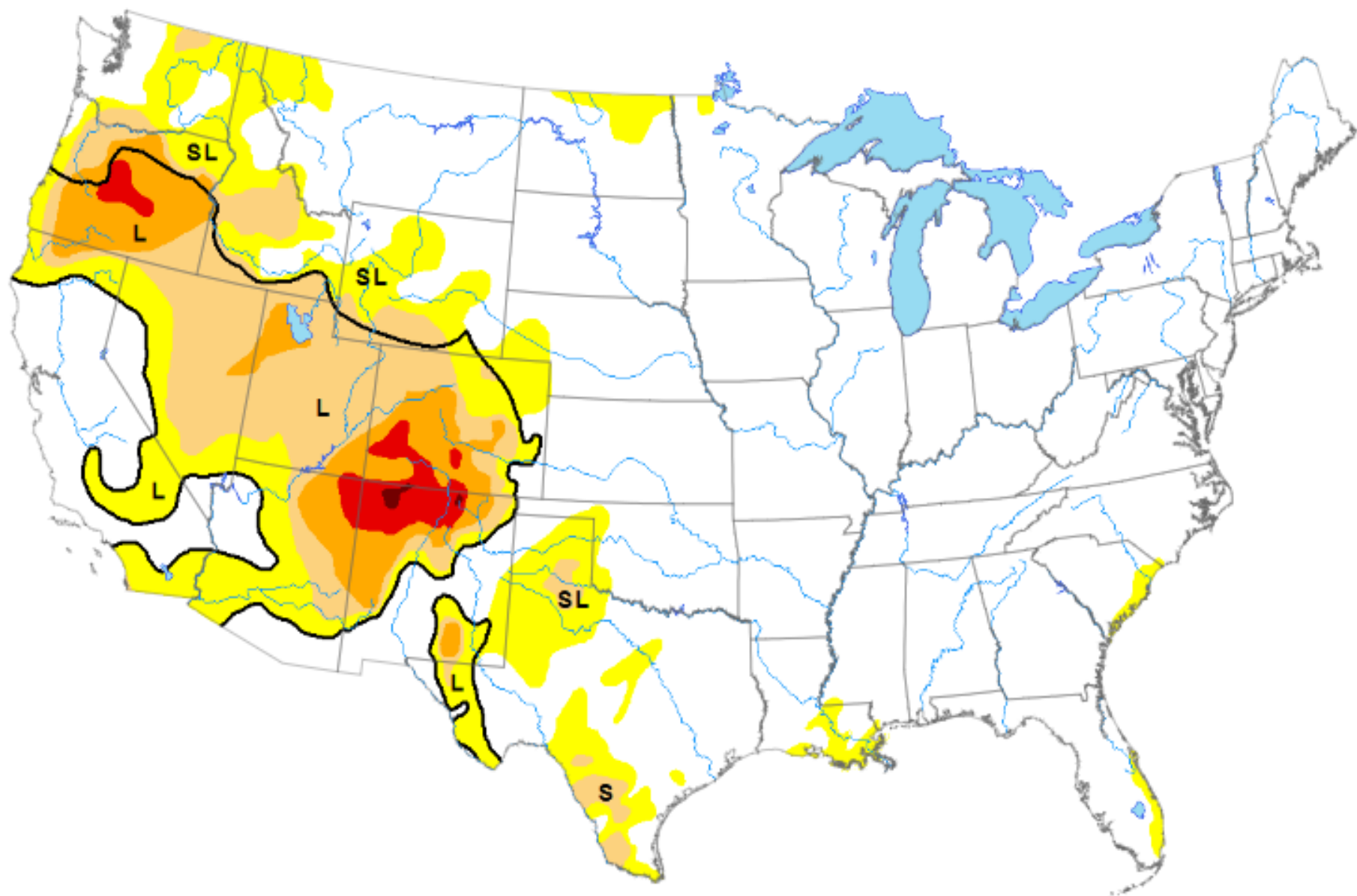


Cotton Varieties and Management



Map released: February 21, 2019

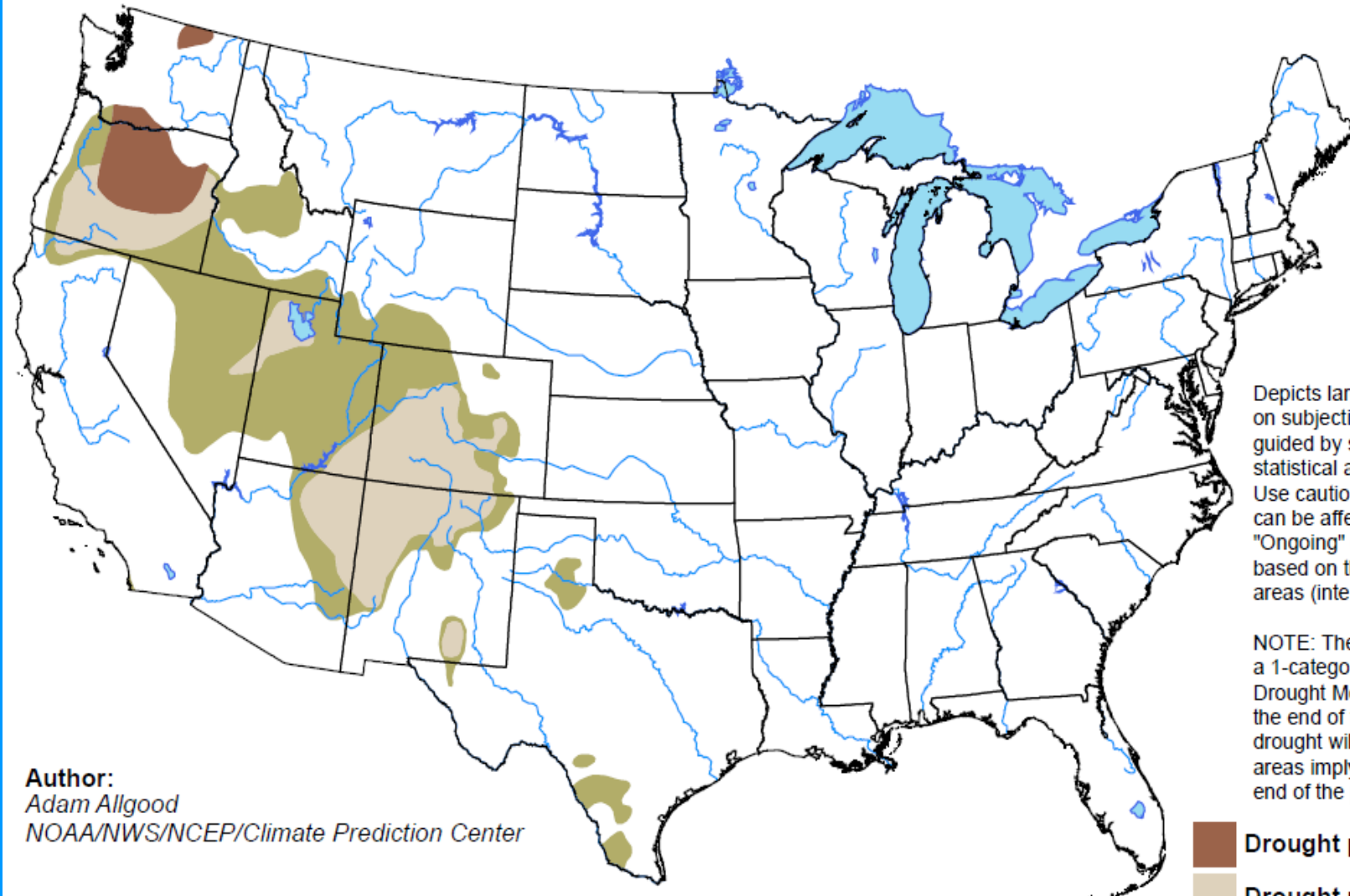
Data valid: February 19, 2019 | Author: **Brad Rippey**, U.S. Department of Agriculture



Feb.21-May 31 outlook 2019

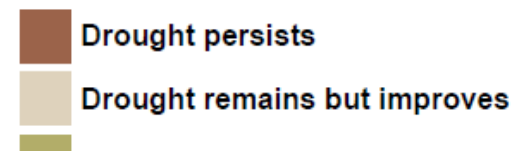
U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for February 21 - May 31, 2019
Released February 21

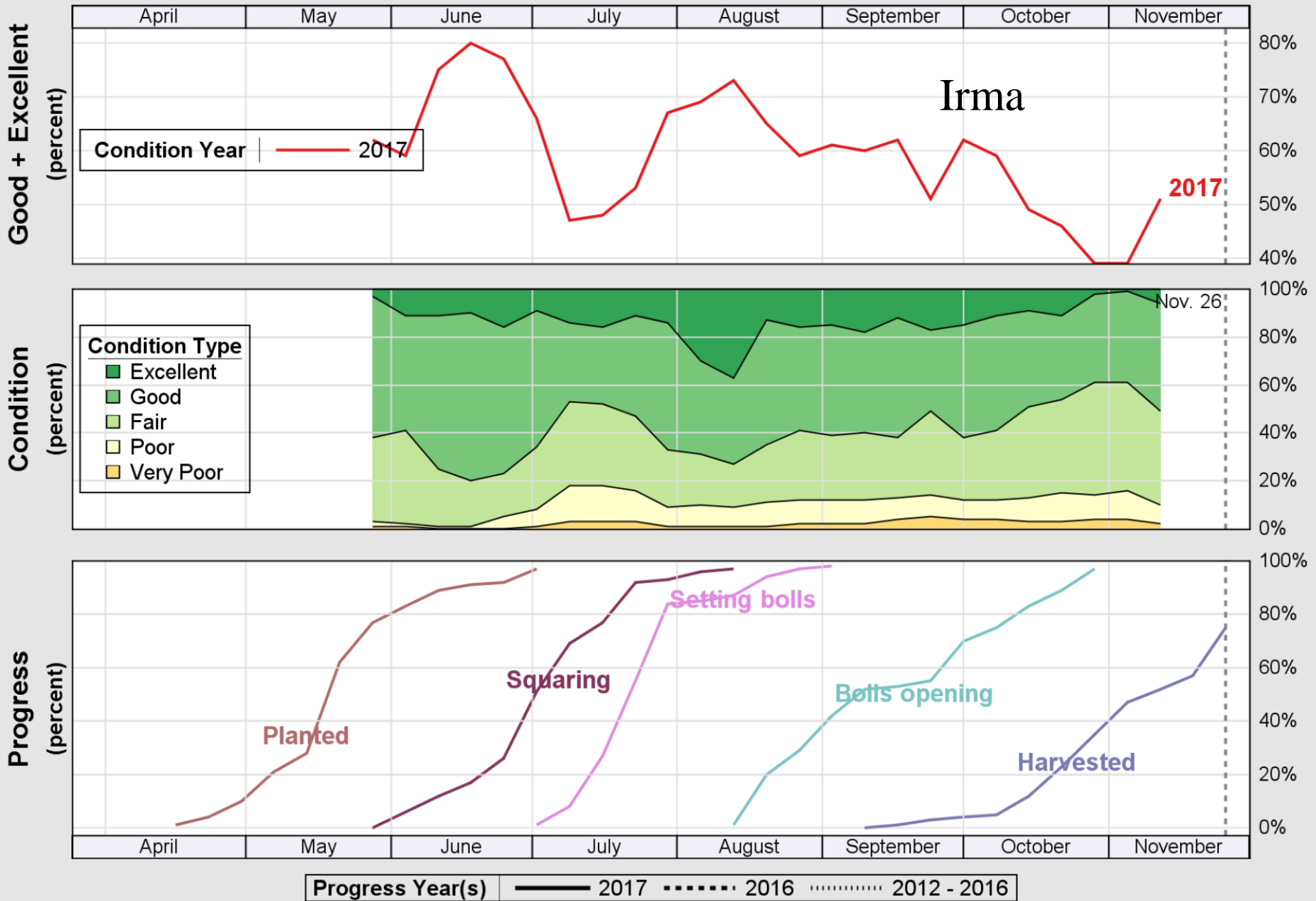


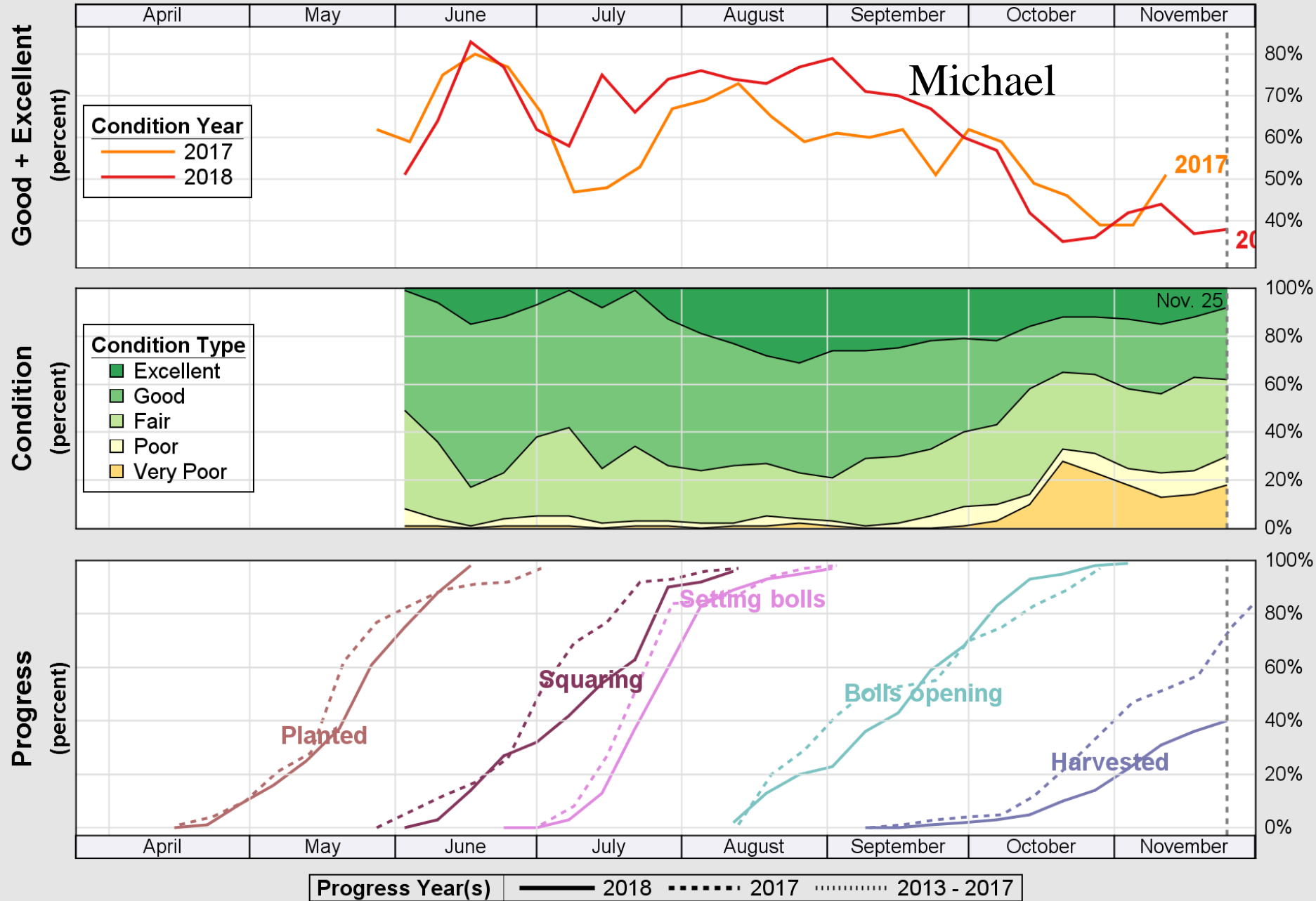
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).



Author:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center





2018 Cotton Season

- Acreage was up and harvested acres down
- Florida yields were off by almost 300 lbs/A
- Hurricane Michael came at beginning of harvest
- Wet fields into January delayed harvest and quality
- Looked to be a record yield in 2018

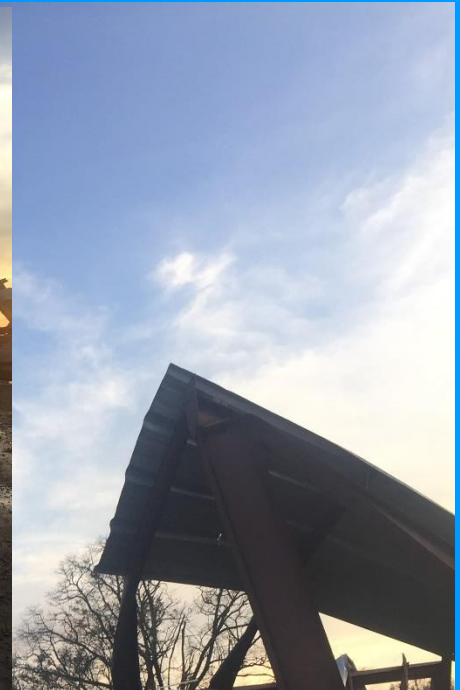
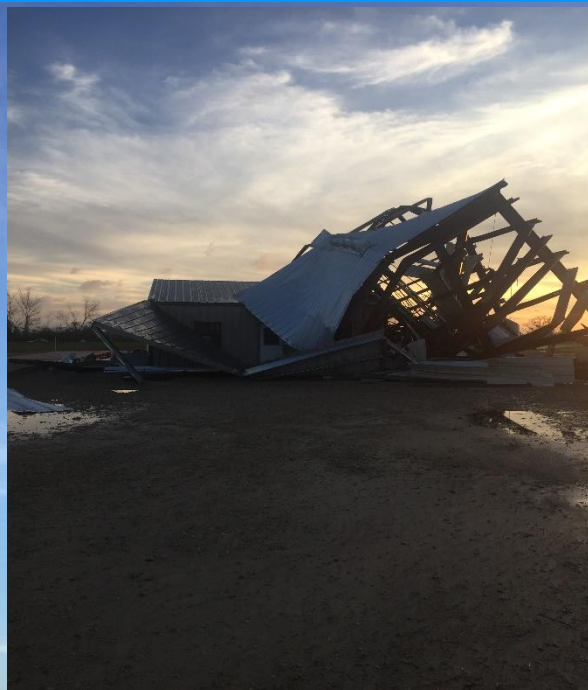
Florida Cotton Production

	2015	2016	2017
Acres planted	85,000	103,000	99,000
Yield per acre (lbs)	885	922	784
Production (bales)	153,000	196,000	160,000

Cotton Supply

- US Planted acreage up 12% to 14.1 M acres.
- Higher abandonment acreage in Southwest due to early season drought.
- Southeast yields down due to hurricanes.
- Global production down in major countries except Brazil and Argentina.

2018	Planted Acres	Harvested Acres	Yield
Alabama	510	500	826
Florida	117	90	640
Georgia	1,430	1,350	693
South Carolina	300	290	728
US	14,099	10,530	838



Hurricane Michael

1800 lbs lint/A before Michael
and 100 lbs/A a week after



Estimate of 2019 Relative Row Crop Costs and Net Returns

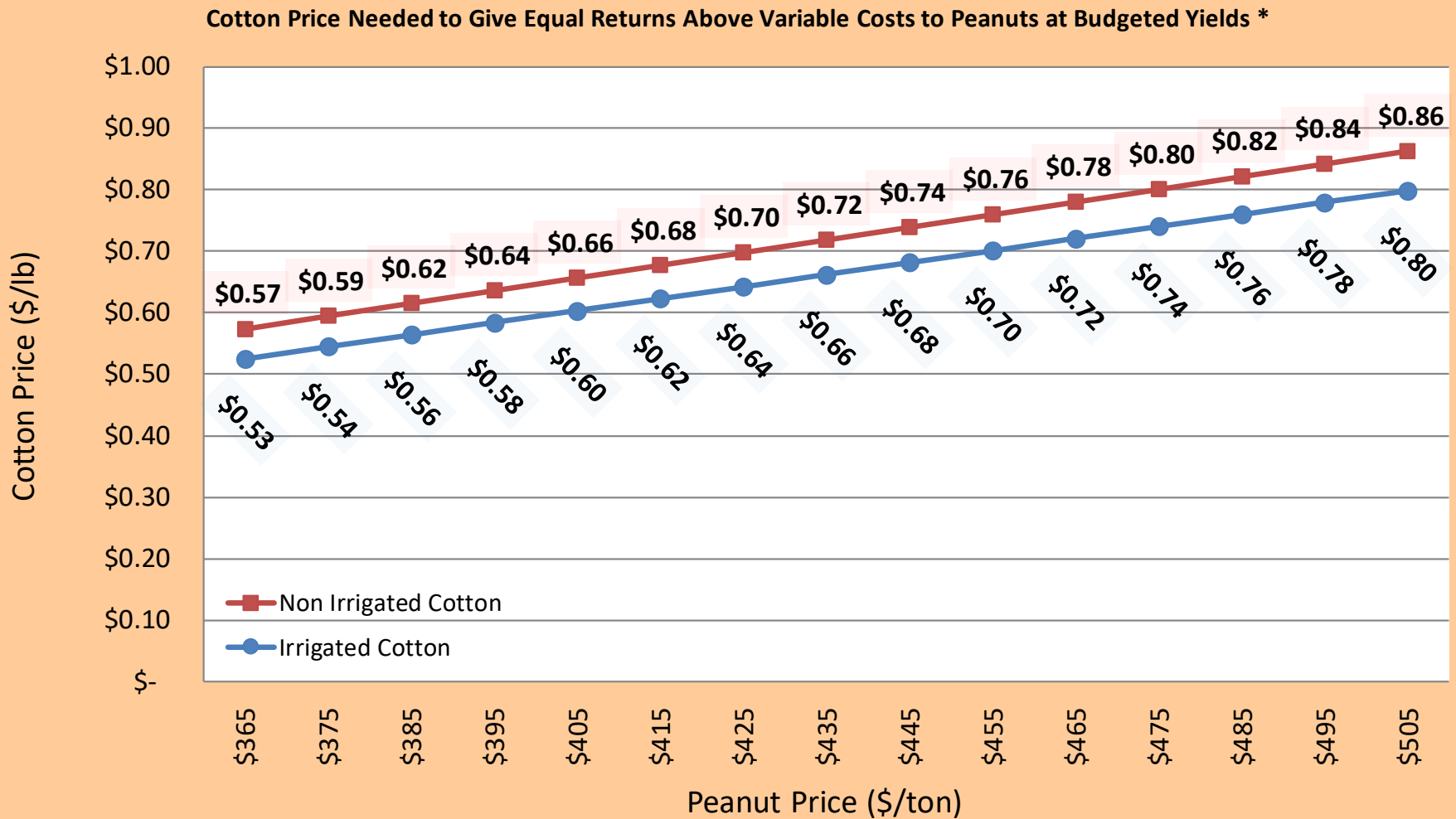
By N.B. Smith, S. Mickey, Bernt Nelson, A. Kantrovich. Clemson Extension Agribusiness Team

Conventional Tillage	IRRIGATED				
	Cotton	Peanuts	Corn	Soybeans	Grain Sorghum
EXPECTED YIELD per ACRE	1,100 lbs	4,300 lbs	200 bu	55 bu	100 bu
EXPECTED SEASON AVG PRICE	\$0.75 /lb	\$435 /ton	\$4.25 /bu	\$9.50 /bu	\$3.83 /bu
GROSS RETURN per ACRE	\$825	\$935	\$850	\$523	\$383
TOTAL VARIABLE COSTS per ACRE	\$588	\$795	\$655	\$430	\$341
RETURN ABOVE VARIABLE COST per ACRE	\$237	\$140	\$195	\$93	\$41
BREAKEVEN PRICE (Variable Cost)	\$0.53 /lb	\$370 /ton	\$3.28 /bu	\$7.82 /bu	\$3.41 /bu
BREAKEVEN YIELD per ACRE (Variable Cost)	784 lbs	3,655 lbs	154 bu	45 bu	89 bu
TOTAL SPECIFIED FIXED COSTS per ACRE	\$320	\$327	\$242	\$224	\$225
TOTAL COST EXCL. LAND & MGT per ACRE	\$908	\$1,122	\$897	\$654	\$566
RETURN TO LAND AND MGT per ACRE	-\$83	-\$187	-\$47	-\$131	-\$184
BREAKEVEN PRICE (Total Costs)	\$0.83 /lb	\$522 /ton	\$4.48 /bu	\$11.88 /bu	\$5.66 /bu
BREAKEVEN YIELD per ACRE	1,211 lbs	5,159 lbs	211 bu	69 bu	148 bu

* Expected fertilizer \$/lb. of nutrient: N= \$0.50 P= \$0.40 K= \$0.40

** Season Average Diesel fuel price: \$2.25 per Gallon

Cotton vs Peanut



* The above chart is based on the following assumptions:

- 1) Irrigated cotton is compared to irrigated peanut and non-irrigated cotton is compared to non-irrigated peanut.
- 2) Irrigated cotton yield is 1100 lbs. and irrigated peanut yield is 4300 lbs.
- 3) Non-irrigated cotton yield is 800 lbs. and non-irrigated peanut yield is 3300 lbs.
- 4) Prices shown are those needed to cover budgeted operating costs for conventional till production listed in the crop comparison tool.

CTZ19 - Cotton #2 - Daily OHLC Chart



Most Expensive Items in Budgets

- Cash rent
- Seed (corn, cotton, peanut)
- Fertilizer, N (corn, cotton)
- Machinery depreciation
- Pesticides (fungicides peanuts, weed control all crops)

How can you ensure a profit for 2019?

- You can't but you can make wise choices
- Rotation
- Plant after winter grazing- lower N, higher yields by 150-300 lbs/A
- Right varieties
- Irrigation
- Nematicide in fields where you know problems exist
- Timely management (planting, N, growth regulators, harvest)

On Farm Variety Performance Trials in The SE



2018 UGA OFT Data (Preliminary) All Locations*

Rnk	VARIETY	WILCX.	TURN.	MIDV. IRR	BERIN.	PULA.	COOK	MIDVILLE DRY	COLQ. PRYMN	TAYLOR	COLQ. LATE	JEFF DAVIS	COLQ. DAVIS	ATHNS.	WASH.	AVG
1	DP 1646 B2XF	526	737	647	768	781	933	844	1043	985	1106	1037	1322	1382	1489	971
2	DP 1538 B2XF	565	802	755	760	709	888	803	1058	1025	1119	1074	1358	1252	1385	968
3	NG 5711 B3XF	566	823	927	759	808	897	817	954	991	914	1141	1243	1297	1336	962
4	ST 5471 GLTP	556	722	720	938	714	958	899	866	996	986	1035	1371	1238	1460	961
5	PHY 430 W3FE	518	819	790	880	817	722	1023	837	904	921	1108	1318	1424	1378	961
6	DP 1840 B3XF	574	810	908	700	745	901	838	1052	959	989	972	1295	1334	1370	961
7	CG 3885 B2XF	614	694	729	678	798	790	924	971	1004	1006	1087	1324	1254	1340	944
8	DP 1851 B3XF	476	908	830	797	656	817	812	1050	949	890	1128	1259	1217	1349	938
9	NG 5007 B2XF	622	618	764	614	754	900	913	983	1002	939	1140	1248	1252	1380	938
10	DG 3605 B2XF	535	422	661	819	774	888	826	1010	851	1025	1099	1265	1407	1490	934
11	PHY 480 W3FE	572	878	778	838	916	813	885	788	905	941	1026	1170	1259	1298	933
12	ST 6182 GLT	592	645	570	579	792	681	979	677	1035	1043	1010	1291	1411	1233	896
13	ST 5818 GLT	514	642	652	799	754	908	850	595	1045	937	987	1204	1221	1309	887
14	PHY 440 W3FE	540	742	626	836	792	631	828	1026	834	881	1075	1129	1315	1076	881
	AVERAGE	555	733	740	769	772	838	874	922	963	978	1066	1271	1304	1349	

*A number of these trials were significantly impacted by Hurricane Michael. Therefore, consideration should be given if making variety decisions based on this set. Another data set has trials which analyzes data without damage is also available.

2018 UGA OFT – PRELIMINARY

(trials not impacted by Hurricane*)

Rank	VARIETY	TAYL.	COLQ. LATE	COLQ. DAVIS	ATHNS.	WASH.	GOOD LOC AVG	LSD P=0.10	GOOD LOC Rank	ALL LOC AVG	ALL LOC Rank	Rank Change (+/-)
1	DP 1646 B2XF	985	1106	1322	1382	1489	1257	a	1	971	1	0
2	DP 1538 B2XF	1025	1119	1358	1252	1385	1228	ab	2	968	2	0
3	ST 5471 GLTP	996	986	1371	1238	1460	1210	abc	3	961	4	1
4	DG 3605 B2XF	851	1025	1265	1407	1490	1208	abc	4	934	10	6
5	ST 6182 GLT	1035	1043	1291	1411	1233	1203	a-d	5	896	12	7
6	DP 1840 B3XF	959	989	1295	1334	1370	1189	a-d	6	961	6	0
7	PHY 430 W3FE	904	921	1318	1424	1378	1189	a-d	7	961	5	-2
8	CG 3885 B2XF	1004	1006	1324	1254	1340	1186	bcd	8	944	7	-1
9	NG 5007 B2XF	1002	939	1248	1252	1380	1164	b-e	9	938	9	0
10	NG 5711 B3XF	991	914	1243	1297	1336	1156	cde	10	962	3	-7
11	ST 5818 GLT	1045	937	1204	1221	1309	1143	cde	11	887	13	2
12	DP 1851 B3XF	949	890	1259	1217	1349	1133	de	12	938	8	-4
13	PHY 480 W3FE	905	941	1170	1259	1298	1115	ef	13	933	11	-2
14	PHY 440 W3FE	834	881	1129	1315	1076	1047	f	14	881	14	0
	AVERAGE	963	978	1271	1304	1349	1173	71		938		

*These trials were either harvested prior to Hurricane Michael or did not receive storm damage to the point which variety performance was significantly impacted as determined by UGA Cotton Agronomists.

2017 UGA On-Farm Cotton Variety Evaluation Program

19 Locations (10 Irrigated, 9 Dryland)

Variety	Telfair DRY	Grady DRY	Wayne DRY	Early DRY	Oconee DRY	Colquitt (Expo) IRR	Turner DRY	Tift (Carlson) IRR	Pulaski IRR	Bleckley DRY	Burke DRY	Washington IRR	Calhoun IRR	Colquitt (Perryman) IRR	Jeff Davis IRR	Cook IRR	Colquitt (Davis) IRR	Bulloch DRY	Burke IRR	Variety Average
ST 6182 GLT	569	897	745	953	1,041	1,097	1,075	1,283	1,247	1,123	1,157	1,157	1,214	1,288	1,231	1,268	1,296	1,374	1,490	1,132
DP 1538 B2XF	500	818	928	953	864	1,123	1,141	1,304	1,203	1,214	1,161	1,195	1,187	1,227	1,210	1,309	1,219	1,397	1,435	1,126
DP 1646 B2XF	528	810	842	982	973	1,081	1,097	1,220	1,138	1,233	1,129	1,125	1,184	1,177	1,196	1,243	1,339	1,340	1,426	1,109
CG 3885 B2XF	558	822	914	939	963	1,030	968	1,163	1,131	1,073	1,050	1,182	1,261	1,172	1,235	1,149	1,271	1,253	1,458	1,084
NG 5007 B2XF	458	558	810	816	891	1,020	901	1,135	1,135	1,095	1,136	1,057	1,153	1,107	1,155	1,109	1,133	1,241	1,375	1,015
ST 5115 GLT	454	808	620	923	1,002	906	1,065	1,082	992	951	1,082	1,106	1,040	1,124	1,153	1,216	1,173	1,111	1,318	1,007
NG 4601 B2XF	537	697	771	907	831	838	1,019	986	986	1,034	1,079	1,143	1,133	1,052	1,083	1,092	1,210	1,215	1,273	994
PHY 340 W3FE	399	711	812	882	970	847	1,014	954	1,020	1,032	1,113	1,079	993	1,132	1,048	1,067	1,201	1,265	1,274	990
ST 5020 GLT	423	724	728	987	914	835	975	945	1,033	972	1,118	1,076	1,047	1,050	992	1,032	1,246	1,262	1,372	986
DP 1747NR B2XF	412	694	1,035	592	863	879	1,054	926	1,018	969	1,113	1,088	1,124	1,057	1,287	1,056	957	1,278	1,306	985
PHY 330 W3FE	362	584	809	889	954	906	946	934	1,048	1,003	1,084	1,102	1,038	1,172	1,045	1,043	1,199	1,162	1,338	980
PHY 450 W3FE	529	704	745	789	966	847	847	916	888	1,039	1,111	1,130	963	1,044	1,104	1,186	1,039	1,141	1,243	960
PHY 490 W3FE	483	735	693	862	893	756	983	910	939	1,045	1,069	1,074	1,108	1,022	990	1,070	1,046	1,194	1,231	953

Trial Average	478	736	804	883	933	936	1,007	1,058	1,060	1,060	1,108	1,116	1,111	1,125	1,133	1,142	1,179	1,249	1,349	1,024
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Bold Italic - Above Trial Average

Red Font - in Top 4 of 13

AL Extension On-Farm Cotton Variety Performance-South 2018

VARIETY	RANK	LINT YIELD (LBS/A)	LINT TURN-OUT (%)	MICRONAIRE	LENGTH (IN.)	STRENGTH (G/TEX)	UNIFORMITY (%)
PHY480W3FE	1	1178	36.5%	4.2	1.20	33.6	84.0
DP1646B2XF	2	1174	40.5%	4.1	1.22	30.5	81.8
ST5471GLTP	3	1174	39.0%	4.1	1.18	31.7	81.7
NG5007B2XF	4	1171	37.5%	4.1	1.18	32.4	82.4
DP1840B3XF	5	1157	39.2%	4.4	1.14	28.6	81.7
NG5711B3XF	6	1138	38.8%	4.2	1.18	30.6	82.5
PHY430W3FE	7	1123	39.2%	4.1	1.16	31.3	82.3
ST5818GLT	8	1101	39.6%	4.2	1.11	31.0	82.1
ST6182GLT	9	1058	39.2%	4.2	1.15	29.9	82.5
DP1851B3XF	10	1054	37.6%	4.1	1.14	30.5	81.4
PHY330W3FE	11	1034	37.7%	4.1	1.17	31.2	82.1
DG3445B2XF	12	1004	41.4%	4.3	1.13	29.0	81.2
AVERAGE:		1114	38.9%	4.2	1.16	30.9	82.1

Late Plantings can be High Risk

- Planting after the first week of July can have high risk of being killed by frost before opening
 - looks like 2-3 bale cotton but once bolls are killed by early frost there is no way to open them with any chemical
- Lower GDD accumulation with cooler temps and shorter days
- For late planted cotton, August 24th is likely the last day to expect squares to make harvestable bolls (pending GDDS)

Cotton Physiology

- Late plantings run the risk of lower GDDs for development and early freezes (result in hardlock and the bolls cannot be opened)
- Planting to first white flower is about 60 days
 - square to white flower is approx. 21 days
- White flower to a mature boll is 50-60 days depending on your growing degree days

Example- Planting & Harvest Timeline

- Example:

July 15th planting

-August 23rd is likely the last day to expect squares to make harvestable bolls (pending weather)

60 DAP

-September 13th roughly first flower

110-120 DAP

-November 2nd is 50 days, November 12th is 60 days (chance of frost?)

2017 UF (Jay) Early Data –Dryland

Table 4. Early-Maturing Cotton Variety Gin Turnout and Yield, Jay, FL 2017

Variety	Yield			
	Seed Cotton ^w (lb/A)	Gin Turnout ^x (%)	Lint Yield (lb/A)	Bales/A ^y
1 VA 222	2468	34.6	853	1.8
2 HQ 210 CT	1924	34.7	669	1.4
3 DP 1725 B2XF	2948	37.2	1099	2.3
4 DP 1518 B2XF	3194	37.2	1193	2.5
5 DP 1522 B2XF	2577	36.9	952	2.0
6 PHY 312 WRF	2759	35.9	989	2.1
7 PHY 333 WRF	3056	36.8	1121	2.3
8 PHY 444 WRF	2723	36.9	1005	2.1
9 PHY 300 W3FE	2614	37.4	976	2.0
10 PHY 330 W3FE	2541	35.7	905	1.9
11 PHY 340 W3FE	2759	36.4	1003	2.1
12 NG 3522 B2XF	2505	38.2	958	2.0
13 NG AMX 1715 B2XF	2723	36.9	1004	2.1
<i>LSD</i>	492	2.1	199	0.4
<i>CV</i>	13.1%	4.0%	14.3%	14.3%

^w Weight (lb/A) includes lint + seed.

^x Gin Turnout = lint/seed cotton.

^y Bales/A are weight of lint only at 480 lb/bale
Plots were harvested on 18 October.

Average 979 lb/a lint

2017 UF (Jay) Early Data- Dryland

Early-Maturing Two and Three Year Lint/A Yield Averages

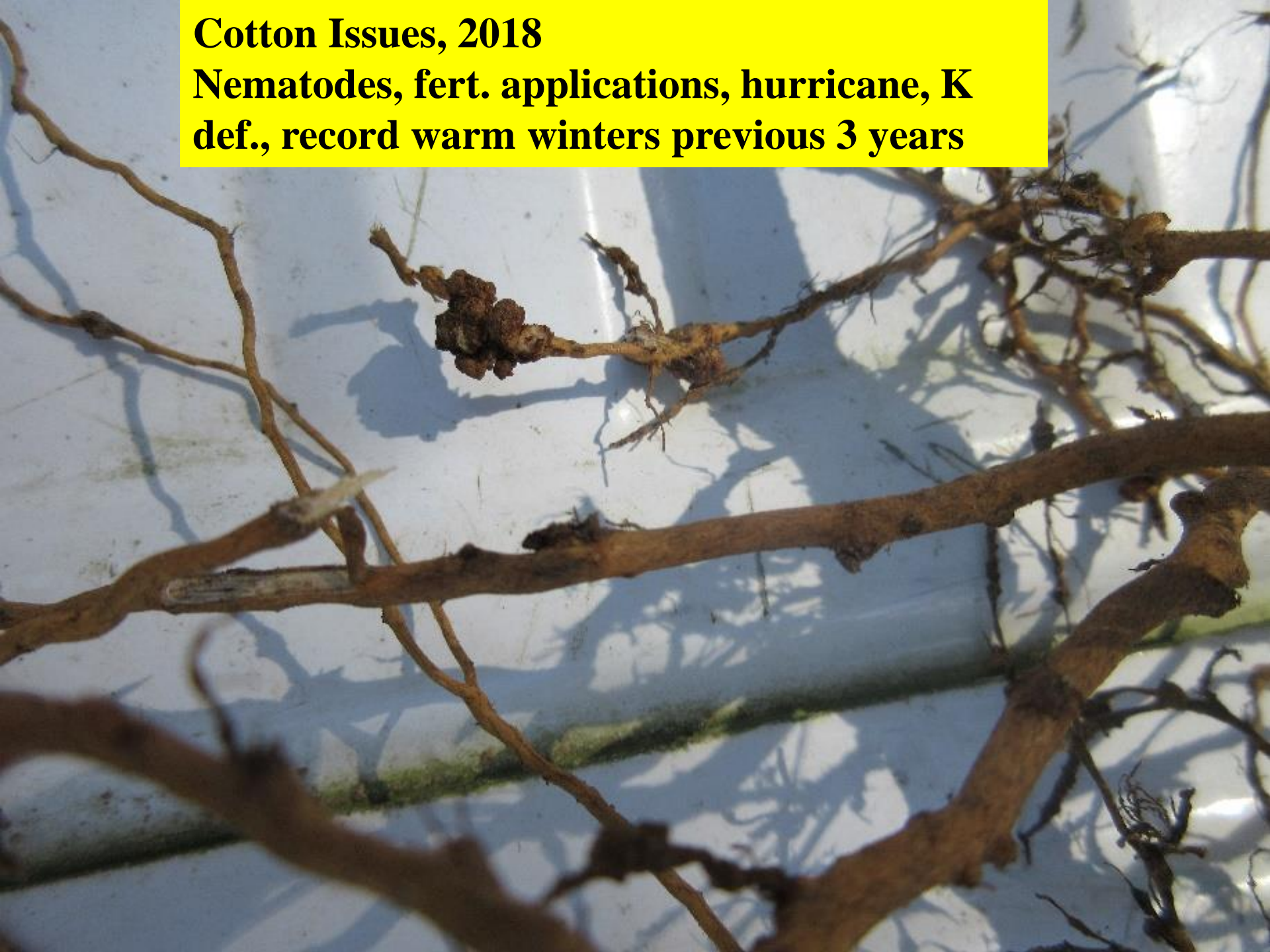
Variety	2017 (lb/A)	2-year Average (lb/A)	3-year Average (lb/A)
VA 222	853	763	
HQ 210 CT	669	693	
DP 1518 B2XF	1193	1178	1313
DP 1522 B2XF	952	951	1142
PHY 312 WRF	989	1026	1241
PHY 333 WRF	1121	1072	1279
PHY 444 WRF	1005	1032	1227

2017 UGA Early Data

Variety	TIFTON EARLY DRY	TIFTON EARLY IRR	BAINBRIDGE EARLY IRR	MIDVILLE EARLY DRY	PLAINS EARLY DRY	PLAINS EARLY IRR	MIDVILLE EARLY IRR	Variety Average
GA 2011113	965	1,212	1,471	1,774	1,405	1,500	2,055	1,526
BRS 286	1,213	1,218	1,044	1,823	1,484	1,527	2,088	1,509
BRS 335	1,043	1,377	1,370	1,452	1,496	1,539	2,231	1,504
GA 2013025	1,087	1,184	1,300	1,491	1,577	1,455	1,891	1,469
GA 2013024	1,141	1,236	1,229	1,492	1,472	1,641	1,935	1,458
DG 3385 B2XF	1,066	1,262	1,409	1,411	1,470	1,319	1,889	1,421
NG 3522 B2XF	1,078	1,419	1,410	1,200	1,564	1,620	1,640	1,420
DG 3526 B2XF	956	1,242	1,491	1,437	1,309	1,617	1,894	1,419
DP 1725 B2XF	941	1,201	1,341	1,321	1,649	1,503	1,866	1,404
GA 2013055	1,109	1,274	1,181	1,300	1,343	1,422	1,949	1,387
DP 1518 B2XF	785	1,256	1,099	1,297	1,500	1,543	2,039	1,385
DP 1522 B2XF	994	1,114	1,465	1,262	1,507	1,573	1,794	1,373
SSG UA 222	951	1,295	1,014	1,387	1,283	1,623	1,780	1,351
NG 3406 B2XF	1,066	1,201	1,033	1,532	1,290	1,451	1,731	1,349
SSG HQ 210 CT	913	1,242	1,258	1,298	1,298	1,617	1,789	1,345
SSG HQ 212 CT	774	1,054	1,057	1,176	1,488	1,466	1,659	1,262
Location Average	1,005	1,237	1,261	1,416	1,446	1,526	1,889	1,411

Cotton Issues, 2018

Nematodes, fert. applications, hurricane, K def., record warm winters previous 3 years



Nematode damage on all but NR variety, impacts on sandy soils



Rotation, irrigation and nematicide impacts on cotton

Years in cotton	IR Velum	IR no Velum	NI Velum	NI no Velum	AVG
		Lbs/A			
1 in 4	1705	1584	1662	1622	1643
1 in 2	1441	1415	1445	1396	1424
1 in 1	1445	1261	1344	1103	1288
AVG	1530	1420	1483	1374	
IR= irrigation	NI= no irrigation	100 lbs more lint/yrs out of cotton			

What made the greatest impact? 1) rotation
2) nematicide 3) irrigation.

Nematicide Trial

Nematode resistant variety in center

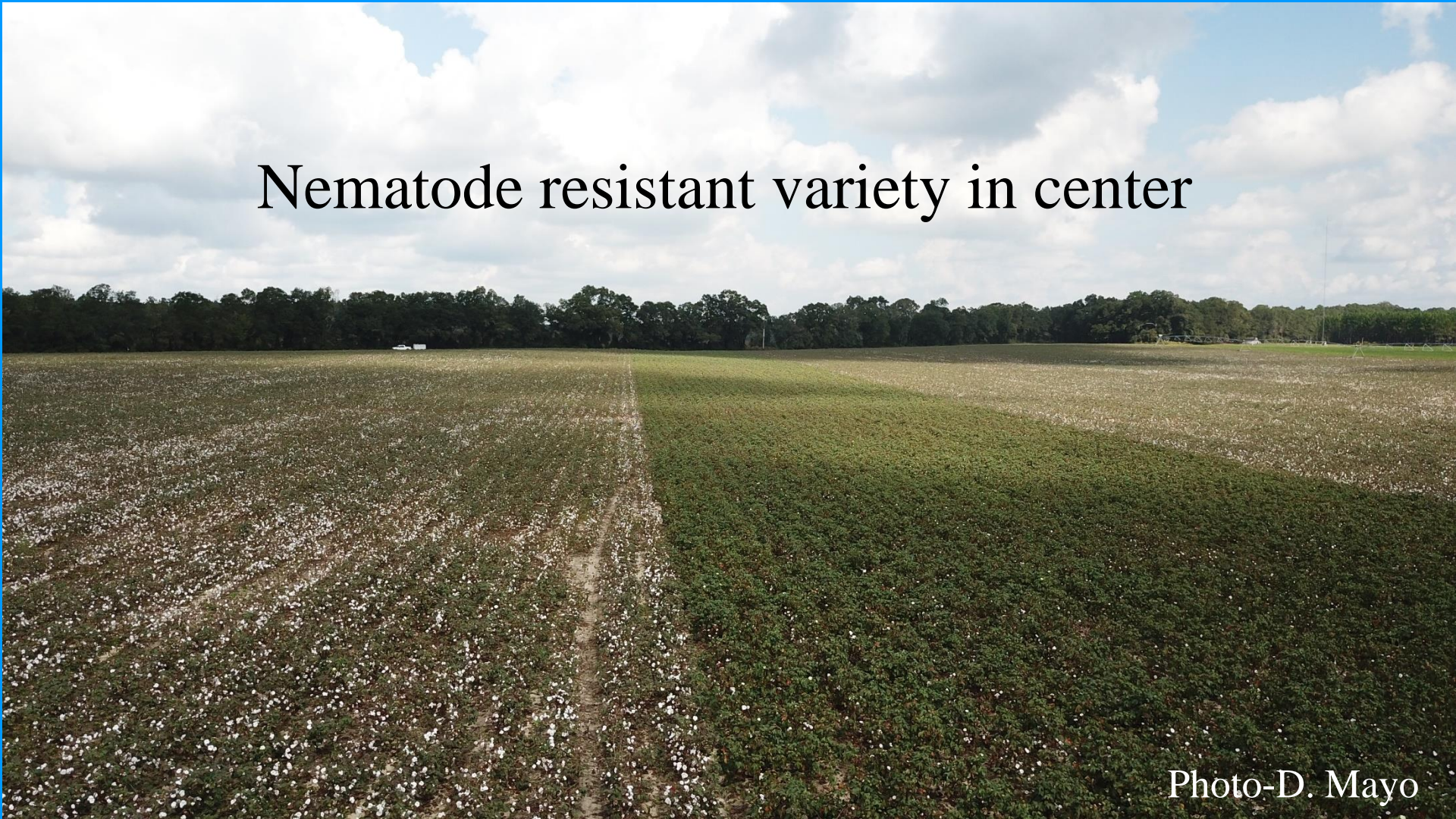
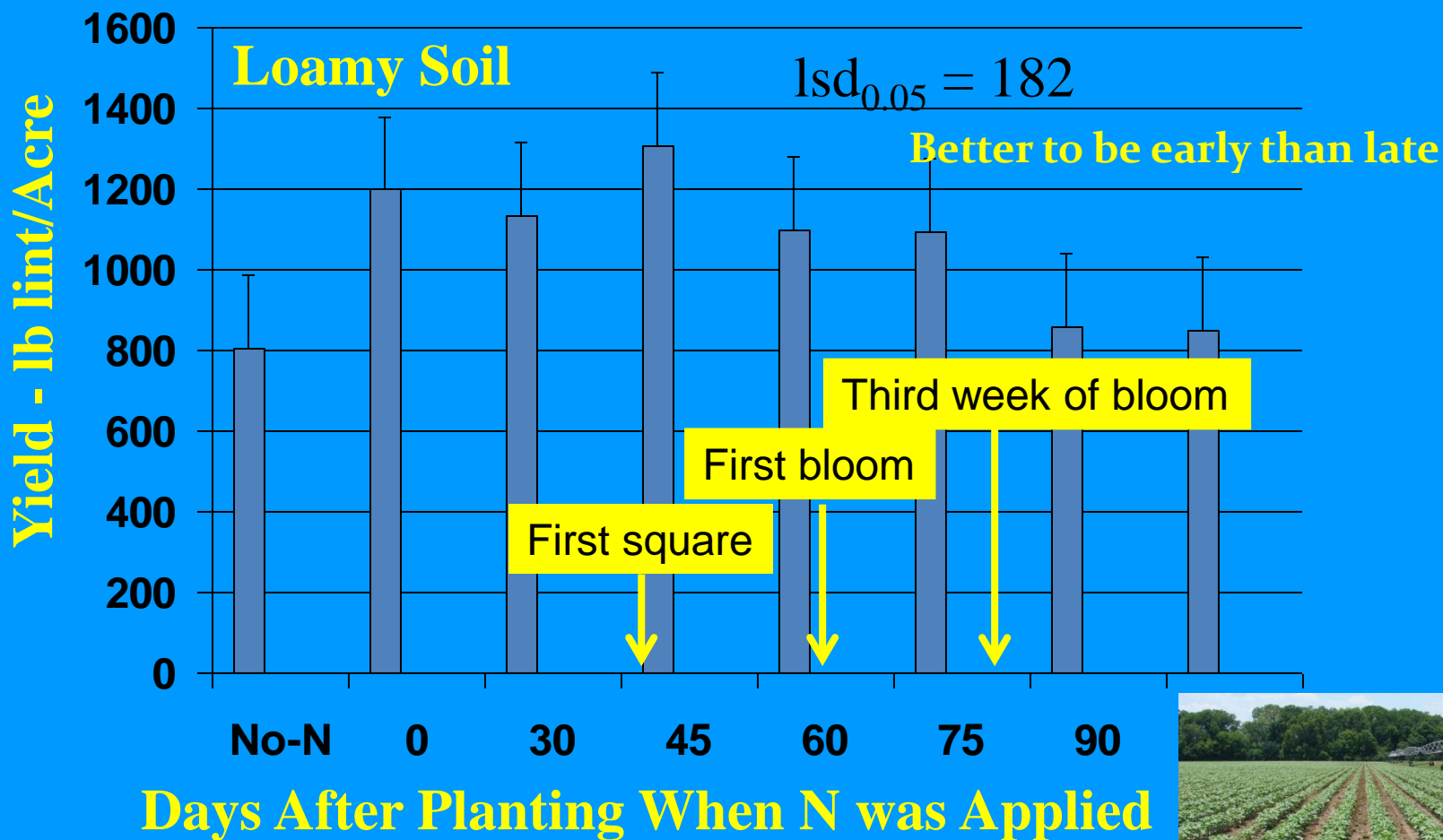


Table 1. Nematicide application economics based on 2017 on-farm nematicide trial. All values are on a per-acre basis

Treatment (rate)	Seed cotton yield	Yield increase vs. untreated	Revenue increase from lint [†]	Revenue increase from seed [†]	Total revenue increase	Product cost (no fuel/equipment)	Income increase
Velum Total (18 oz/a)	2706 lb/a	272 lb/a	\$72.71	\$16.85	\$90	\$34	\$56
Telone (3.5 gal/a)	2686 lb/a	252 lb/a	\$67.48	\$15.63	\$83	\$70	\$13
AgLogic 15GG (7 lb/a)	2611 lb/a	177 lb/a	\$47.53	\$10.98	\$59	\$42	\$17
Untreated	2434 lb/a	-	-	-	-	-	-

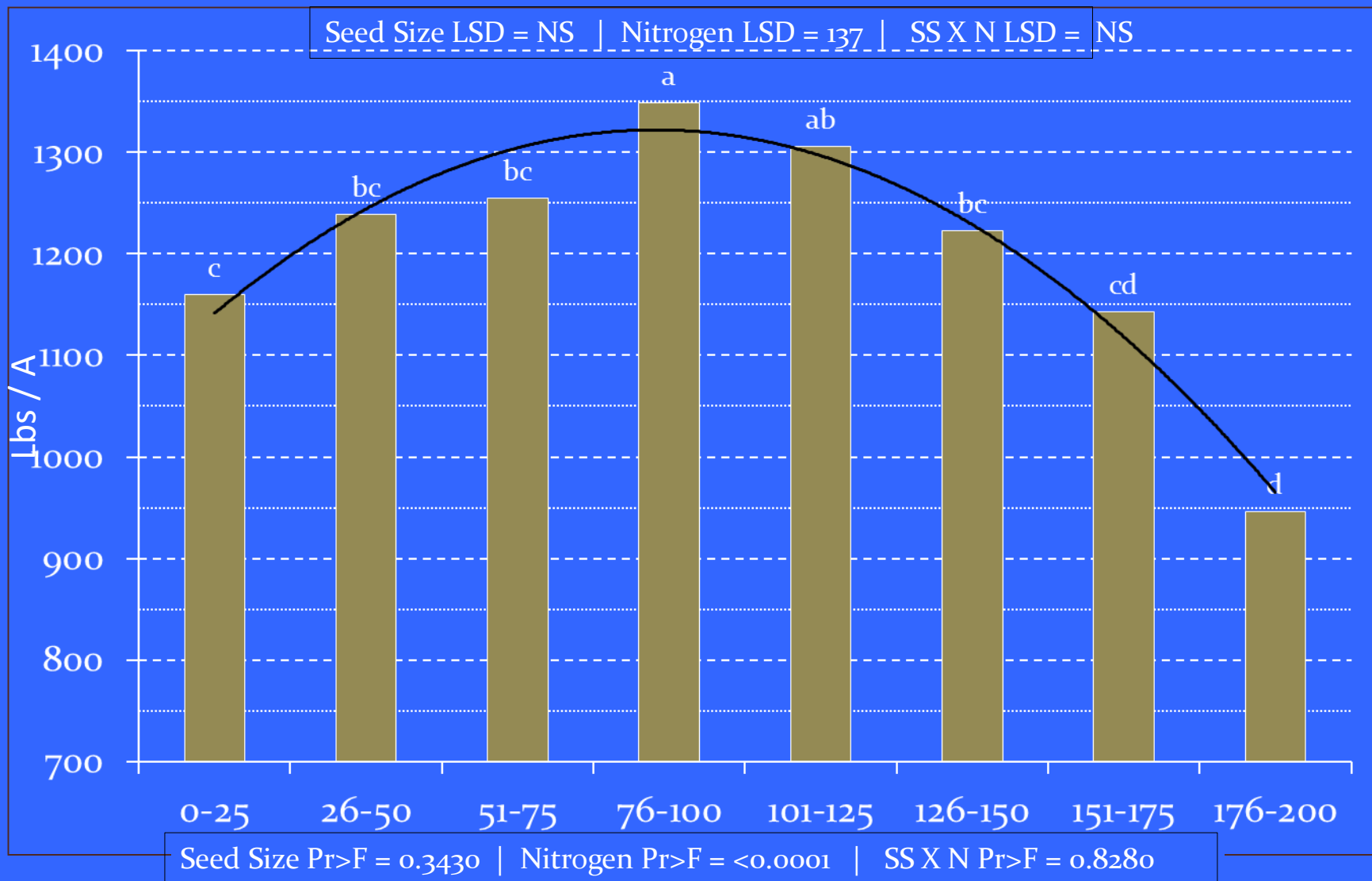
[†]Revenue is based on \$0.70/lb for lint and \$.10/lb for seed. Revenue and income increases are relative to untreated control.

N timing is critical to yield of cotton - All plots except control got 60 lb N/A



Lint Yield*

Too much N reduces yields



*16 locations across cotton belt



K deficiency due mostly to nematodes

High residue mulches help with weed control and the other factors associated with cover crops



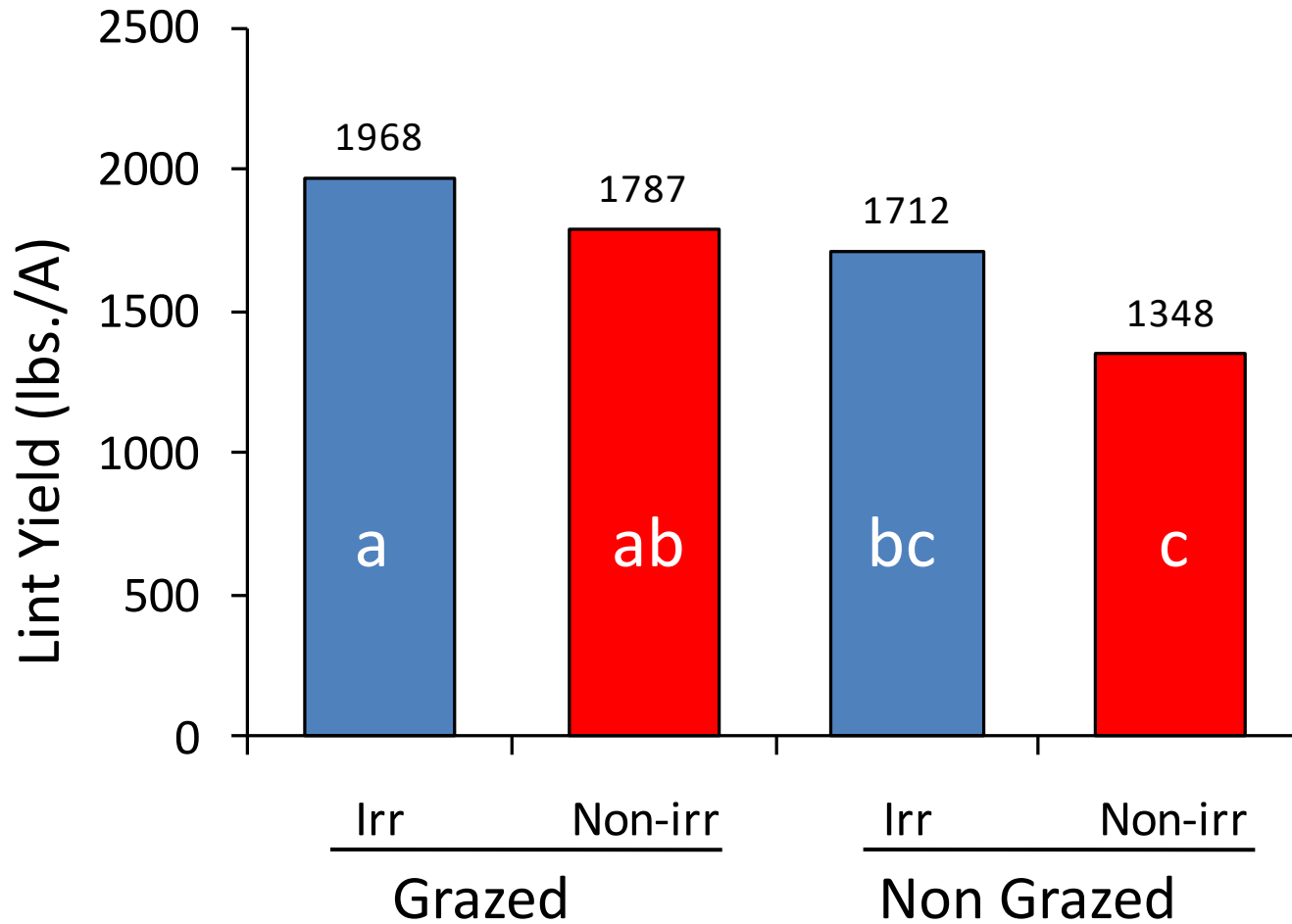
Cover crops and conservation tillage, proven concept with better economics



Planting cotton after winter grazing has been shown to reduce irrigation needs by 50% and N application needs to 60 lbs/A with yield increases of from 150-300 lbs lint per acre. Try a field if it is convenient and let your neighbor bring the cows in and have them out by April 15 to plant cotton.



Cotton yield response to irrigation and winter grazing (NFREC Marianna)



Control volunteer peanuts and most other weeds should be controlled



Palmer amaranth can be controlled in bahia with broadleaf herbicides. Some hand weed control is often needed in conventional rotations of peanut and cotton



Resistant weed control



Control Stinkbugs First

Cotton starts blooming late June to early July so scouting and control of insects is important for July and early August

Conclusions

- Varieties: yield stability & environment is key
- Plant on time
- Be timely with fertilizer applications
- Incorporate livestock if/when possible