Earliness – What is it and How can it be Managed?

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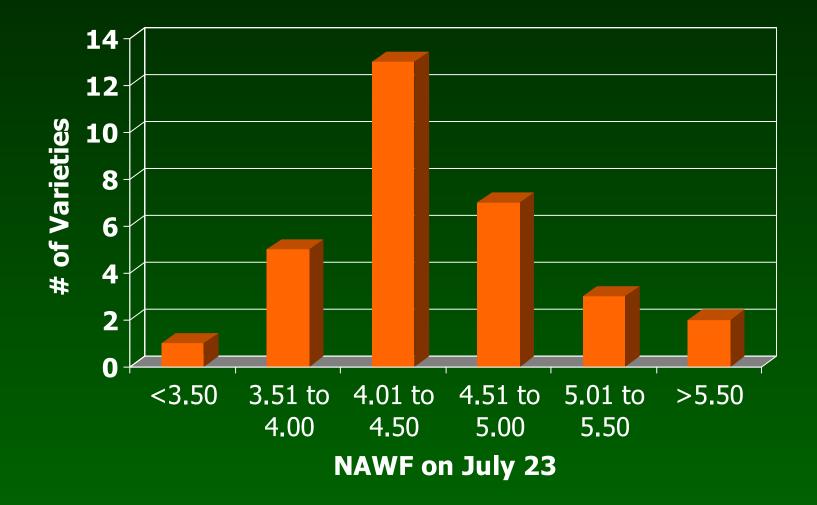
- Lower NFFB
- Earlier peak bloom
- Shorter bloom period
- Shorter plant
- Less stress tolerance
- Compressed season

"Early" Maturity

- Higher NFFB
- Later peak bloom
- Longer bloom period
- Taller plant
- More stress tolerance
- Protracted season

"Full" Maturity

How much difference in earliness is there among varieties?



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Bookmarks			JPLAND VARIETY GUIDE	Traits	Maturity	Leaf Type	Seedling Vigor	Storm Tolerance	•
Bod		UPLAND V	ARIETY						
Comments Thumbnails		PHY 375 WRF	Early maturity WideStrike [®] <i>Insect</i> <i>Protection</i> and Roundup Ready [®] Flex stacked variety with excellent vigor, broad adaptation, high yield potential and very good to excellent fiber quality.	WideStrike	Early	Semi-smooth	Excellent	Good	
Signatures		PHY 485 WRF	WideStrike [®] Insect Protection and Roundup Ready [®] Flex stacked variety with early to midmaturity and broad adaptation. Very good to excellent fiber quality and grades.	WideStrike	Early-mid	Haiy	Very good	Good	
		PHY 370 WR	Early maturity WideStrike [®] <i>Insect</i> <i>Protection</i> and Roundup Ready [®] stacked variety with very good vigor, broad adaptation and high yield potential.	WideStrike	Early	Semi-sriooth	Very good	Good	
		PHY 480 WR	WideStrike [®] <i>Insect Protection</i> and Roundup Ready [®] stacked variety with early to midmaturity and broad adaptation.	WideSuite	Early-mid	Hary	Very good	Good	
		PHY 440 W	WideStrike [®] Insect Protection variety with early to midmaturity, consistent high yield potential, broad adaptation and very good fiber quality.		Early-mid	Hairy	Very good	Good	
		PHY 315 RF	Early maturity Roundup Ready® Flex variety with good vigor and broad adaptation. High yield potential with very good to excellent fiber quality.		Early	9emi-smooth	Very good	Good	
	(⊧) 14 4 20	of2 ▶ № 15.5 x 9 in	Early to midmaturity Roundup Ready® Flex variety adapted for the mid-South. Southeast						•

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Thumbnails	S	TONEVILLE®	COTTON CHA	RACI	ERI	STIC	S													
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Comments									('BM	Height of First Fruiting Branch _(inches)								lit		
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2			\frown	Storm Tolerance		Seedling Vigor	jht	es	irst ranc	Firs		% Gin Turn Out	(ejd		đ	-		nur	Verticillium Wilt	.≓
Signatures		Stoneville Brand	2	Tol	air	bu	Plant Height	Total Nodes	g B	g B		Iu	Length (staple)	ţ	Micronaire	Uniformity		nsa	lliun	Bronze Wilt
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		ST 4357B2RF	Early - Mid	4	S	ND	М	24	7.0	12.0	1	41	37	29	4.2	85	١	D	3	9
		ST 4427B2RF	Early - Mid	З	Н	8	М	26	5.7	5.5		41	36	28	4.1	82		6	ND	9
	NEW	ST 4498B2R	Early - Mid	В	Н	9	М	16	4.0	5.3		40	37	30	4.3	84		6*	ND	9
		ST 4554B2FF	Early - Mid	:	Н	8	М	19	6.1	8.3		41	37	30	4.5	83		6*	3	9

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	ST 4427B2RF	Early - Mid	3	Н	8	М	26	5.7	5.5	41	36	28	4.1	82	6	ND	9
NEW	ST 4498B2R	Early - Mid	В	Н	9	М	16	4.0	5.3	40	37	30	4.3	84	6*	ND	9
	ST 4554B2FF	Early - Mid		Н	8	М	19	6.1	8.3	41	37	30	4.5	83	6*	3	9
NEW	ST 4596B2I F	Early - Mid	3	Н	9	М	17	5.0	5.5	38	38	30	4.6	84	6*	ND	9
	ST 4664RF	Early - Mid	З	Н	8	М	19	6.5	7.5	43	37	28	4.5	83	6*	5	9
NEW	ST 4678B28F	Early - Mid	4	Н	8	М	18	5.0	5.7	39	38	29	4.6	84	ND	ND	6
	ST 5242BR	Early - Mid	4	S-S	9	М	19	5.9	5.9	42	35	28	4.5	84	6	6	9
	ST 5283RF	Mid	3	S-S	ND	М	25	5.0	5.5	42	36	30	4.2	82	5*	ND	9
	ST 5327B2FF	Mid		S-S	ND	М	23	5.0	5.0	42	36	29	4.2	83	5*	ND	9
NEW	ST 5458B2RF	Mid	4	Н	8	М	16	5.5	5.5	41	36	29	4.6	83	7*	ND	6
	ST 5599BR	Mid - Full	4	Н	9	Т	22	6.2	9.7	41	36	30	4.4	83	7	4	6
NEW	ST 6351B2RF	Full	3	S-S	5	М	20	5.4	12.1	38	38	29	4.3	84	ND	ND	9
	ST 6611B2RF	Full	5	S	6	Т	31	7.0	11.0	38	37	29	4.3	84	ND	ND	9
	ST 6622RF	Full	5	S	6	Т	31	6.5	11.0	42	37	32	4.1	84	ND	ND	9

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All ratings are appro.

Bayer CropScient

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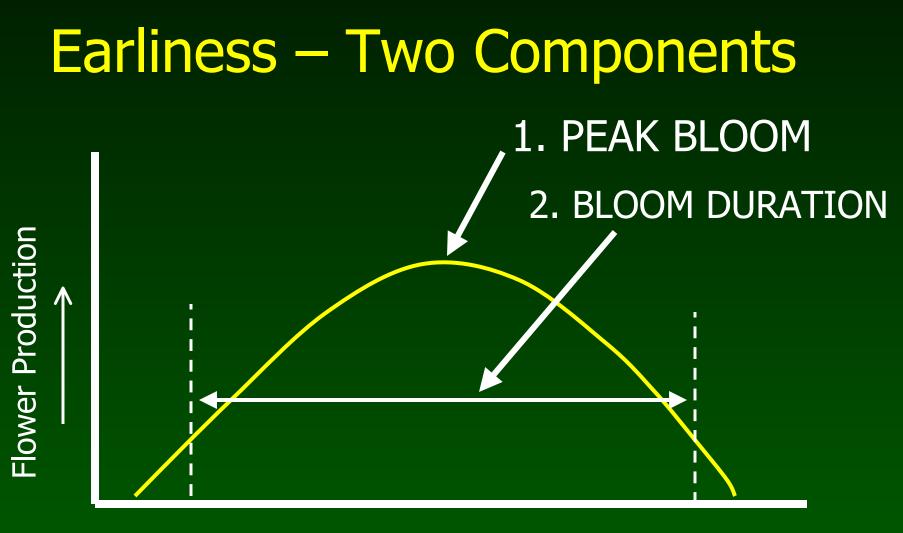
DP555BG Midsouth/Southeast

Deltapine® Bollgard®/Roundup Ready® Cotton Product

Characteristics	
Maturity:	Mid-full
Leaf Type:	Smooth
Plant Height:	Very tall
Seed Size:	5500-6200
Storm Resistance ⁺ :	3
Gin Turnout:	40.5%

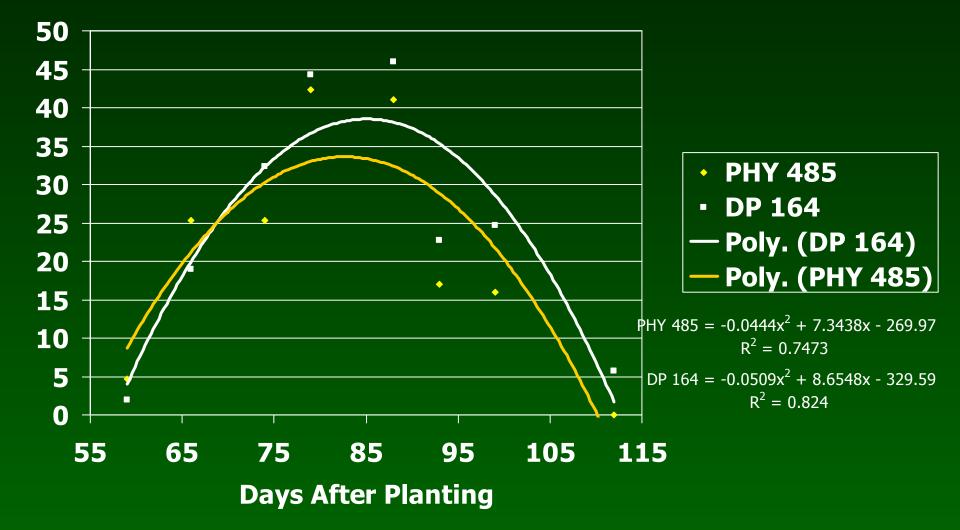


What does earliness mean from a management perspective?



Days after planting -

Days to Peak Bloom and Bloom Duration

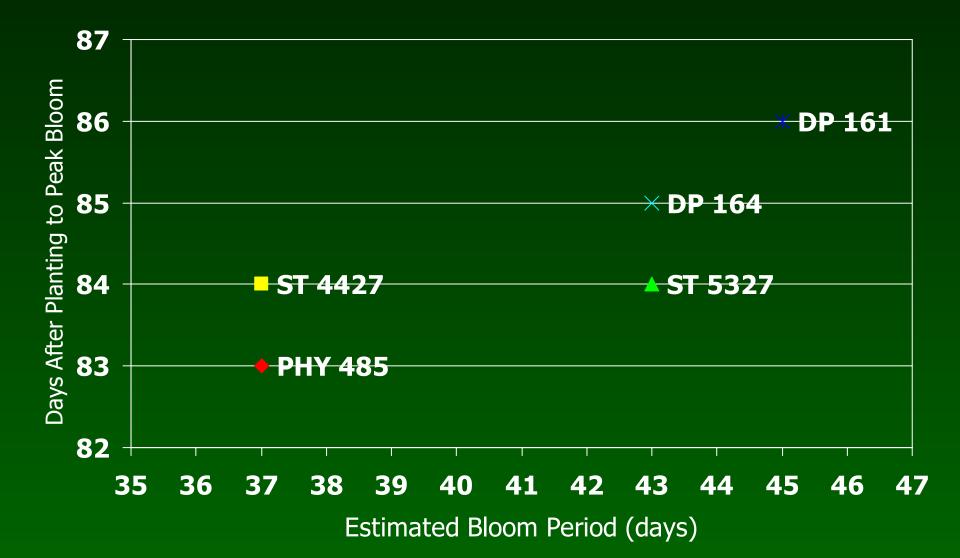


Maturity Estimations

Variety	Days to Peak Bloom	Estimated Bloom Period
Phytogen 485	83	37
Stoneville 4427	84	37
Stoneville 5327	84	43
Deltapine DP 164	85	43
Deltapine DP 161	86	45
LSD _{0.10}	2	2

DLRS, 2007.

Maturity Estimations



Managing Earliness

General DD60 Requirements of Cotton

	DD60s	Days
Planting to Emergence	45-130	5-20
Emergence to first square	350-450	27-38
Between Nodes	40-50	2.5-4.5
Square to Bloom	250-500	20-27
Bloom to Open Boll	910-950	45-60
Season long	2550-4600	130-170

Silvertooth, Edmisten, McCarty, 1999

Management Factors that Affect Maturity

- Variety
- Plant Population
- Nitrogen
- Water
- PGRs
- Insect ManagementDefoliation Timing



4.5 plants/row ft

orove

25

24

LOWE'S KNOWS Home

21

20

19

22

26

3 plants/row ft

LOWE'S TOT

24 inch Hill Drop

20 21

216 217 218 219 30 311 32 33 34 35 36 lome improvement

20

16 inch Hill Drop

8 inch Hill Drop

Plant population effect peak bloom Alexandria, 2003 & 2004 – PM 1218 BR

Dopulation	Peak Bloom (DAP)						
Population	2003	2004					
61,896	74 a	76 a					
30,958	77 ab	84 ab					
20,631	78 b	90 b					
13,755	79 b	91 b					

Planting date: 5/22/03 and 5/24/04

Means in the same column followed by the same letter are not significantly different, P(0.05).

Management Factors that Affect Maturity

Large Effect	Some Effect	Minimal Effect
Variety	Nitrogen	Plant Growth Regulators
Plant Population	Water	Defoliation Timing
Insect Management		
Early Retention		

Almost everything we do in managing a cotton crop is done in response to, or to overcome cotton's perennial growth habit in an annual row-crop environment.

- Gospel According to Sandy

GOOD LUCK IN 2008