

# 2015 Arkansas Corn Quick Facts

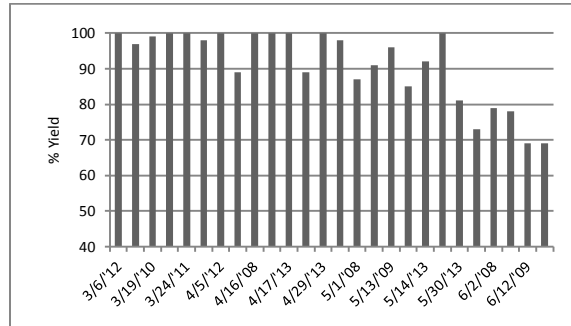
Dr. Jason Kelley – Extension Agronomist – Wheat and Feed Grains  
 Kevin Lawson – Program Associate – Corn and Grain Sorghum Verification

## 2014 Facts:

- 550,000 acres harvested
- 190 bushel per acre state average yield
- Average dates in 2014 CRVP
  - Planting: April 15
  - Emergence: April 25
  - Harvest: September 16
- 56 lbs = 1 bu
- 15.5% moisture is dry

- Place seed between 1.5 to 2 inches deep
- Seeding rate should be between 30,000 and 34,000 seeds per acre
- @\$275.00 a bag, 1,000 seeds = \$3.43

Effect of Planting Date on Irrigated Bt Corn Yield at Marianna 2008 – 2013



## Growth and Development:

	Average from CRVP 2010-2014			
	Days	In	Heat Unit	Applications
Plant	0	0	---	~ April 8
VE	9	0	147	
V2	17	3	256	
V4	27	6	438	
V6	36	12	619	Atrazine & Permit Cutoff (12 in)
V8	44	22	794	Callisto Glyphosate Cutoff (30 in)
V10	50	36	927	
V12	55	52	1050	Pre-Tassel N
V14	59	66	1169	
V16	64	80	1273	
R1	71	106	1474	
R2	77	116	1638	Fungicide
R3	83	116	1821	
R4	90	116	2010	
R5	97	116	2199	Irrigation
R6	122	116	2902	Termination
Harvest	144	116	---	~ Sept 1

## Seeding:

- Plant when ground temp is 55° @ 2 inches deep by 9:00 a.m. for three days

## Corn Seeding Rates

Seeding Rate per acre	Row Spacing (inches)			
	30"	38"	30"	38"
	Seeds per 10 Feet of Row		Inches Between Seed	
26,000	14.9	18.9	8.0	6.3
28,000	16.1	20.4	7.5	5.8
30,000	17.2	21.8	7.0	5.5
32,000	18.4	23.3	6.5	5.2
34,000	19.5	24.7	6.1	4.9
36,000	20.7	26.2	5.8	4.6
38,000	21.8	27.6	5.5	4.3
40,000	23.0	29.1	5.2	4.1

## Determining growth stage:

- Corn growth stages are designated V for vegetative and R for reproductive
- Each V number represents the upper most leaf with a visible collar (Ex: V2 = 2 leaf)
- A corn plant typically has 19 – 21 leaves

Vegetative Stages		Reproductive Stages	
VE	emergence	R1	silking
V1	1 leaf	R2	blister
V2	2 leaf	R3	milk
V3	3 leaf	R4	dough
V(n)	n <sup>th</sup> leaf	R5	dent
VT	tasseling	R6	physiological maturity

## Determining Final Plant Stands:

- 30" rows measure 17 ft 5 in
- 38" rows measure 13 ft 9 in

Count plants in that distance and multiply by 1,000. This will equal plants per acre. Do this in at least ten stops in the field to get an accurate count. Example: 30" row, count 34 plants in 17 ft 5 in  
 34 X 1000 = 34,000 plants per acre

## Fertilization:

### Nitrogen (N):

- Apply approximately ¼ to ⅓ of N immediately before or immediately after planting
- Apply sidedress N between the V4 and V6 growth stage
- If applying pretassel N, apply 100 lbs of Urea (46 units) one to two weeks prior to tassel (approximately between V12 and V14)

Yield Goal (bu/ac)	Units of N to apply per acre	
	Sandy, Silt Loams	Clay
125	160	230
150	160	230
175	220	290
≥ 200	220	290

**Nitrogen sources:**

- 32% UAN (1 gal = 3.5 units of N)
- Urea (46-0-0)
- DAP (18-46-0)
- Ammonium Sulfate (21-0-0-24)

**Phosphorus (P) and Potassium (K):**

**P<sub>2</sub>O<sub>5</sub> Recommendation**

Yield Goal (bu/ac)	Soil Test P (ppm)			
	<16	16-25	26-35	>36
	----- lbs of P <sub>2</sub> O <sub>5</sub> per acre -----			
125	100	80	60	0
150	110	90	70	0
175	120	100	75	0
≥ 200	130	110	80	0

**K<sub>2</sub>O Recommendation**

Yield Goal (bu/ac)	Soil Test K (ppm)				
	<61	61-90	91-130	131-175	>175
	----- lbs of K <sub>2</sub> O per acre -----				
125	145	100	65	30	0
150	150	105	70	40	0
175	155	110	75	50	0
≥ 200	160	115	80	50	0

**Zinc (Zn):**

- Apply 10 lbs of Zn as a granular when Zn levels are <4 ppm and pH is >6.0
- 33 lbs of Zinc Sulfate applied preplant equals 10 lbs of actual Zn

**Sulfur (S):**

- Apply 20 lbs of S when the SO<sub>4</sub>-S soil test level is <10 ppm or a deficiency has occurred in the past
- 100 lbs of Ammonium Sulfate equals 24 lbs of actual S

**Diseases and Fungicide Timing:**

- Fungicides should only be applied when disease is present

- Silk to brown silk is when we typically see disease develop
- Common Rust has a brick red color with circular to elongated pustules, it comes in early and usually does not require treatment
- Southern Rust has an orange pustule and comes in later in the year, the pustules are usually on the surface of the leaf and can require a fungicide
- Check the MP 154 for the latest fungicide recommendations

**Irrigation:**

Potential Yield Reduction from Moisture Stress	
Growth Stage	% Yield Reduction
Prior to tasseling	10 – 20
Tasseling to soft dough	20 – 60
Soft dough to maturity	10 – 35

Estimated Corn Water Use*	
Days after planting	Inches/day
0-30 (early plant growth)	0.05 – 0.10
30-60 (rapid plant growth)	0.10 – 0.20
60-100 (reproductive stage)	0.20 – 0.30
100-120 (grain fill to maturity)	0.25 – 0.10

\* Based on planting date of April 1

**Irrigation Termination**

- Furrow Irrigation – when starch line movement is >50% and there is adequate moisture
- Pivot Irrigation – when starch line movement is >75% and there is adequate moisture

**Herbicides:**

- 1 qt of atrazine 4L = 1 lb of atrazine
- Do not apply >2.5 lb of atrazine in a season

- For best weed control apply metolachlor (Dual II Magnum) or other residual PRE followed by POST herbicide combination including atrazine by V4
- Do not apply atrazine after 12 inches
- Halex GT, Callisto and glyphosate can be applied up to 30 inch corn or V8 stage
- Check the MP 44 for the latest herbicide recommendations

**Insects Traits:**

- For help calculating the proper refuge go to <http://refuge.irmcalculator.com>

Trait	Symbol	Insects Managed	Refuge
Genuity VT Double Pro	DPRO	Corn Borers Fall Armyworm Corn Earworm	20%
Genuity VT Triple Pro	PRO	Corn Borers Fall Armyworm Corn Earworm Corn Rootworm	20%
Genuity SmartStax	SS	Corn Borers Fall Armyworm Corn Earworm Corn Rootworm	20%
Viptera	Viptera	Corn Borers Fall Armyworm Corn Earworm	20%
Optimum Intrasect	YHR	Corn Borers Fall Armyworm	20%
Herculex	HX or H	Corn Borers Fall Armyworm	50%
YieldGard CornBorer	YGCB	Corn Borers	50%
YieldGard VT Triple	VT3	Corn Borers Corn Rootworm	50%

**More information and additional copies of this fact sheet are available at:**

<http://www.arkansascrops.com> and <http://www.uaex.edu>