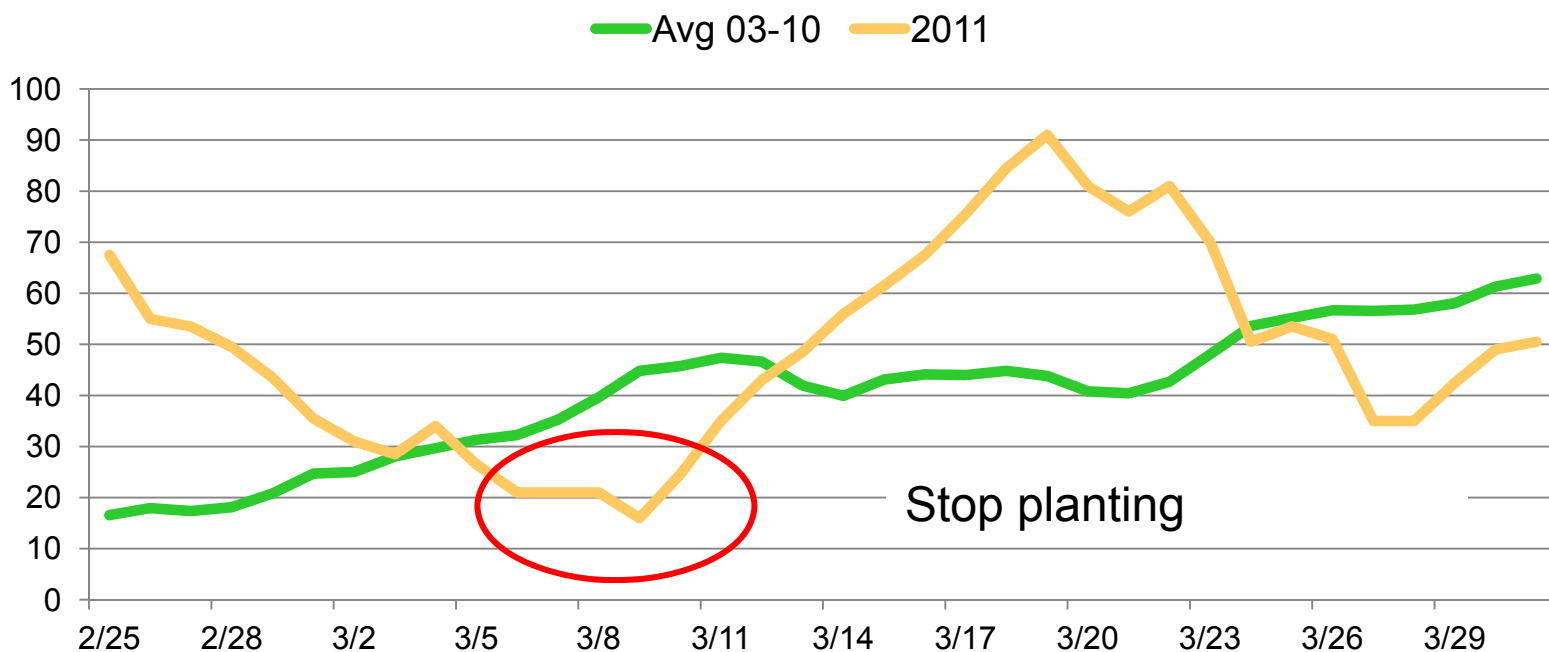


# When to Plant

- Vigor Hybrids
  - When the five-day forecast is 20 GDUs or more
- Non-Vigor Hybrids
  - When the five-day forecast is 40 GDUs or more

# Tifton GA Corn Planting Date

## Tifton GA 5-Day GDU Accumulation



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# Chilling Imbibition



Stop planting when GDU are less than 20 for vigor hybrids or 40 for non-vigor hybrids to avoid chilling imbibition

# Corn Planting Dates 2011

Dryland Corn 2011 PD	acres	Yield Bu. /A
> Mar 10	-	-
Mar 11-20	938.7	121.3
< Mar 20	1,305.0	95.7

Irrigated Corn 2011 PD	acres	Yield Bu. /A
> Mar 10	443.7	180.8
Mar 11-20	6,015.7	185.9
< Mar 20	3,724.8	177.1

Irrigated Corn 2011 > Mar 10	acres	Yield Bu. /A
Vigor Hybrid	805.0	201.4
Non-Vigor Hybrid	1,182.6	169.0

# Corn Hybrid Selection 2012

- Accounts for 50% to 75% of all corn profits
- Hybrids are replaced every three years
- Same genetics in different bag
- Genetics, Traits, Seed Treatments

## Irrigated Corn Hybrids: 2011 N. LA

Brand	Hybrid	Trait	RM	yield	acres	Avg PD
DeKalb	DK61-69	VT3	111	196.7	679.3	3/11
DeKalb	DK64-83	GENVT3P	114	191.9	667.9	3/15
Terral	26HR50	HXLLRR	118	186.7	730.5	3/13
Terral	28HR20	HXLLRR	119	186.4	1,656.4	3/18
Pioneer	31D62	YGCBRR2	120	186.3	88.5	3/16
DeKalb	DK66-96	GENVT3P	116	185.1	1,116.0	3/21
DeKalb	DK61-05	GENVT3P	111	183.9	502.0	3/16
DeKalb	DK64-69	GENVT3P	114	182.3	878.9	3/20
Pioneer	P2023HR	HXLLRR2	116	181.1	827.3	3/23
Pioneer	P1184HR	HXLLRR2	111	180.8	1,095.7	3/14
Pioneer	P1615R	RR	116	172.8	409.5	3/18
DeKalb	DK61-35	GENVT3P	111	171.8	597.4	3/20
DeKalb	DK68-05	GENVT3P	118	169.3	639.5	3/30
Avg. /Total				182.4	9,800.5	3/18

# Hybrid Heat Stress: 2010

<b>Planting Date: Irrigated Hybrids</b>	<b>DeKalb w/ Poncho 500</b>	<b>Pioneer w/ Cruiser Extreme</b>
Mar 5 to Mar 20	187.5	164.4
Mar 21 to Mar 31	183.1	164.4
After Apr 1	145.6	164.0

Note how the full-season hybrids from Pioneer can withstand late heat.

# Corn Genetics: Seeding Rates 2008-2010

Bu. /A	Planting Range	
seeds/A	03/01-03/25	03/26-04/15
34,000	184	176
33,000	185	165
28,000	152	142

Our most recent data: planting later costs more since the population needs to be increased to get better yields

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# Hybrid Summary

- Genetics:
  - hybrids planted early/ pollinating early dominated yields in 2011 due to heat
  - Look at “GDUs to pollination” to spread risk
  - Select different hybrids
  - Planting early means selecting a hybrid with “strong emergence “ and “ early seedling vigor” to avoid imbibition

# Corn Traits

- Genuity SmartStax, VT Pro and Viptera hybrids have two genes for corn earworm control
- Three kernel/ ear loss = one bu. /acre lost



# Corn Seed Treatments

## Seed Insecticides

- Poncho
- Gaucho
- Cruiser

All are Neonicotinoids with no measureable difference in yield

## Seed Fungicides

- Metalaxyl /Mefenoxam
- Strobi: triflox, azoxy, pyraclo
- Fludioxomil (Maxim)

For 2012

- Thiabendazole (old, new)

Insect and disease pressure still pressing: means quick root development is necessary: use starter

# Seed Treatments: Insecticides

- Southern corn rootworm, grubs, wireworms
- No listing for SCRW on SmartStax /Miptera
- Poncho/ Cruiser 500
- For severe pressure, use bifenthrin in furrow



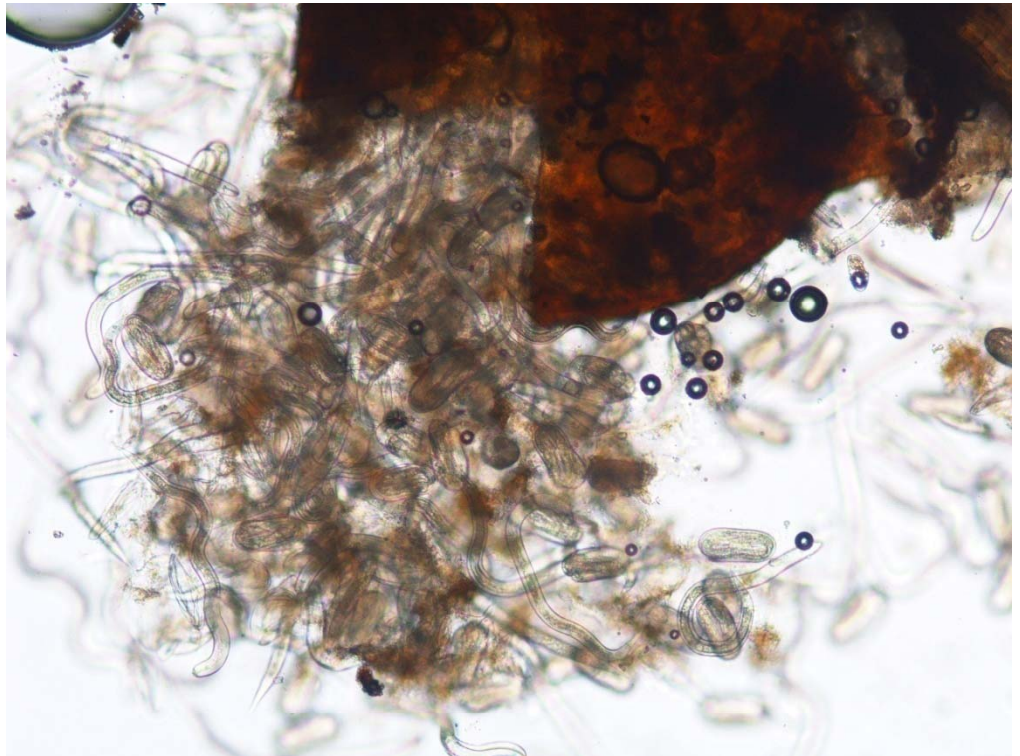
# Seed Treatments in 2010

Planting Date: Irrigated Hybrids	DeKalb w/ Poncho <u>250</u>	DeKalb w/ Poncho <u>500</u>
Mar 5 to Mar 20	156.1	187.5
Mar 21 to Mar 31	183.8	183.1
After Apr 1	112.7	145.6

There is a value of adding Poncho or Cruiser 500 to corn seed over the standard 250 rate: we can not demonstrate any value of increasing to 1250

# Corn Nematodes

- Root Knot
- Sting
- Lesion
- Stubby Root
- Lance
- Spiral
- Dagger



# Impact of Nematodes on Corn

	Nematode Area	Healthy Area	Difference	
VARIETY	Bu. /A	Bu. /A	Bu. /A	% yield loss
P34A17	191	277	86	31%
DKC67-22	197	261	64	25%
P 33M53	218	257	39	15%
DKC61-73	195	257	62	24%
RX754RR2	218	248	30	12%
DKC67-86	141	246	105	43%
DKC61-72	224	244	20	8%
DKC63-42	220	242	22	9%
DKC63-45	230	242	13	5%
P 34F96	197	238	41	17%
DKC64-27	205	225	20	9%
	<b>203</b>	<b>249</b>	<b>46</b>	<b>18%</b>

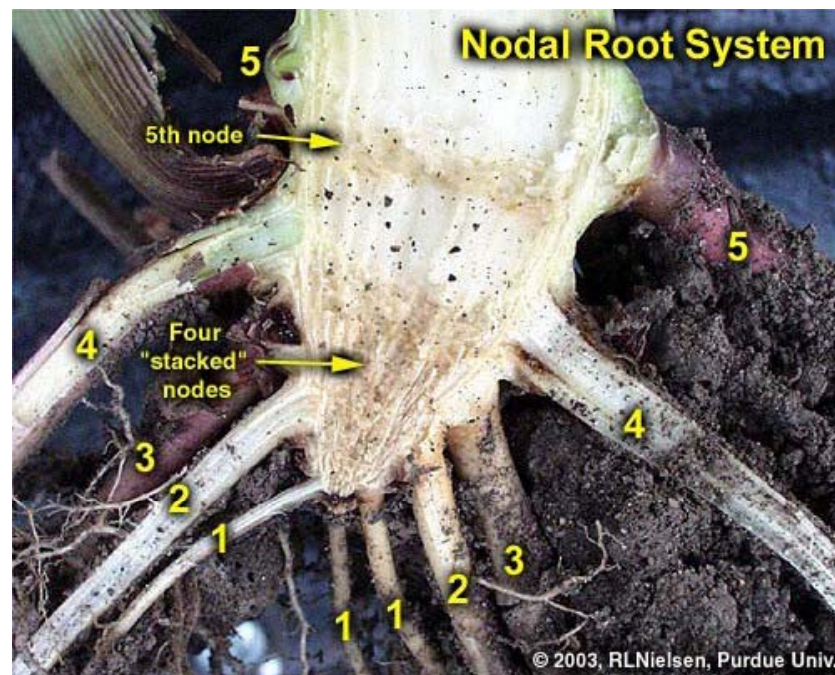
# Seed Nematicide for 2012

- VOTiVO available for 2012
- Seed nematicide
- Broader spectrum than Avicta
- Combined with either Poncho 500 (DK) or Poncho 1250 (Pioneer/ Terral)



# Planting Depth Affects Yields

- Plant corn seed 2" deep to get all five root systems developed
- Use seed firmers to make sure it stays 2" deep

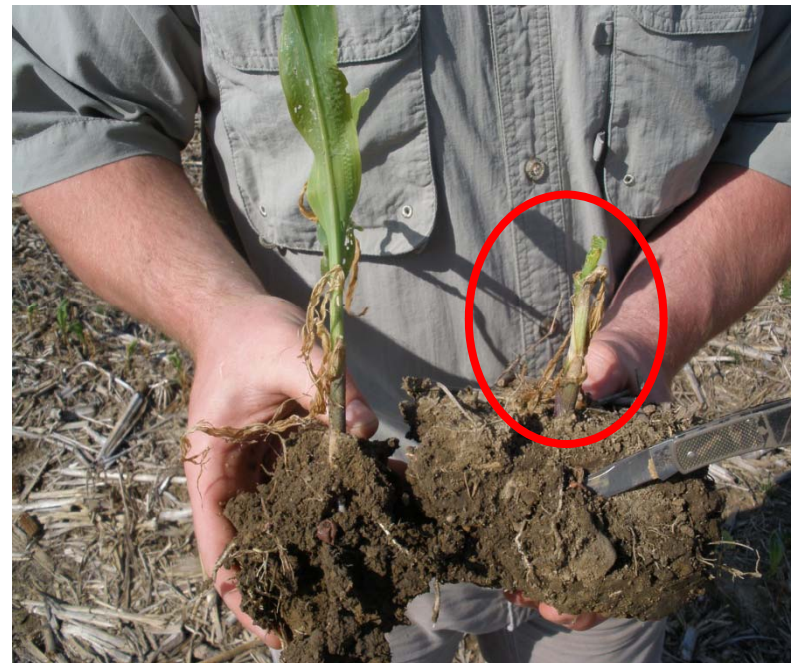


# Planting Depth Affects Yields



Seed depth too shallow

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Frost damage from shallow planting

# Planting Depth Affects Yields

- Shallow planting on left plant provided fewer roots which caused a N deficiency.
- The plant on the right, planted at 2", is still green. Note larger root system



# Planter Operations

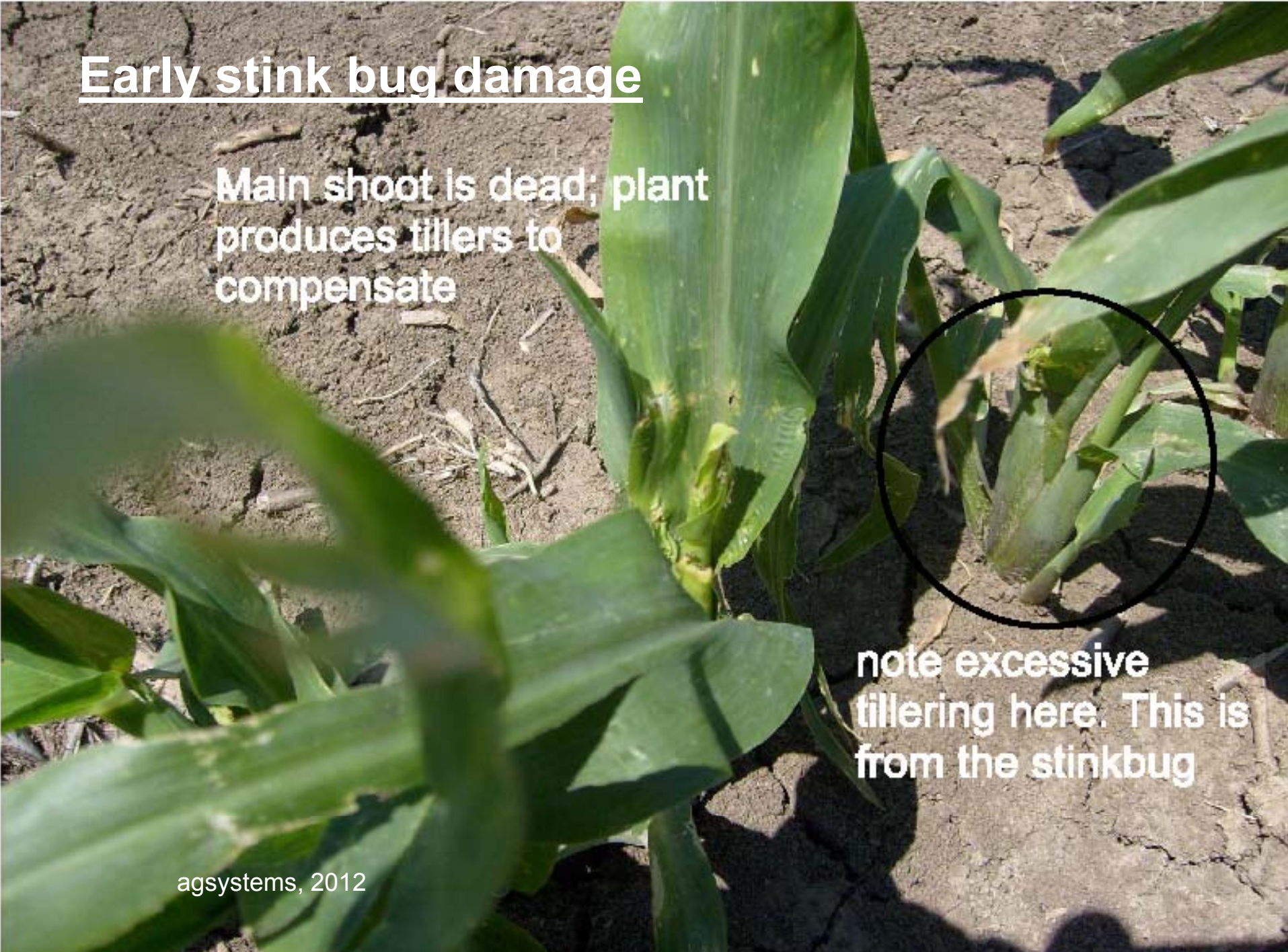
- Plant to pollinate early: avoid heat
- Plant vigor hybrids first
- Plant 30-36K seed/acre
- Plant at 4 to 5 mph
- Make sure seed is 2" in ground
- Use Poncho 500 seed treatment: apply Capture for corn after corn

# Early Season

- Apply post-emergence weed control early: *watch warnings on hybrids*
- Add insecticide to provide stinkbug control plus fungicide (?)
- Plant tissue sample at GS3 (350-500 GDU)
- Sidedress with nitrogen, sulfur, boron (potash?) and leaching inhibitor

## Early stink bug damage

Main shoot is dead; plant produces tillers to compensate



note excessive tillering here. This is from the stinkbug

# Fertility

- Use 1.0 to 1.2 lbs. of N /bu. of corn
- Band phosphate: balance with zinc
- Apply .75 to 1.0 lbs. potash/ bu. of corn expected
- Sulfur: balance with nitrogen
- Zinc: balance with phosphate
- Boron: balance with potash

# Nitrogen on Irrigated Corn

- Use 1 to 1.2 lbs. of nitrogen per bushel of corn
- Broadcast 40 to 50 lbs. prior to emergence
  - Add sulfur
- Use 30 lbs. in row as a starter
  - Use with P, S, Zn and B
- Sidedress with 100 lbs. before 500 heat units
  - Add Sulfur and zinc (boron? potash?)
- Split sidedress or apply thru pivot (2-3X)

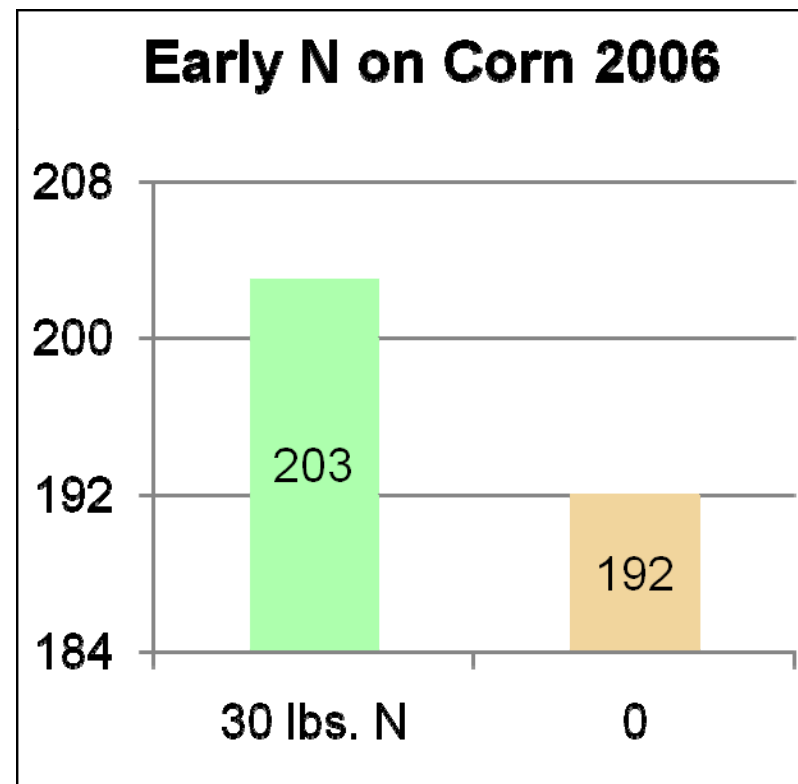
# Early Plant N Levels and Yields

- Corn plant tissue samples indicated that N will limit yields.
- GS3 plant tissue needs to be at least 5.0% N for higher yields

<i>Avg. % Nitrogen GS 3</i>	<i>Bu./A</i>
5.1	211
4.6	197
4.0	149
3.4	127

# Increasing Early N in Corn

- Applying N at planting increased yields by 11 bu. / acre in 2006

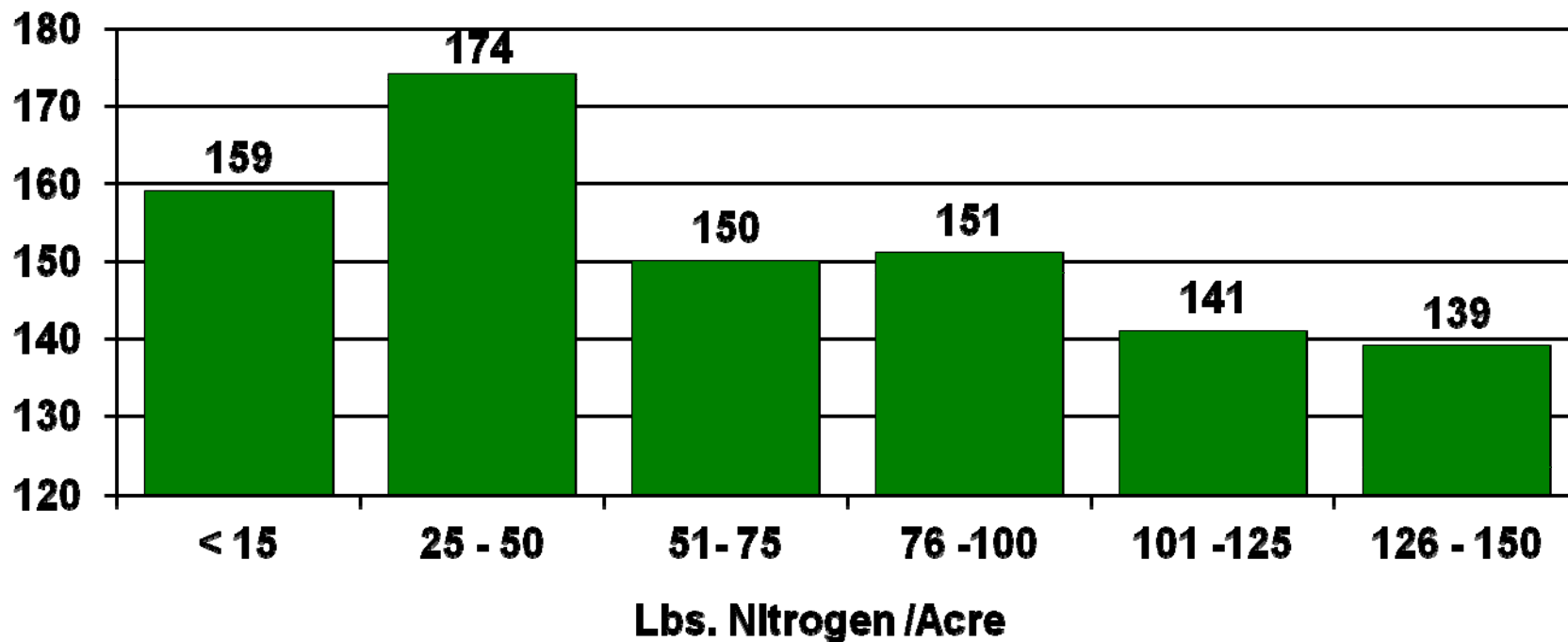


# Increasing Early N in Corn

- Add 30# N plus 30 # P, with sulfur, zinc and boron as a starter
- Can be surfaced applied 2" from seed furrow or placed in ground 2" beside and below the seed



## Effect of Pre-emergence Broadcast Nitrogen on Corn Yields



*All had 30 lbs. /acre N in starter: all had total of 180 lbs. /acre N*

# Nitrogen Additives

- Volatilization
  - Urea or urea component of U32
  - Agrotain, Nutrisphere: coated urea
- De-nitrification
  - Saturated soils (same)
- Leaching
  - Warm soils
  - DCD: Leaching inhibitor

# Planter Fertilizer Options

- Pop-up: applied in the seed furrow
- Starter: placed within 2" of seed
- Positively placed: placed at least 4" away from seed

# Planter Fertilizer Options

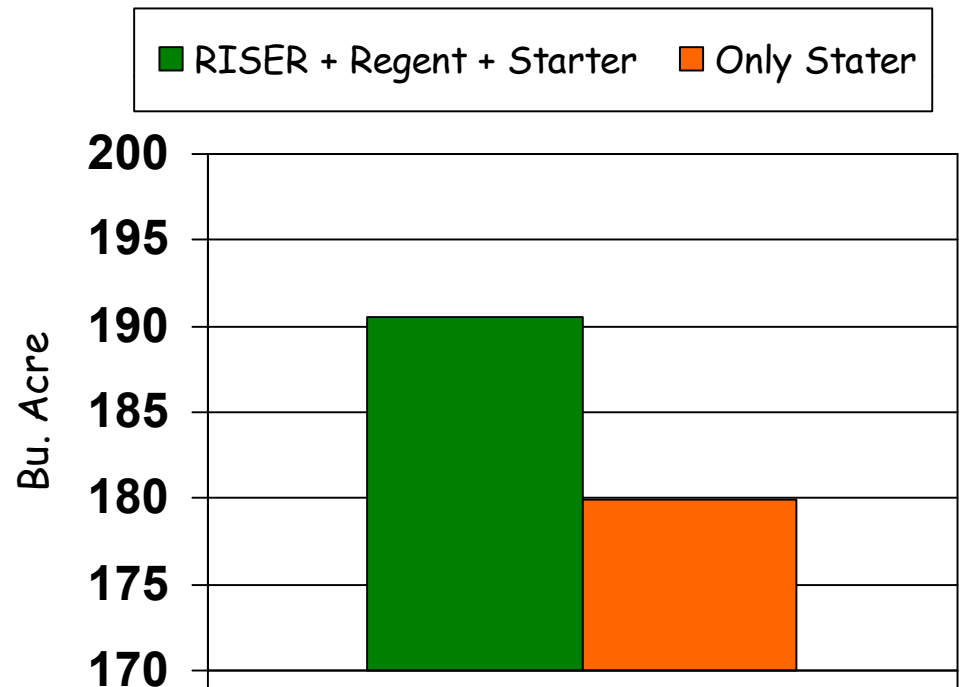
- Focus is on early uptake of nitrogen, phosphate and zinc in cooler/cold soils
- Provide nutrients as part of an overall nutrition strategy

# Pop-Up

- Low volume (2-5 GPA) for faster planting
- Low salt for crop safety
- Some use “white” phosphoric
- Some use 10-34-0 or 11-37-0
- Effective as carrier for micronutrients
- Excellent fit for very high P levels, early planting, narrow rows

# Pop-Up: Applied on the seed

- Queenstown MD
- 11 bushel gain over starter by itself
- In furrow placement
- Need to have 50-70 lbs. /acre N applied



# Starter Fertilizer: 2X2

- Used at 13 to 20 GPA
- Very good placement for micronutrients
- Placed 2 X 2 because of higher salt index
- Can be used as a surface band 2" to side of seed furrow
- Uses poly phosphate
- Efficient placement for P (1 lb in row = 2 lb broadcast)
- Best formulated as 1:1 N:P ratio

## Positively Placed: way away

- Placed at least 4" away from seed
- Uses a high salt fertilizer (N, K)
- Used with pop-up

# Ear Size Determination (ISU)

- **Rows around** – decided by V6
  - Genetics
  - **GS3 N >5%**, P >.42%
  - Stress (post herbicide: check warnings)
- **Row length** – decided by V9
  - Environmental stress
  - **GS9 N >4%** and K >2.25

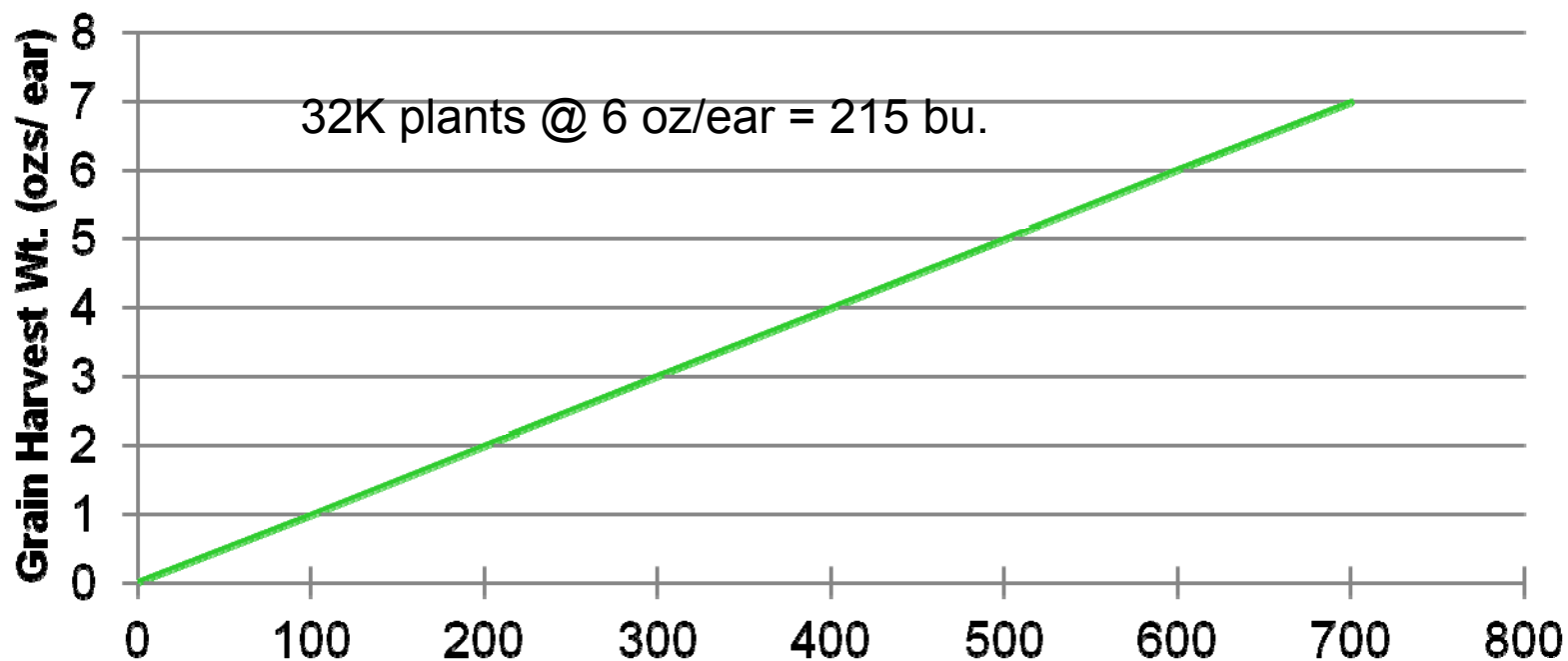
# Ear Size Determination (ISU)

- 750 to 1000 ovules (potential kernels) develop on each ear
- Actual (harvestable) kernel number per ear averages between 400 and 600.
- For a 16-row ear, one kernel per row is equal to about five bushels per acre

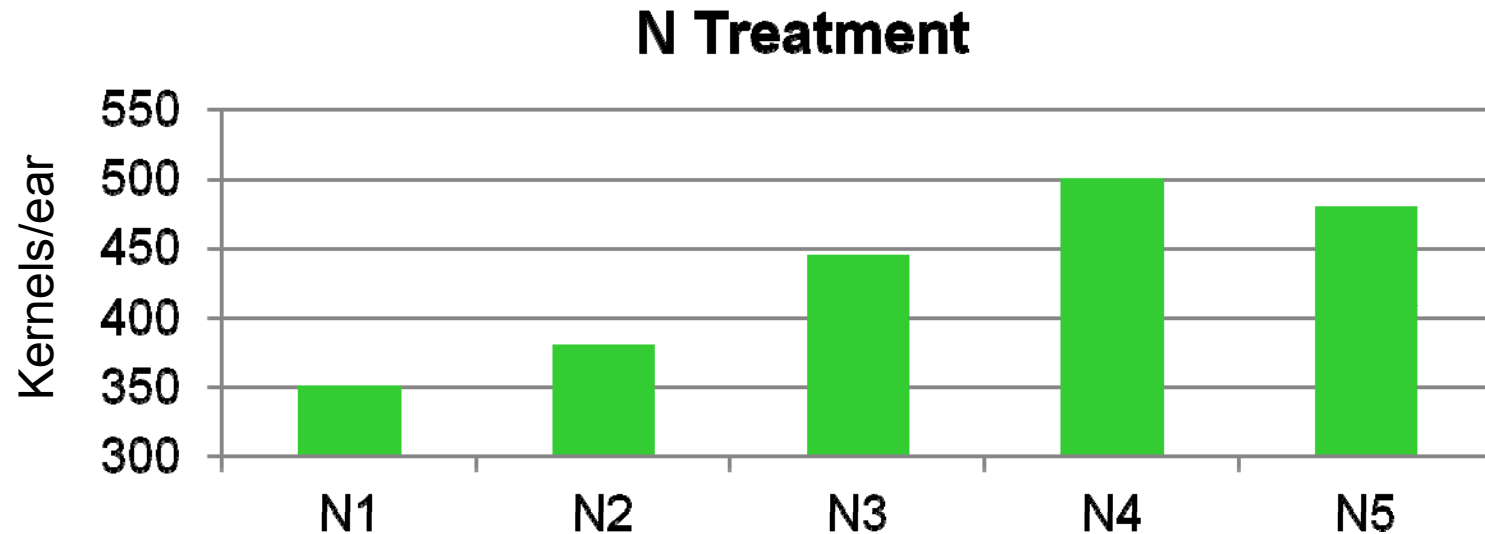


# Grain Yield: Kernels Per Ear

**Grain Yield /Ear as a Function of Kernels/ Ear**



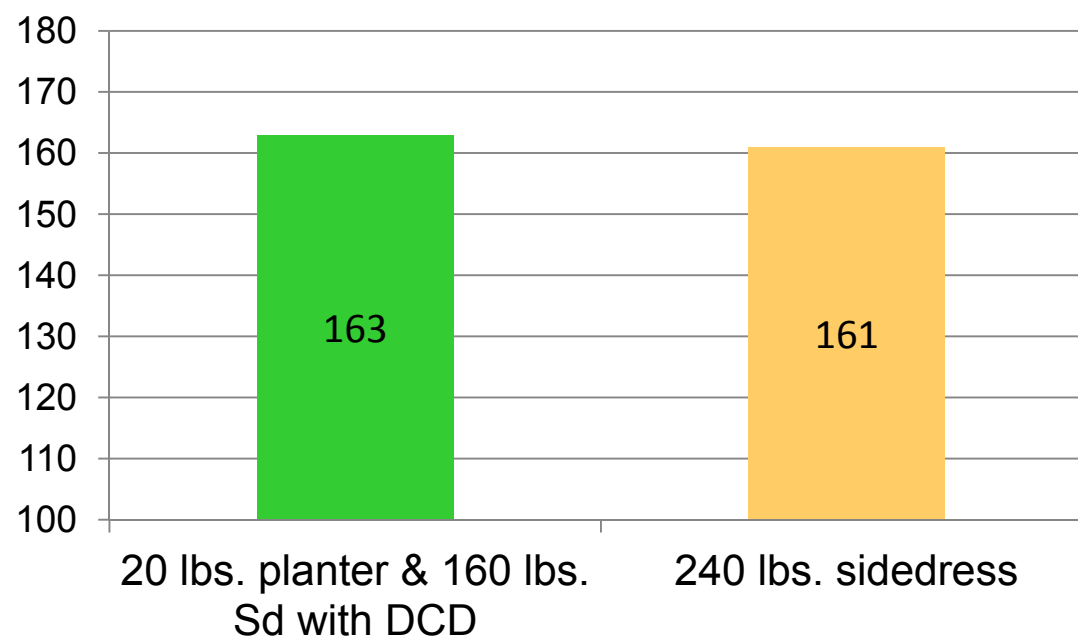
# Nitrogen Impact on Ear Size



Effect of different nitrogen treatments on number of kernels per ear. Nitrogen treatments: N1 (N supplied from V8 to maturity); N2 (N supplied from emergence to V8); **N3 (N supplied from emergence to silking)**; N4 (N supplied from emergence to 3 weeks after silking); and N5 (N supplied from emergence to maturity). Source: *Crop Sci.* 2005

# Splitting N Lowers Costs

## Managing N on Corn



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## Phosphorous' Role in Corn Production

- Increases water use efficiency
- Critical in energy conversion
- Root formation and growth
- Seed formation (kernel numbers and rows) and quality
- Hastens maturity

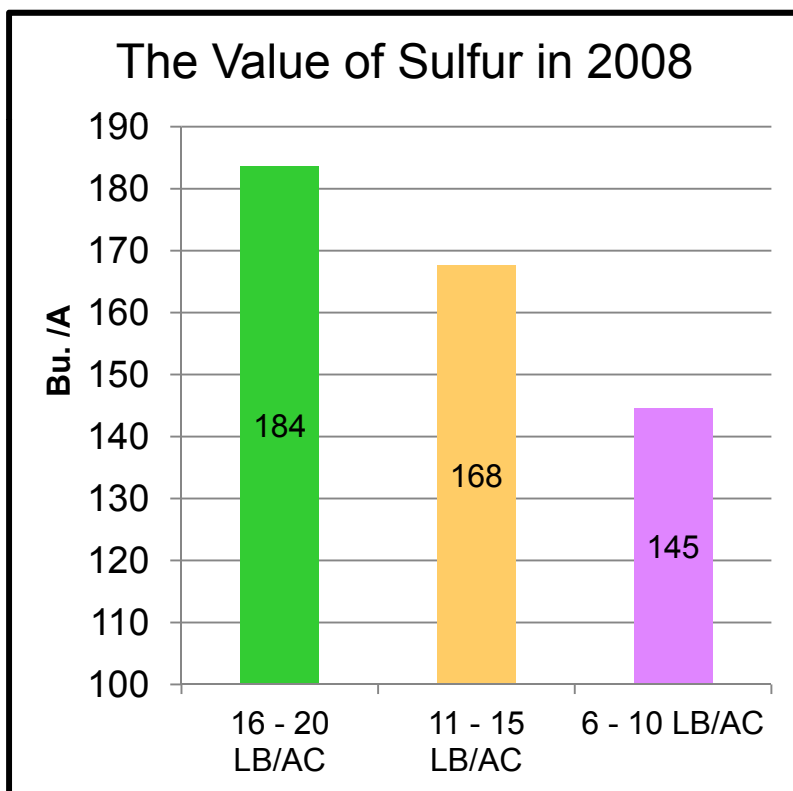
# Potash's Role in Corn Production

- Critical to cool the plant
- #1 defense against disease
- Responsible for corn stalk strength and lodging resistance (critical for field drying)

# Corn Diseases: Stalk Rots

- Fertility (especially potash)
  - Use high rates of K on corn
    - Corn loves potash; does not remove much when shelled
  - Use plant tissue samples prior to sidedress
  - Sidedress N with K if needed (KTS, 60%K)

# Sulfur on Corn



# Low Boron Levels in Corn

- Boron is responsible for healthy root growth and resistant to diseases.
- A lack of boron in a corn plant results in:
  - Poor kernel development.
  - The deterioration of root and stem growing points.
  - Stunted roots.



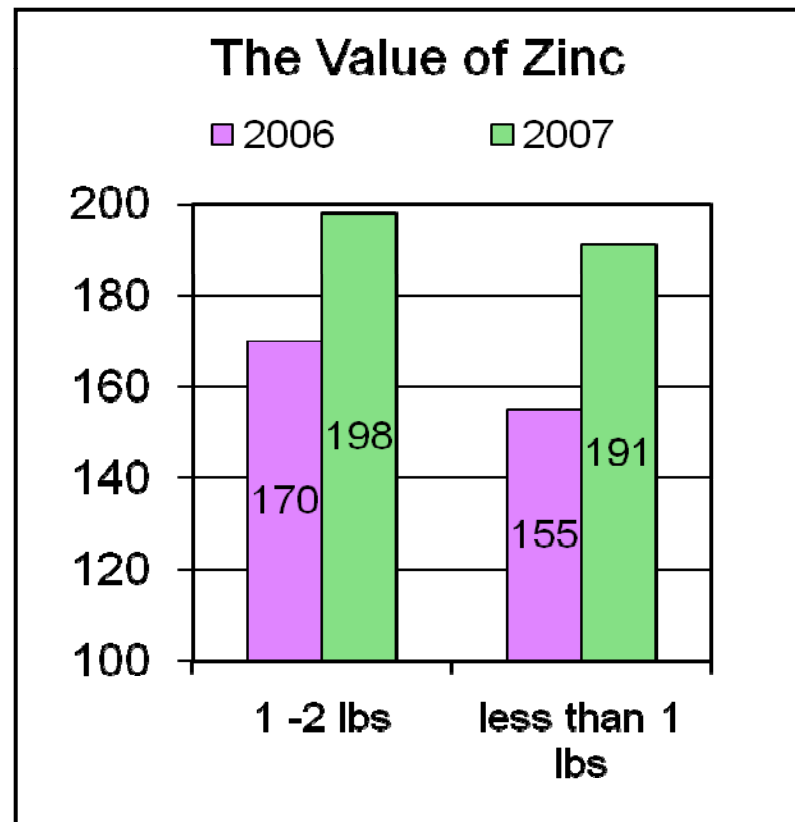
# Impact of B on Corn in 2007

	Planted 03/01-03/10		Planted 03/11-03/31	
	0# B	2# B	0# B	2# B
Irrigated Corn				
corn after corn	n/a	n/a	198	214
corn after cotton	197	210	203	213

***Average yield increase = 13 bu. /acre***

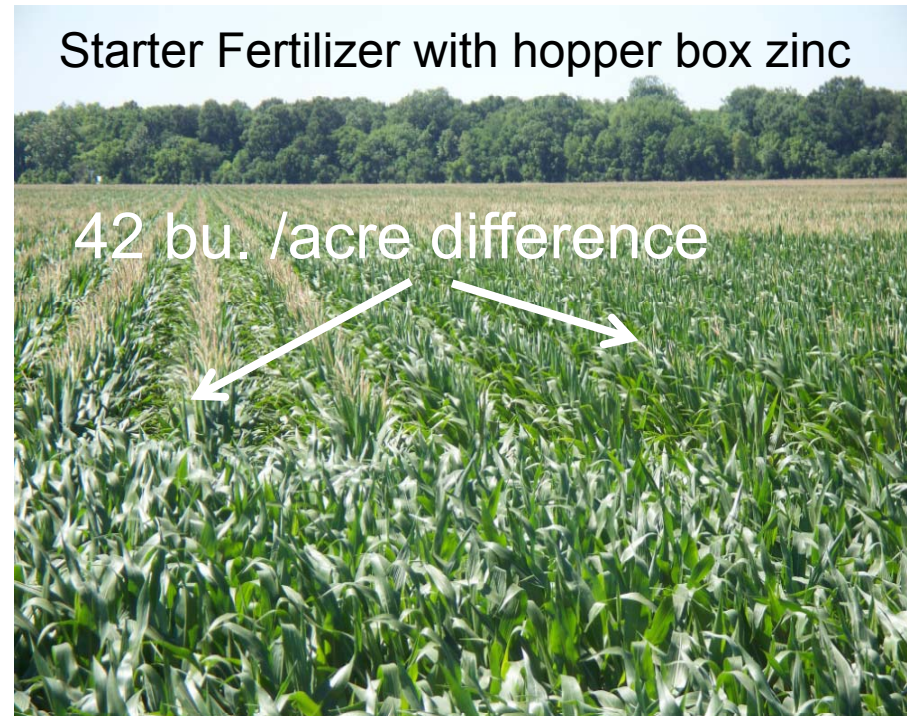
# Zinc in 2006 & 2007 Corn

- Zinc increased corn yields by 15 bushels per acre in '06 and 7 bu. in 2007
- Zinc will lower moisture at harvest



# Zinc in 2011 Corn

- Starter fertilizer with zinc produced 42 bu. /acre more corn because of the corn pollinated before the heat came



## Late Season

- Evaluate for foliar disease
- Evaluate for stink bugs on silks
- Take plant tissue sample at first tassel to check on nitrogen and potash levels

# Corn Diseases: Foliar Diseases

## “Hell”-minthosporium Family

- Anthracnose Corn Leaf Blight
- Gray Leaf Spot (GLS)
- Northern Corn Leaf Blight and Spot
- Southern Corn Leaf Blight



# Corn Diseases: Stalk Rots

- Anthracnose Stalk Rot
- Diplodia Stalk Rot
- Fusarium Stalk Rot
- Gibberella Stalk Rot
- Charcoal Rot



# Corn Diseases: Ear & Kernel Rots

- Diplodia Ear Rot
- Fusarium Kernel Rot
- Gibberella Ear Rot
- Aflatoxin



# Corn Diseases: Stalk Rots

- Fertility (especially **potash**)
  - Too much N without K balance
  - Winter cover crop or cereal crop in rotation to bring K back to the surface
  - Soil compaction, low soil pH, low soil K, dry soils, manganese deficiencies, insect pressure lowers K uptake

# Protecting Corn

Irrigated Corn 2006-2008	Planting Date 03/02 -03/25		Planting Date 03/26 - 04/21	
	Yield	Uniform	Yield	Uniform
Headline (6 oz)	216	74	173	55
Stratego (10 oz)	215	82	184	69
None	173	71	148	68

## Late Season

- Apply fungicide plus insecticide at full tassel
- Apply 40 lbs. /acre of nitrogen
- Harvest at 21 -24% moisture to minimize field losses.

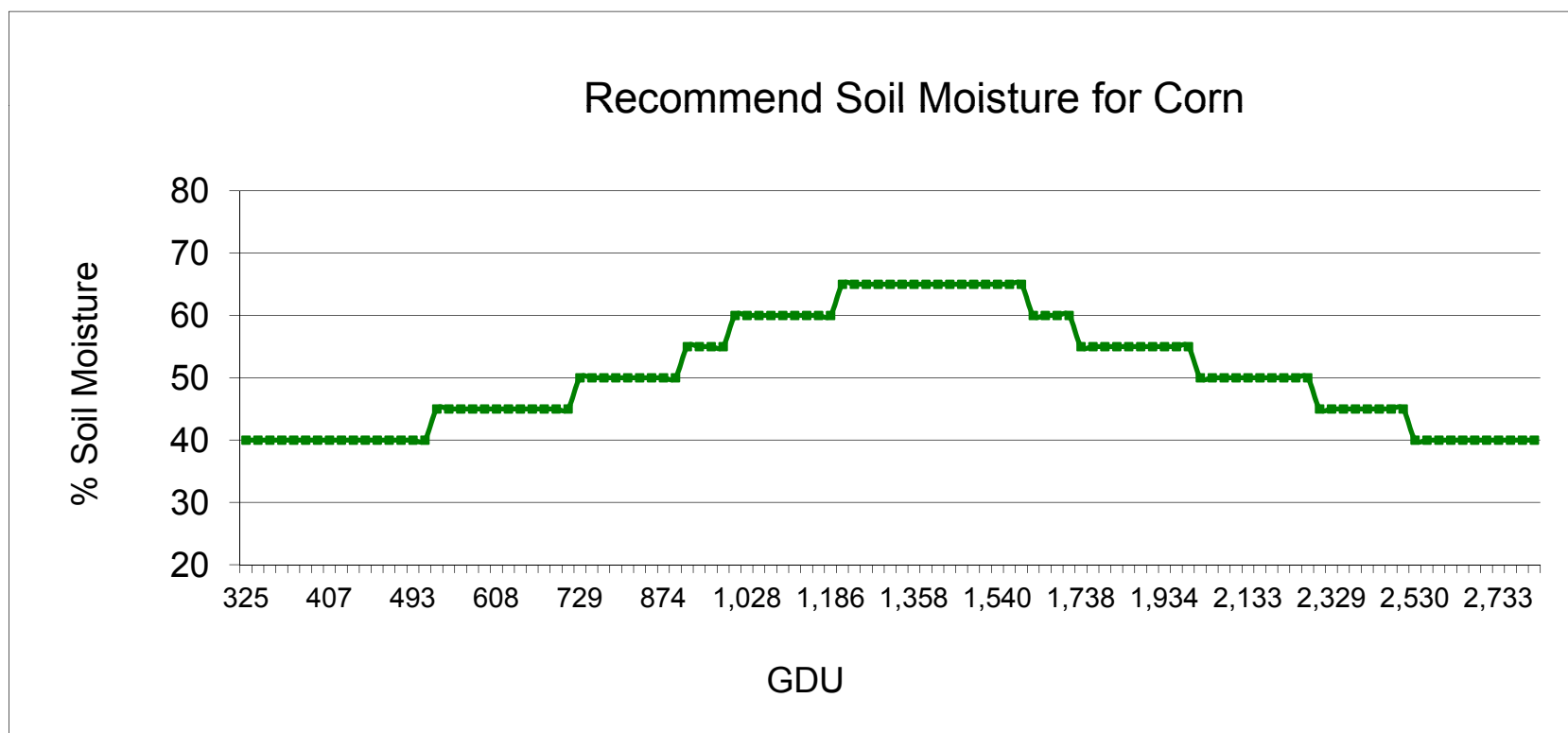
# Irrigating Corn



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06/14/2011

# Corn Soil Moisture Targets



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# Irrigation Management

06/20/2011

Queenfield Farm Daily Irrigation Report

Location: Queenfield  
 Irrigation ID: QF1 2011 Corn  
 Irrigation: Pivot  
 Crop: Corn

Daily Report of Soil Moisture for Corn under irrigation system Queenfield Farm

Results for the past week are summarized below:

Date	GDU	ACC GDU	Max Tmp.	Min Tmp.	Rain (In.)	IRR (In.)	Calc. ET	Pot. PAW (In.)	Soil Moist. (In.)	Moist Deficit (In.)	Soil Moist %	Recom. Soil Moist %	Reset SM
Observed:													
2011-06-10	29	984	92	72	0.00	0.00	0.21	4.92	3.34	0.27	67.9	65	0
2011-06-11	28	1012	92	69	1.15	0.00	0.19	4.98	4.21	0.00	84.5	65	0
2011-06-12	27	1039	91	68	0.05	0.00	0.21	5.07	4.02	0.26	79.3	65	0
2011-06-13	23	1062	78	65	0.00	0.00	0.21	5.13	3.84	0.26	74.9	65	0
2011-06-14	19	1081	77	60	0.00	0.00	0.21	5.16	3.66	0.22	70.9	65	0
2011-06-15	20	1101	80	57	0.00	0.00	0.21	5.22	3.49	0.22	66.9	65	0
2011-06-16	22	1123	82	61	0.09	0.00	0.20	5.28	3.33	0.22	63.1	65	0
2011-06-17	27	1150	87	66	0.03	0.00	0.23	5.34	3.15	0.24	59.0	65	0
2011-06-18	28	1178	91	70	0.00	0.70	0.24	5.40	2.97	0.24	55.0	65	0
2011-06-19	0	1178	N/A	N/A	0.02	0.70	0.20	5.40	3.51	0.00	65.0	65	0
Forecast:													
2011-06-20	26	1204	84	67	0.66	0.00	0.22	5.40	4.59	0.00	85.0	65	0
2011-06-21	27	1231	93	66	0.04	0.00	0.21	5.40	4.40	0.19	81.5	65	0
2011-06-22	30	1261	94	72	0.08	0.00	0.26	5.40	4.17	0.23	77.2	65	0
2011-06-23	30	1291	91	74	0.19	0.00	0.25	5.40	4.05	0.12	75.0	65	0
2011-06-24	29	1320	87	71	0.02	0.00	0.22	5.40	3.86	0.19	71.5	65	0
2011-06-25	28	1348	86	69	0.05	0.00	0.24	5.40	3.66	0.20	67.8	65	0

# 2011 Irrigation

# User Schedule

AgSys-Mechanicsville

Grower: **Queenfield Farm**  
 Farm: **Queenfield**  
 Field: **QF1**

Season: **2011**  
 Irr ID: **QF1 2011 Corn**  
 Freq: **low**

Date	DD	ADD	CROP		WEATHER					SOIL			SCHEDULE			
			S	RZ	PREC	APRE	EVA	EPR	EVT	AWX	AW	AWS	DEF	ADEF	IRR	AIRR
Based on OBSERVATION:																
0601	29.0	764	V8	14	0.00	4.37	0.31	0.00	0.13	4.26	2.05	2.34	0.02	2.17	0.50	0.50
0602	27.0	791	V9	14	0.70	5.07	0.31	0.61	0.14	4.35	3.06	2.39	0.00	1.25	0.00	0.50
0603	16.0	807	V9	14	0.00	5.07	0.27	0.00	0.12	4.41	3.53	2.87	0.00	0.88	0.00	0.50
0604	20.0	827	V9	14	0.00	5.07	0.27	0.00	0.12	4.47	3.44	2.91	0.12	1.00	1.00	1.50
0605	23.0	850	V9	15	0.00	5.07	0.19	0.00	0.09	4.53	4.35	2.94	0.00	0.15	0.00	1.50
0606	25.0	875	V9	15	0.00	5.07	0.26	0.00	0.12	4.59	4.24	2.98	0.17	0.32	0.00	1.50
0607	24.0	899	V10	15	0.00	5.07	0.28	0.00	0.13	4.68	4.12	3.04	0.19	0.51	0.00	1.50
0608	27.0	926	V10	15	0.00	5.07	0.30	0.00	0.14	4.74	4.00	3.08	0.20	0.71	0.00	1.50
0609	29.0	955	V10	16	0.00	5.07	0.32	0.00	0.15	4.83	3.87	3.14	0.20	0.91	0.00	1.50
0610	29.0	984	V10	16	0.00	5.07	0.28	0.00	0.13	4.92	3.77	3.20	0.20	1.11	0.00	1.50
0611	28.0	1012	V11	16	1.15	6.22	0.25	1.06	0.12	4.98	4.72	3.24	0.00	0.23	0.00	1.50
0612	27.0	1039	V11	16	0.05	6.27	0.27	0.00	0.13	5.07	4.60	3.30	0.19	0.42	0.00	1.50
0613	23.0	1062	V11	17	0.00	6.27	0.26	0.00	0.13	5.13	4.48	3.33	0.20	0.62	0.00	1.50
0614	19.0	1081	V12	17	0.00	6.27	0.26	0.00	0.13	5.16	4.37	3.35	0.16	0.78	0.00	1.50
0615	20.0	1101	V12	17	0.00	6.27	0.26	0.00	0.13	5.22	4.26	3.39	0.15	0.93	0.00	1.50
0616	22.0	1123	V12	17	0.00	6.27	0.24	0.00	0.12	5.28	4.17	3.43	0.15	1.08	0.00	1.50
0617	27.0	1150	V12	17	0.00	6.27	0.27	0.00	0.14	5.34	4.06	3.47	0.17	1.25	0.00	1.50
0618	28.0	1178	V13	18	0.00	6.27	0.28	0.00	0.15	5.40	3.94	3.51	0.18	1.43	0.70	2.20
0619	26.0	1204	V14	18	0.00	6.27	0.20	0.00	0.10	5.40	4.56	3.51	0.00	0.84	0.70	2.90
0620	21.0	1225	V14	18	0.50	6.77	0.21	0.41	0.11	5.40	5.40	3.51	0.00	0.00	0.00	2.90
0621	26.0	1251	V15-VT	18	0.80	7.57	0.27	0.74	0.14	5.40	5.40	3.51	0.00	0.00	0.00	2.90
0622	31.0	1282	V15-VT	18	0.05	7.62	0.24	0.00	0.13	5.40	5.27	3.51	0.13	0.13	0.00	2.90
0623	30.0	1312	V16	18	0.00	7.62	0.24	0.00	0.13	5.40	5.15	3.51	0.12	0.25	0.00	2.90
0624	29.0	1341	R1	18	0.01	7.63	0.29	0.00	0.15	5.40	5.01	3.51	0.14	0.39	0.00	2.90
0625	26.0	1367	R1	18	0.00	7.63	0.29	0.00	0.15	5.40	4.87	3.51	0.14	0.53	0.00	2.90
0626	26.0	1393	R1	18	0.00	7.63	0.28	0.00	0.15	5.40	4.73	3.51	0.14	0.67	0.00	2.90
0627	28.0	1421	R2	18	0.04	7.67	0.25	0.00	0.13	5.40	4.62	3.51	0.11	0.78	0.00	2.90
0628	29.0	1450	R2	18	0.49	8.16	0.28	0.43	0.15	5.40	4.91	3.51	0.00	0.49	0.00	2.90
0629	28.0	1478	R2	18	0.00	8.16	0.27	0.00	0.14	5.40	4.78	3.51	0.13	0.62	0.00	2.90
0630	25.0	1503	R2	18	0.00	8.16	0.28	0.00	0.15	5.40	4.65	3.51	0.13	0.75	0.00	2.90

# Steps to High-Yield Corn

- Field Prep/ Pre-Season
- Planter Operations
- Fertility
- Early Season Management
- Late Season Management

