2018 Arkansas Corn Quick Facts

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DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

2017 Facts:

- 620,000 acres harvested
- 179 bushel per acre state average yield
- Average dates in 2017 CRVP
  Click here for more information about verification
  - Planting: April 1
  - Emergence: April 12
  - Harvest: September 4
- 56 lbs = 1 bu
- 15.5% moisture is dry

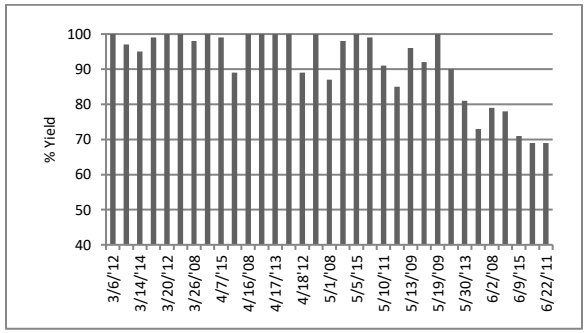
Growth and Development:

	Average from CRVP 2007-2016			
	Days	Inch	Heat Unit	Applications
Plant	0	0	---	~ April 10
VE	9	0	149	
V2	18	3	278	
V4	27	6	445	
V6	36	12	621	Atrazine & Permit Cutoff (12 in)
V8	44	21	800	Callisto Glyphosate Cutoff (30 in)
V10	50	35	949	
V12	55	51	1082	Pre-Tassel N
V14	60	65	1192	
V16	64	80	1300	
R1	71	116	1497	
R2	77	116	1665	Fungicide
R3	83	116	1851	
R4	90	116	2040	
R5	97	116	2232	Irrigation Termination
R6	121	116	2876	
Harvest	147	116	---	~ Sept 5

Seeding:

- Plant when ground temp is 55° @ 2 inches deep by 9:00 a.m. for three days
- 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 – 2015



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^{th} leaf	R5	dent
VT	tasseling	R6	physiological maturity

Determining Final Plant Populations:

- 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_2O_5 Recommendation

Yield Goal (bu/ac)	Soil Test P (ppm)			
	<16	16-25	26-35	>36
	----- lbs of P_2O_5 per acre -----			
125	100	80	60	0
150	110	90	70	0
175	120	100	75	0
≥ 200	130	110	80	0

K_2O Recommendation

Yield Goal (bu/ac)	Soil Test K (ppm)				
	<61	61-90	91-130	131-175	>175
	----- lbs of K_2O 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_4-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 and later is when we typically see foliar 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 (click for electronic copy)

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 (click for electronic copy)

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 & additional copies of this fact sheet are available at:

www.uaex.edu/corn

www.uaex.edu/verification