Table 2. Lint yield and fiber quality results for the ACGA preliminary strains evaluation at Yuma, AZ, 2005.

Strain	Lint Yield lbs/acre	Means Separation*	Percent Lint	Staple 32nds	Micronaire	Strength g/tex	Length inches	Uniformity
ST5599BR	2175.0	a	40.9	36.0	5.3	31.2	1.12	82.3
DP448B	2124.7	a b	39.7	36.7	5.2	30.6	1.13	82.6
ACGA79	2050.2	a b c	41.1	37.0	5.0	31.1	1.16	82.8
ACGA78	1973.0	a b c d	38.5	38.3	4.8	32.6	1.20	84.1
ACGA62	1968.2	a b c d	37.5	37.0	5.4	32.8	1.15	82.9
ACGA24	1962.7	a b c d	40.6	37.7	5.1	33.0	1.19	82.6
ACGA65	1940.1	a b c d	36.3	39.3	5.1	31.8	1.23	84.5
ACGA68	1923.7	a b c d	36.1	39.0	5.2	33.0	1.22	84.7
ACGA72	1922.5	a b c d	37.0	37.3	4.9	32.1	1.17	83.1
ACGA48	1911.6	a b c d e	37.5	38.0	5.1	32.5	1.18	83.8
ACGA66	1905.6	a b c d e f	36.8	37.7	5.1	33.9	1.18	83.4
ACGA47	1902.5	a b c d e f	36.8	39.7	5.4	34.1	1.24	84.6
ACGA63	1878.7	b c d e f g	39.2	37.0	4.9	32.4	1.17	82.3
ACGA57	1873.2	b c d e f g	36.3	38.7	5.2	32.5	1.20	83.6
ACGA54	1871.0	b c d e f g	36.1	38.3	5.0	32.4	1.21	84.0
ACGA20	1851.4	b c d e f g h	39.4	38.0	5.3	32.8	1.19	83.4
ACGA82	1845.0	c d e f g h i	39.4	38.3	5.2	33.2	1.20	83.7
ACGA59	1824.0	c d e f g h i	35.9	37.0	5.4	32.6	1.16	83.6
DP449BR	1821.0	c d e f g h i j	39.3	37.0	5.0	32.4	1.15	82.5
ACGA74	1803.5	c d e f g h i j k	40.0	39.3	5.2	32.0	1.23	83.8
ACGA81	1800.4	c d e f g h i j k	35.7	36.7	4.2	29.9	1.15	83.0
ACGA75	1790.0	c d e f g h i j k l	37.7	37.7	4.8	32.2	1.17	83.7
ACGA70	1784.8	c d e f g h i j k l m	36.6	38.3	5.1	31.4	1.19	83.4
ACGA45	1761.8	d e f g h i j k l m n	36.3	38.7	5.2	33.6	1.21	84.0
ACGA69	1747.5	d e f g h i j k l m n	35.5	38.7	5.3	31.3	1.22	84.3
ACGA73	1741.8	d e f g h i j k l m n	41.3	37.0	5.0	32.5	1.16	83.7
ACGA83	1722.9	d e f g h i j k l m n	38.5	38.7	4.6	34.1	1.21	83.4
ACGA55	1717.3	d e f g h i j k l m n	38.7	37.7	5.2	33.5	1.18	83.6
ACGA61	1708.4	d e f g h i j k l m n o	36.5	38.0	4.9	32.6	1.19	82.9
ACGA60	1633.9	e f g h i j k l m n o p	35.7	37.7	5.0	33.2	1.18	82.6
ACGA80	1628.1	f g h i j k l m n o p	36.8	39.3	4.7	33.2	1.22	84.7
ACGA64	1620.3	g h i j k l m n o p	35.8	38.3	4.7	33.0	1.20	84.1
ACGA49	1582.1	h i j k l m n o p	38.4	38.0	5.0	31.2	1.18	83.4
ACGA58	1580.2	h i j k l m n o p	34.1	39.7	4.8	34.1	1.24	84.4
ACGA46	1575.3	h i j k l m n o p	35.1	39.0	5.3	34.0	1.23	84.4
ACGA53	1569.8	i j k l m n o p	39.9	37.3	5.3	28.8	1.17	82.6
ACGA76	1544.9	j k l m n o p	41.1	38.3	5.2	33.3	1.19	84.0
ACGA50	1538.4	k l m n o p	33.9	38.0	5.0	30.3	1.19	81.7
ACGA51	1535.0	k l m n o p	35.8	38.7	4.8	31.4	1.21	81.9
ACGA71	1522.0	l m n o p	35.2	37.7	4.7	32.8	1.18	84.2
ACGA56	1511.8	m n o p	34.9	39.3	4.8	33.7	1.22	83.6
ACGA77	1496.3	n o p	41.2	38.0	5.3	30.6	1.19	83.8
ACGA52	1435.4	o p	38.2	38.3	4.7	31.4	1.21	83.4
ACGA67	1389.6	p	32.7	39.7	5.3	34.4	1.25	84.1
LSD§	277.9		3	1.2	0.3	2.2	0.03	1.2
OSL†	0.0001		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
CV‡	9.7		4.8	1.9	4.2	4.2	1.8	0.9

*Means followed by the same letter are not statistically different according to a Fisher's least significant difference means separation test.

§ Least Significant Difference

† Observed Significance Level

‡ Coefficient of Variation

Table 3. End of season plant measurement data, average seedcotton weight per boll, premium/discount and crop value, Yuma, AZ, 2005.

Strain	Final Plant Height (in.)	Average First Fruiting Branch	Number of Mainstem Nodes	Average Seecotton Weight per Boll	Points Premium/Discount	Crop Value $/acre
ACGA20	59.5	7.3	34.0	4.3	332	1024
ACGA24	62.1	6.5	28.8	5.3	375	1094
ACGA45	62.8	8.5	32.0	5.7	365	980
ACGA46	64.5	6.5	32.5	5.1	328	871
ACGA47	57.5	7.0	34.5	5.5	305	1048
ACGA48	61.7	6.8	31.0	5.5	467	1082
ACGA49	50.8	7.8	27.5	4.9	473	899
ACGA50	58.9	6.8	30.0	4.4	530	886
ACGA51	57.2	6.3	29.8	4.8	655	899
ACGA52	54.5	6.0	30.8	4.5	683	845
ACGA53	58.1	7.3	34.5	4.5	263	857
ACGA54	64.1	6.3	35.0	4.8	580	1083
ACGA55	60.5	7.3	32.5	5.1	372	956
ACGA56	59.0	7.3	36.0	5.8	580	874
ACGA57	60.0	7.0	35.0	5.1	445	1057
ACGA58	68.0	8.5	35.0	4.5	418	888
ACGA59	60.4	6.3	31.5	4.9	348	1013
ACGA60	59.5	7.0	31.3	5.8	478	927
ACGA61	53.9	6.8	26.0	6.0	577	987
ACGA62	59.3	6.5	32.8	5.7	270	1076
ACGA63	58.8	7.3	37.3	5.4	555	1081
ACGA64	60.9	6.5	31.5	5.4	687	954
ACGA65	63.9	8.0	31.8	4.6	367	1080
ACGA66	61.9	7.5	31.5	5.3	420	1068
ACGA67	65.2	5.8	38.3	5.6	323	767
ACGA68	62.0	7.8	37.5	5.4	360	1069
ACGA69	61.4	7.3	33.3	5.3	330	966
ACGA70	63.4	8.0	34.0	5.3	443	1007
ACGA71	63.1	7.3	34.3	5.6	682	895
ACGA72	61.7	7.8	35.8	5.6	568	1106
ACGA73	57.8	6.5	31.5	5.1	480	989
ACGA74	54.9	5.8	32.0	5.6	362	1003
ACGA75	70.8	7.5	34.5	5.9	578	1032
ACGA76	60.7	6.8	30.5	4.8	337	855
ACGA77	52.9	6.5	32.8	5.2	348	830
ACGA78	60.7	6.8	31.0	5.4	582	1140
ACGA79	53.2	7.0	29.3	5.5	467	1160
ACGA80	58.3	7.0	33.3	5.7	690	959
ACGA81	48.5	5.8	32.0	4.9	653	1054
ACGA82	55.4	7.0	31.0	5.2	423	1037
ACGA83	52.9	5.8	29.3	4.7	702	1017
DP448B	53.5	6.3	29.0	5.2	353	1180
DP449BR	58.9	6.8	33.5	5.2	572	1052
ST5599BR	61.0	7.5	35.8	5.7	197	1174

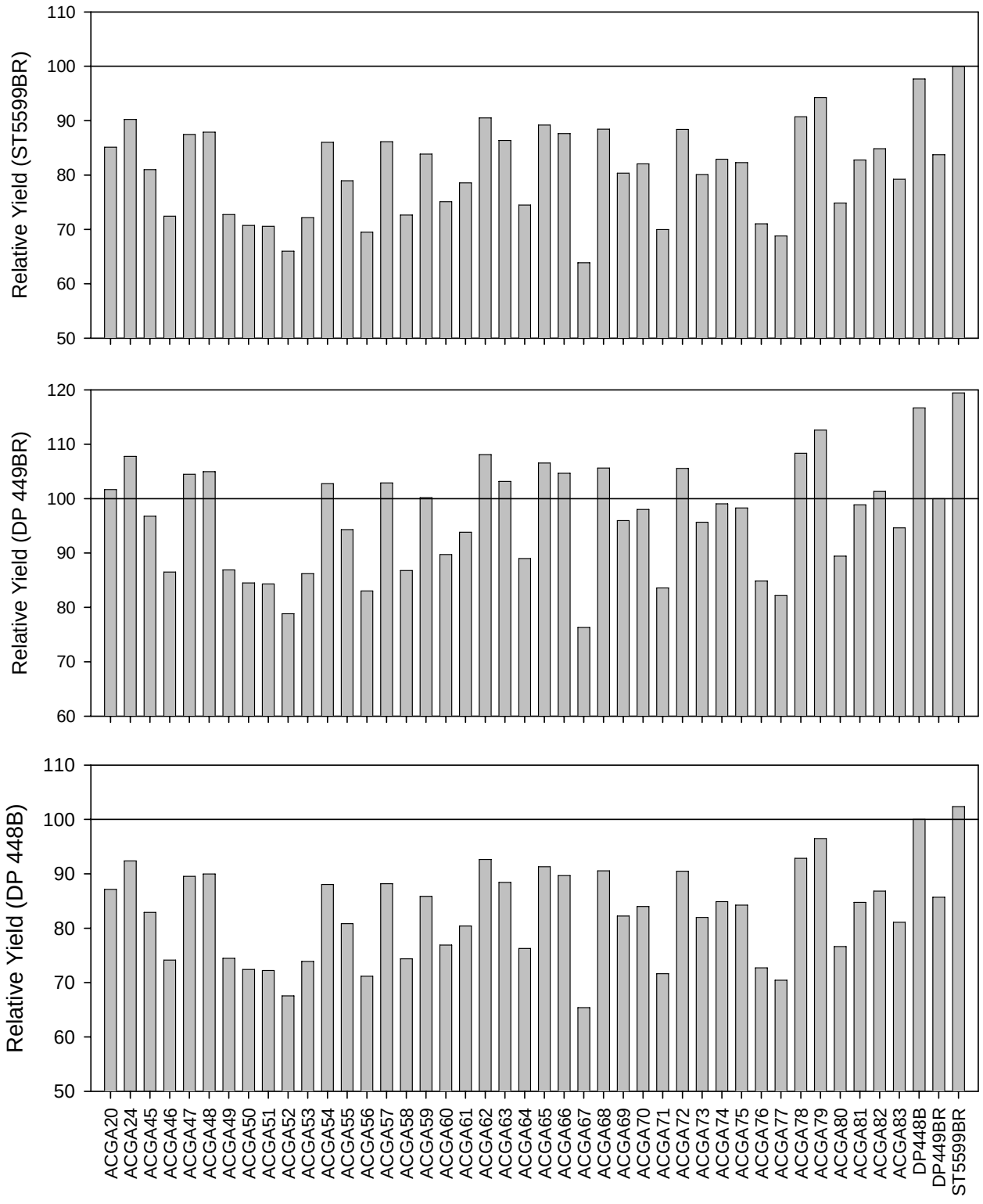

Figure 1. Percent relative lint yield for each of the ACGA strain entries. Relative lint yield was calculated by dividing the mean yield of the strain by mean lint yield of each of the commercial variety controls in this trial (a) ST5599BR, (b) DP449BR and (c) DP448B at Yuma, AZ, 2005.

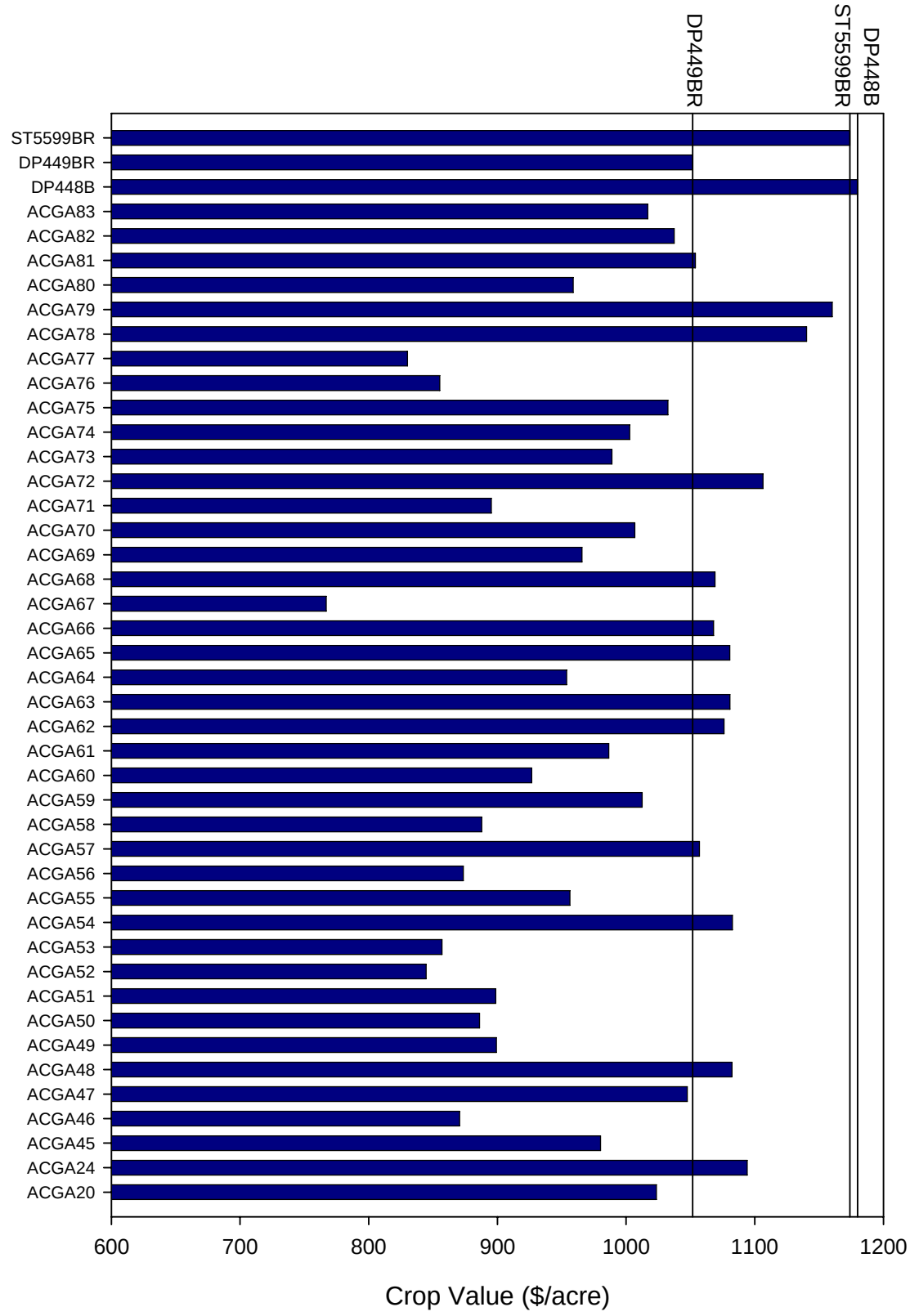

Figure 2. Points associated with the premium and discounts based upon fiber quality characteristics for each ACGA strain. Points were determined using the 2005 CCC loan schedule for Upland cotton. Vertical lines indicate points level for each commercial variety control. Data from Yuma, AZ, 2005.

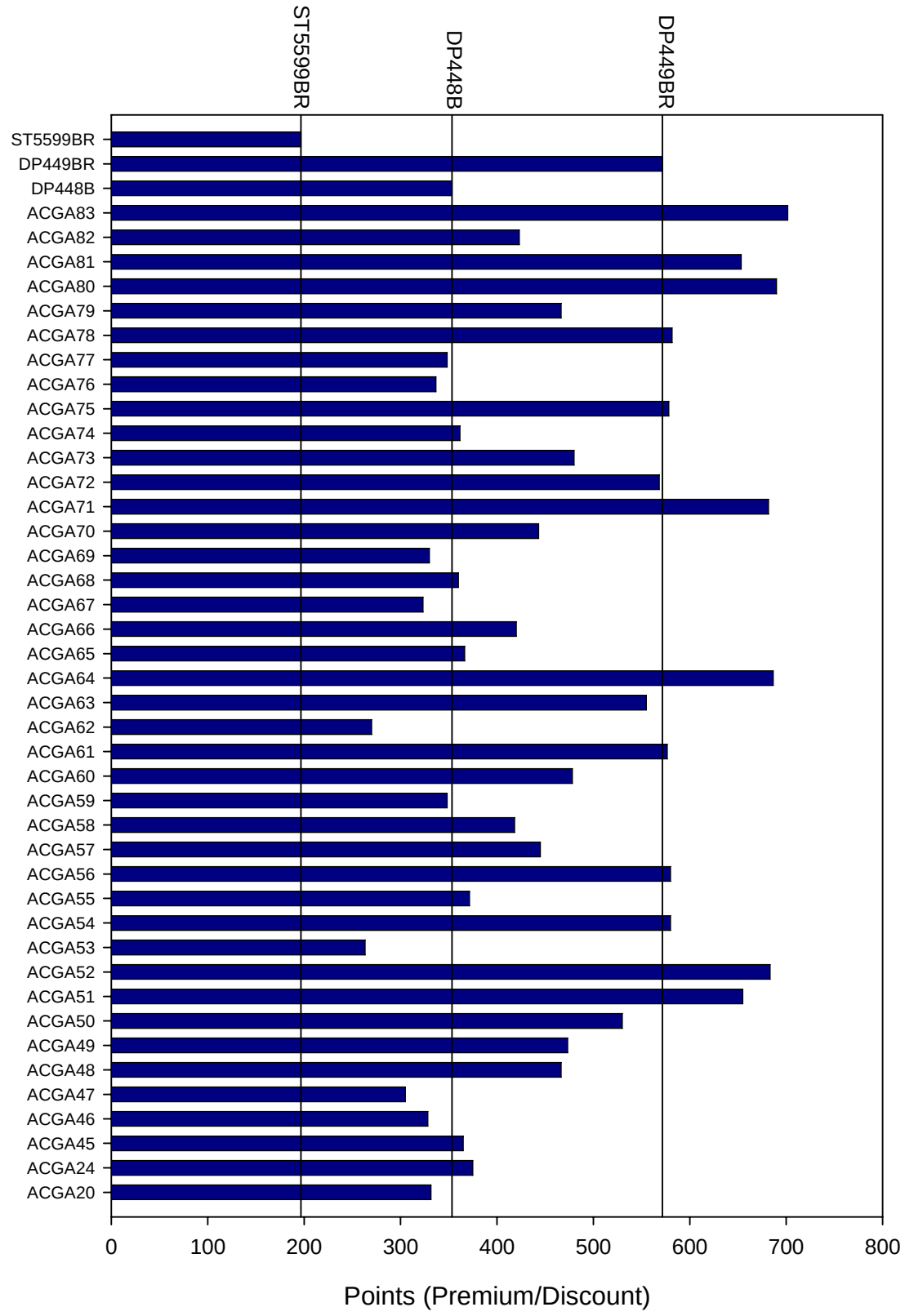

Figure 3. Total crop value for each ACGA strain. Final crop price was calculated from a base price of 52.00 cents/pound plus premiums/discounts for fiber quality. Total crop value was calculated by multiplying the final price by lint yield. Vertical lines indicate crop value levels for each commercial variety control. Data from Yuma, AZ, 2005.

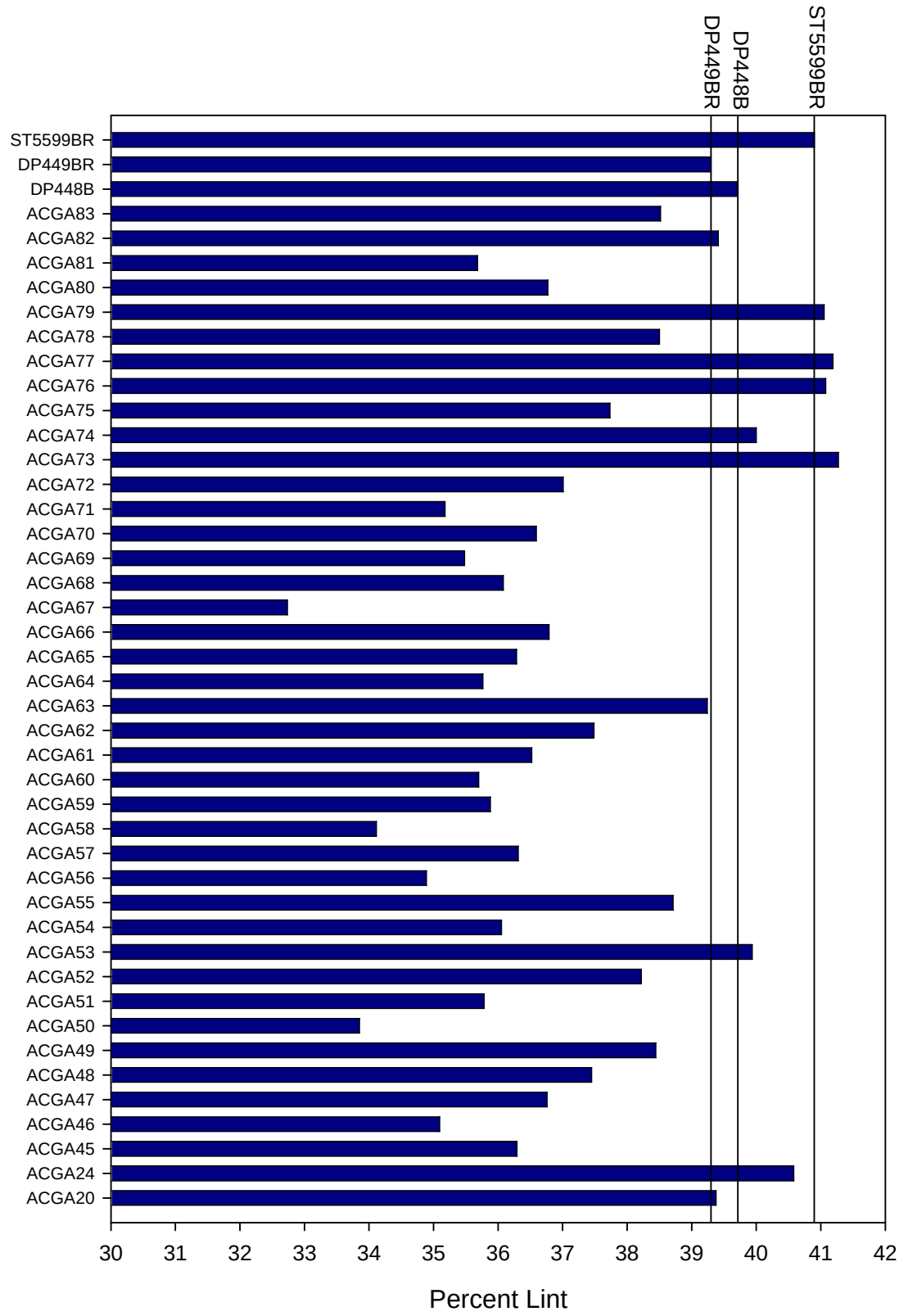

Figure 4. Percent lint for each ACGA strain. Percent lint was determined by ginning a 50 boll sample from each experimental unit. Vertical lines indicate percent lint levels for each commercial variety control. Data from Yuma, AZ, 2005.

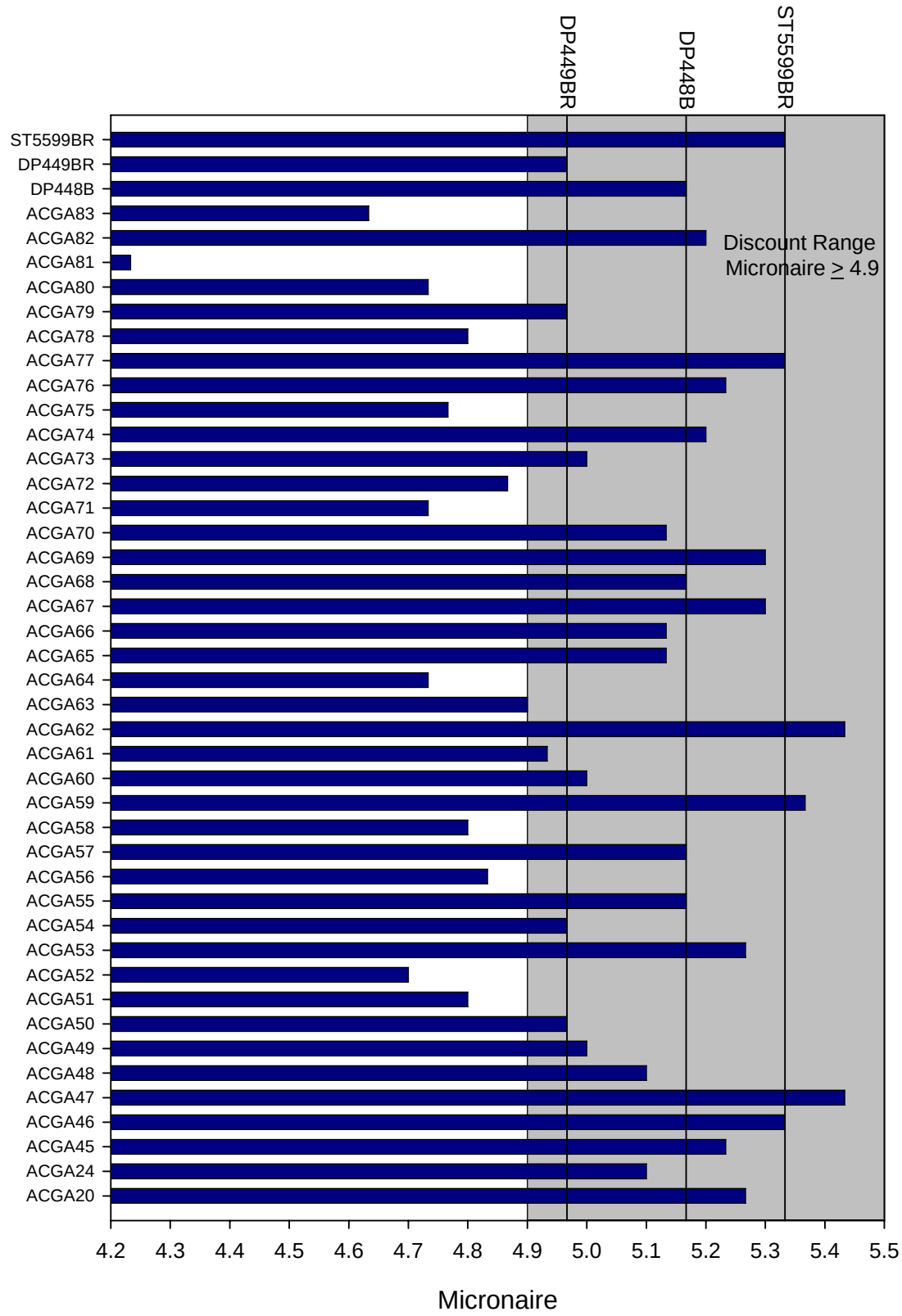

Figure 5. Fiber micronaire values for each ACGA strain. Discount range for fiber micronaire is indicated by grey box. Vertical lines indicate micronaire levels for each commercial variety control. Data from Yuma, AZ, 2005.

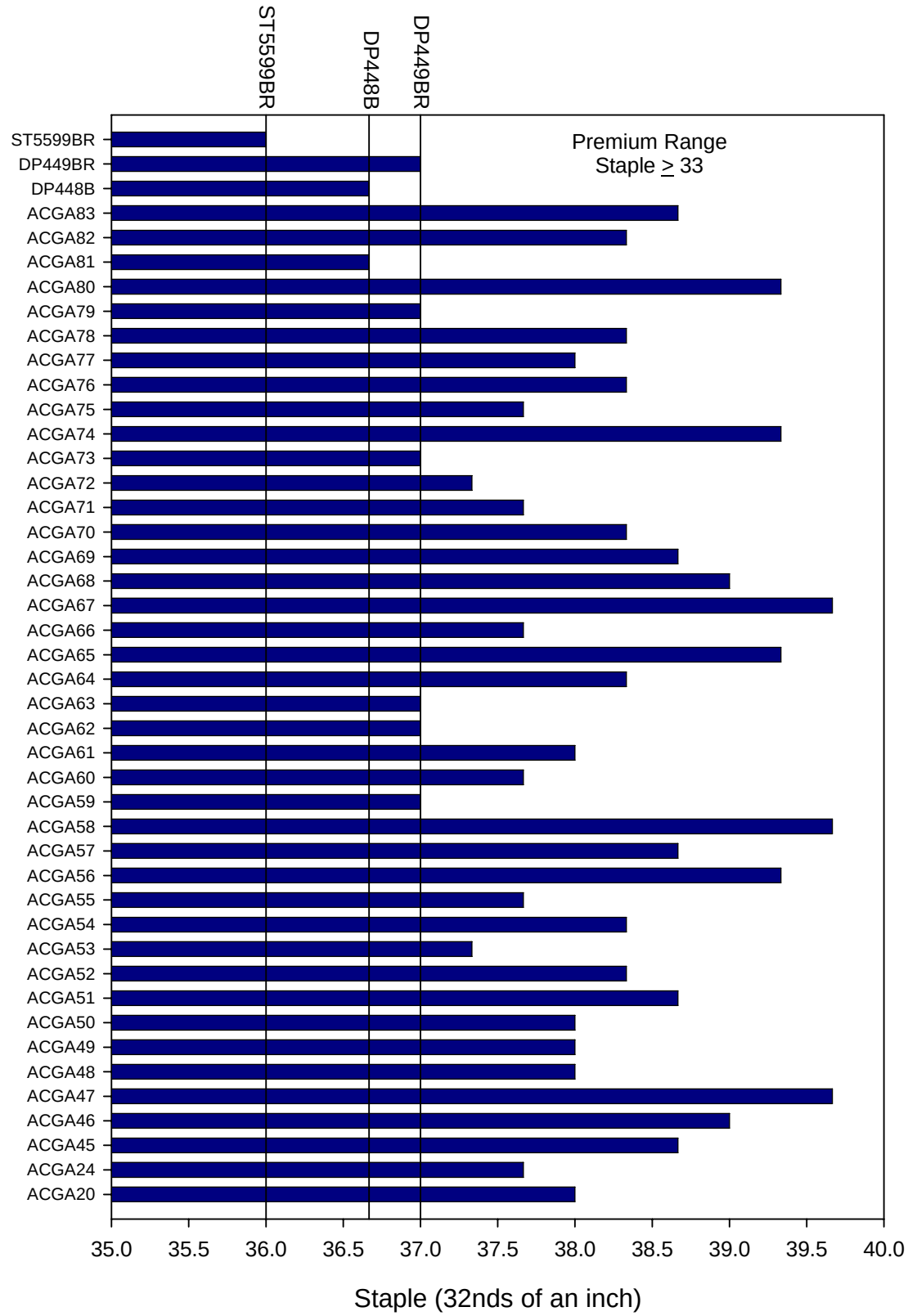

Figure 6. Fiber staple (32nds) values for each ACGA strain. All entered strains fell in the premium range for fiber staple. Vertical lines indicate staple levels for each commercial variety control. Data from Yuma, AZ, 2005.

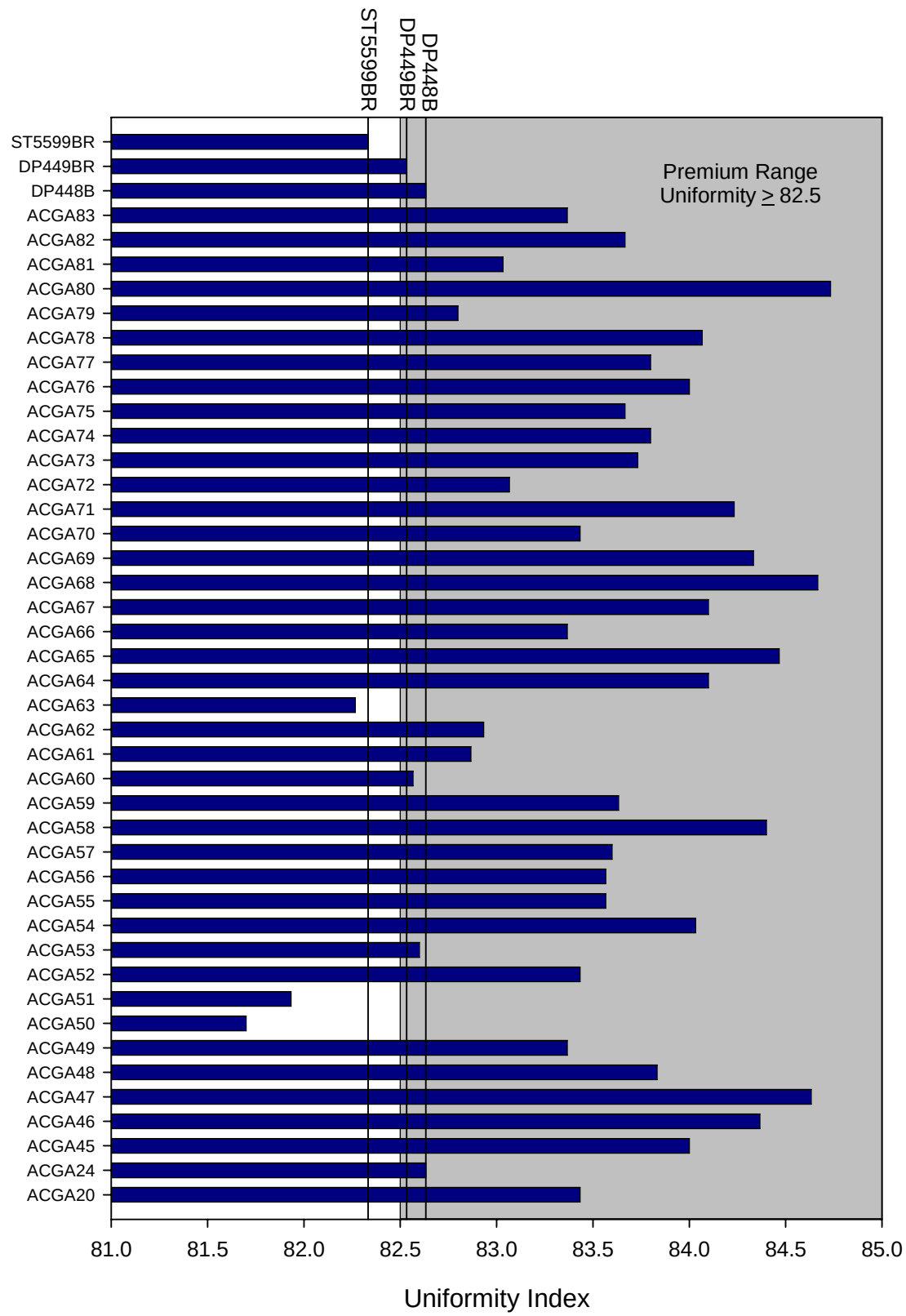

Figure 7. Fiber uniformity index values for each ACGA strain. Premium range for fiber uniformity is indicated by grey box. Vertical lines indicate uniformity levels for each commercial variety control. Data from Yuma, AZ, 2005.

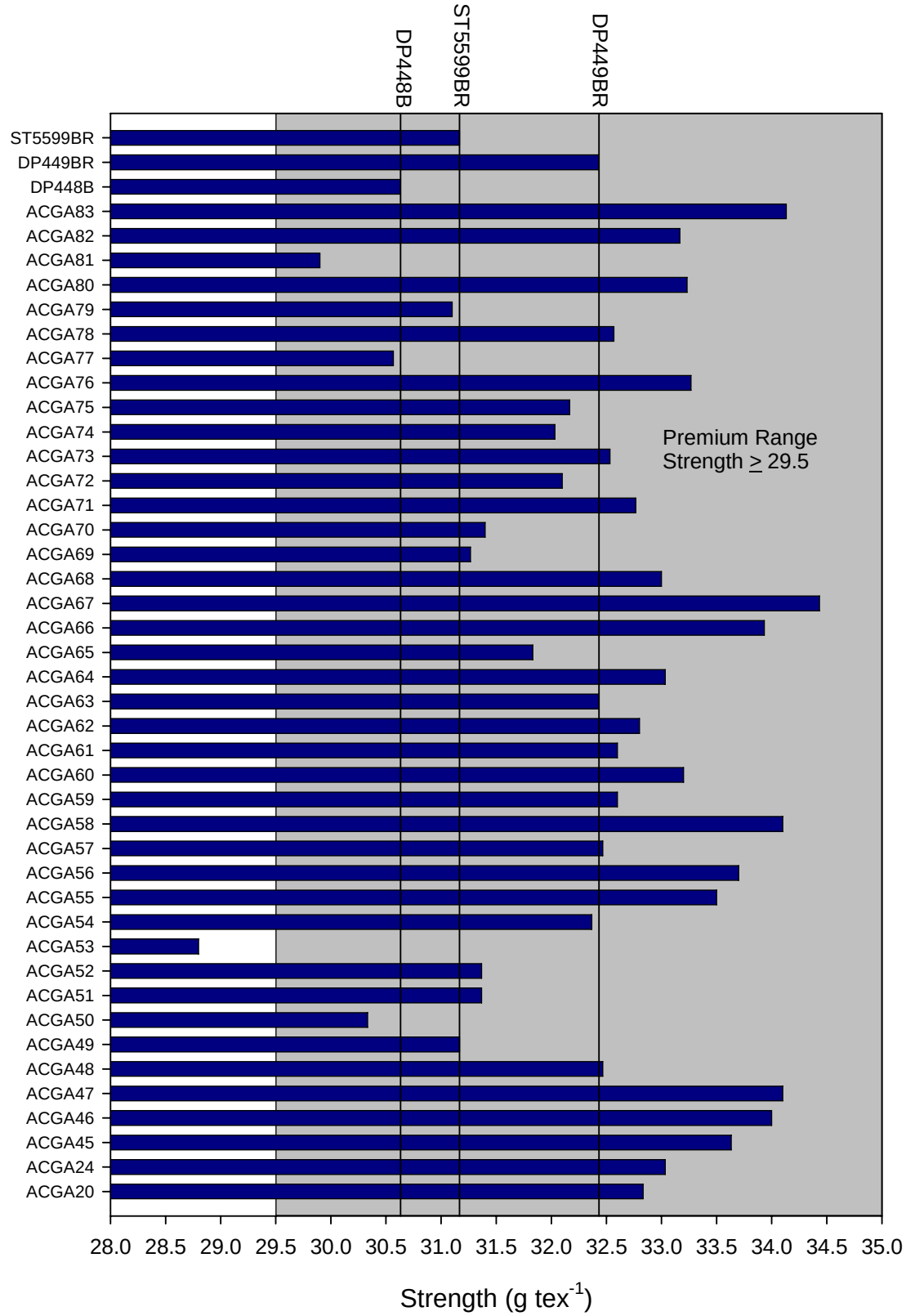

Figure 8. Fiber strength (g tex^{-1}) values for each ACGA strain. Premium range for fiber strength is indicated by grey box. Vertical lines indicate strength levels for each commercial variety control. Data from Yuma, AZ, 2005.

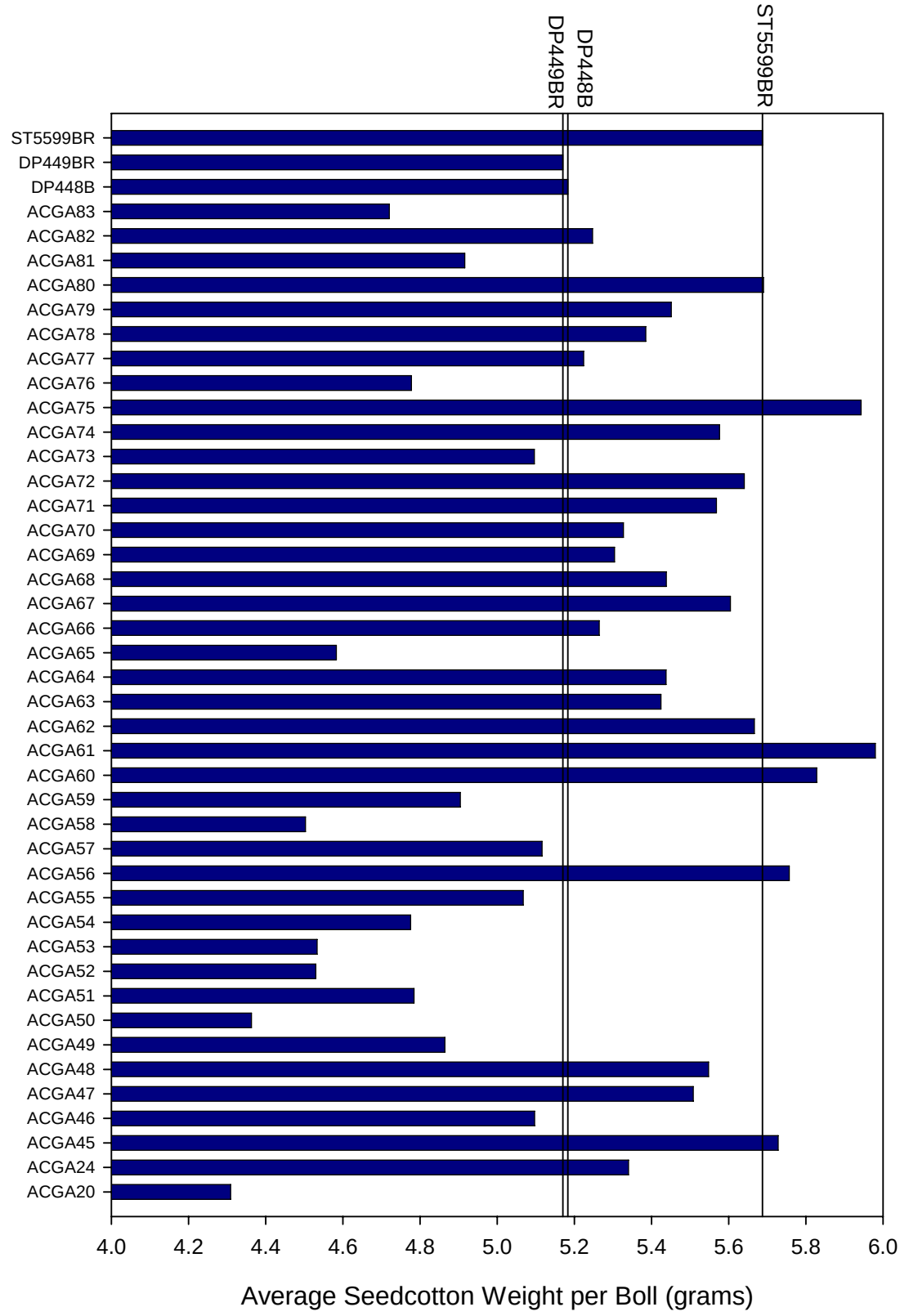

Figure 9. Average seedcotton weight (grams) per boll for each ACGA strain. Vertical lines indicate weight levels for each commercial variety control. Data from Yuma, AZ, 2005.

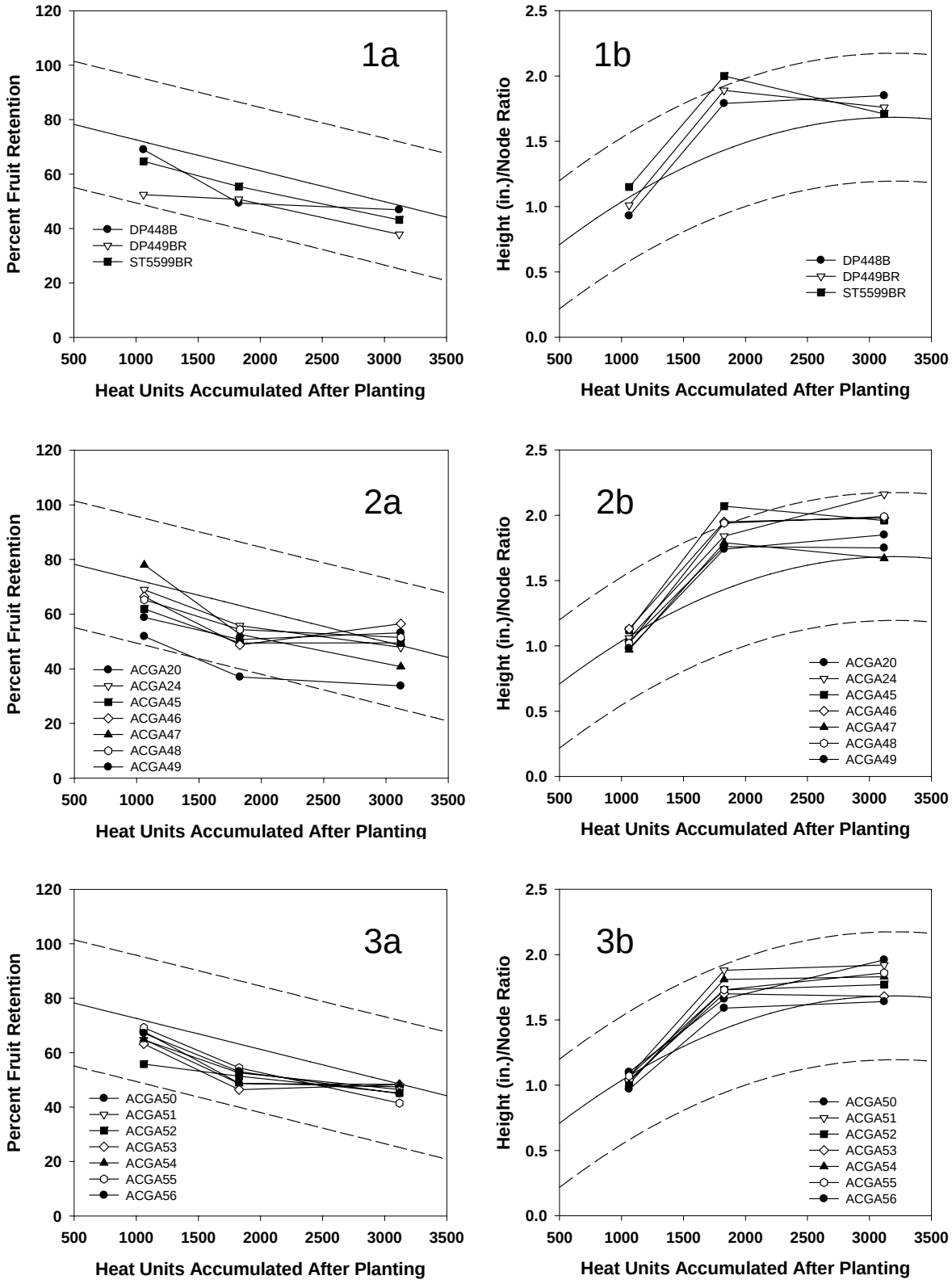

Figure 10. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

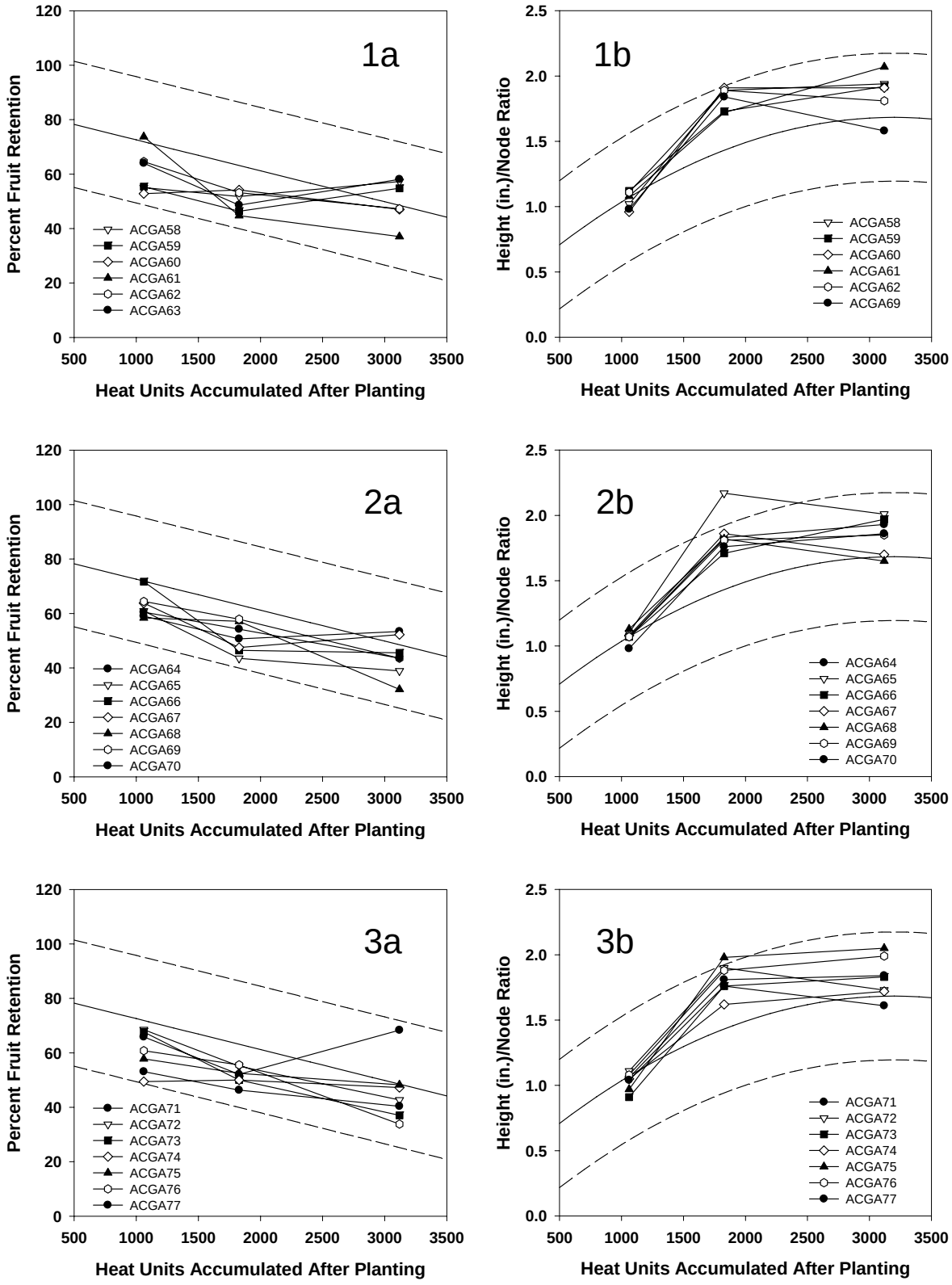

Figure 11. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

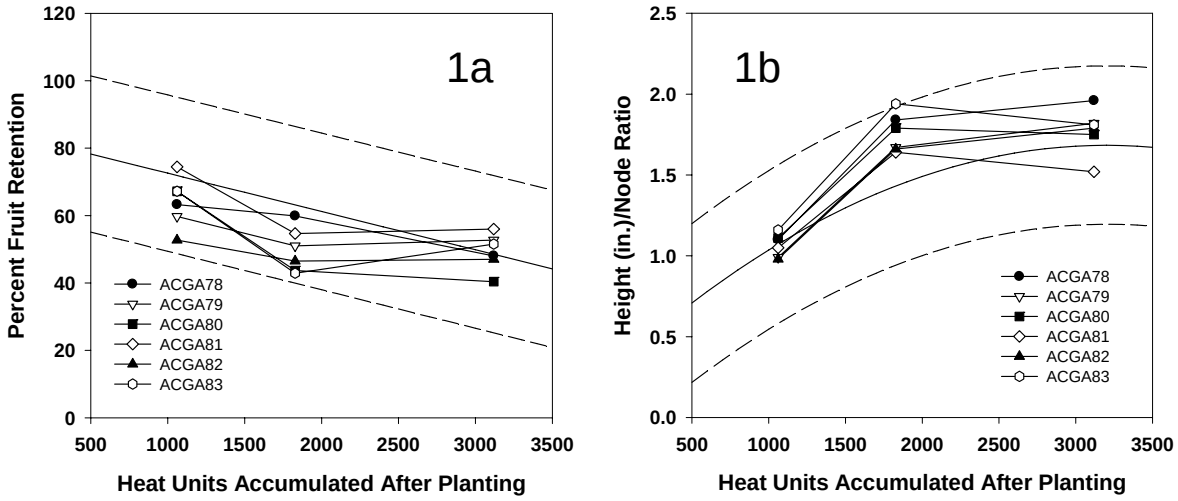

Figure 12. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

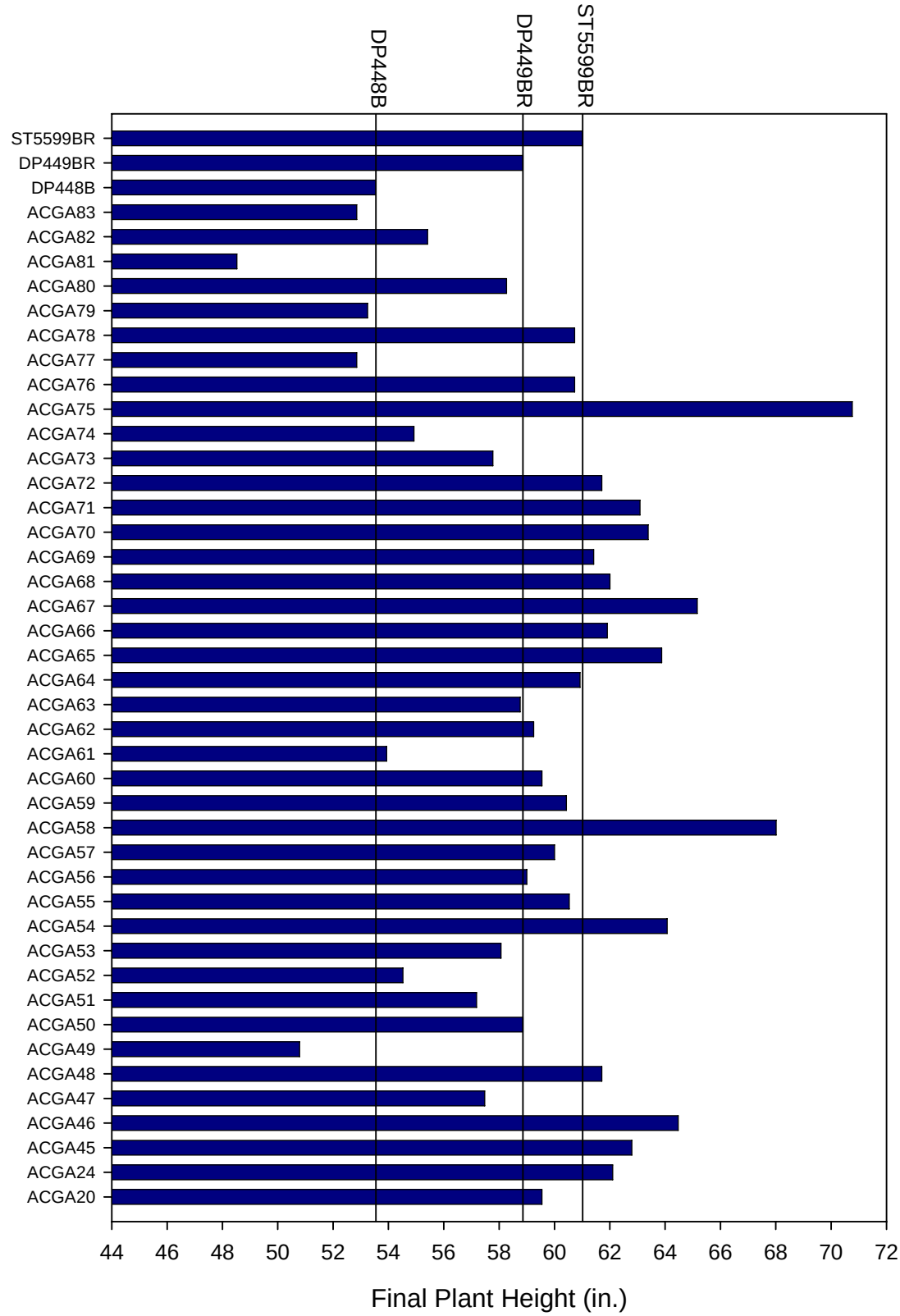

Figure 13. Average final plant height for each ACGA strain. Vertical lines indicate height levels for each commercial variety control. Data from Yuma, AZ, 2005.

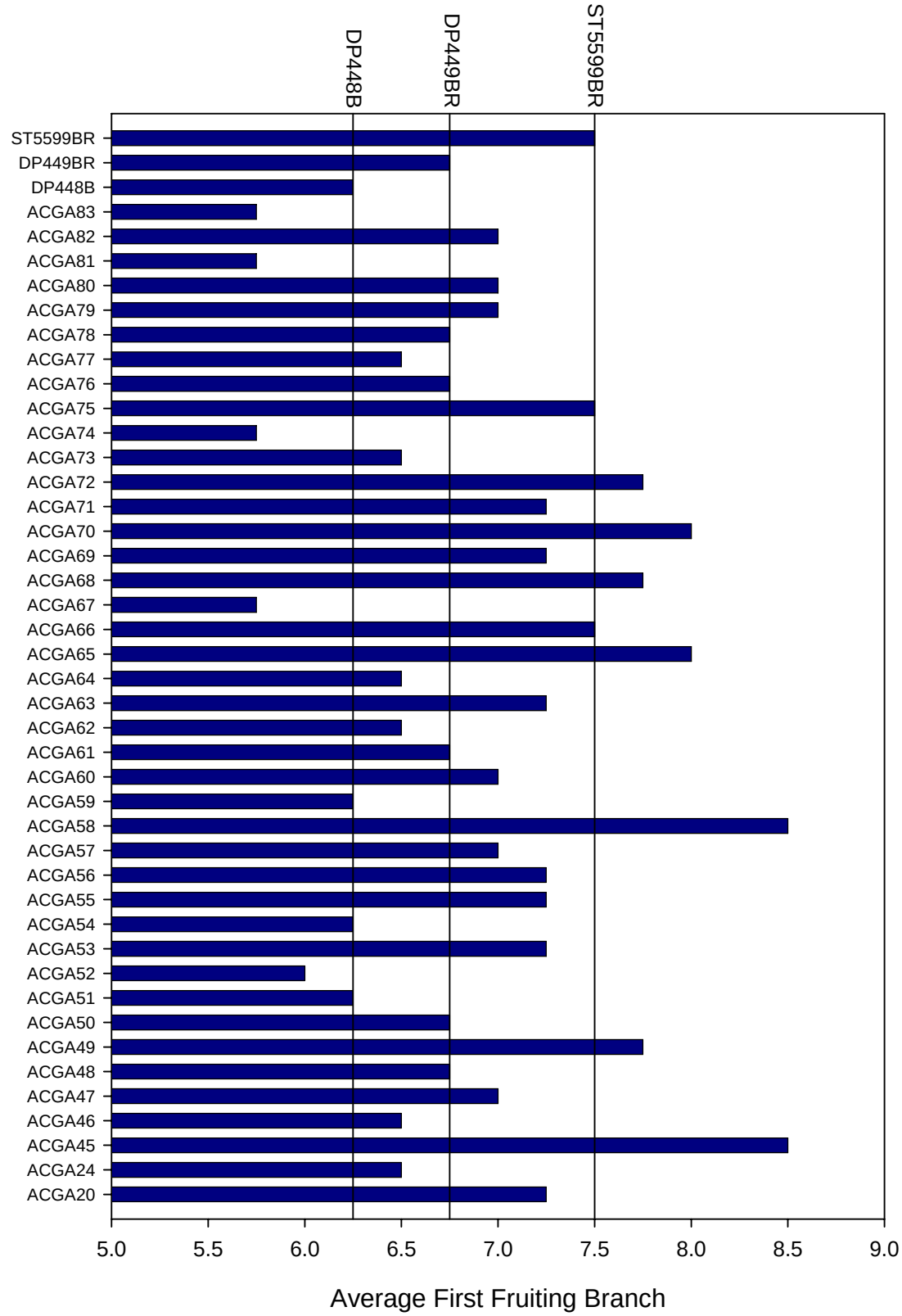

Figure 14. Average first fruiting branch for each ACGA strain. Vertical lines indicate first fruiting branch levels for each commercial variety control. Data from Yuma, AZ, 2005.

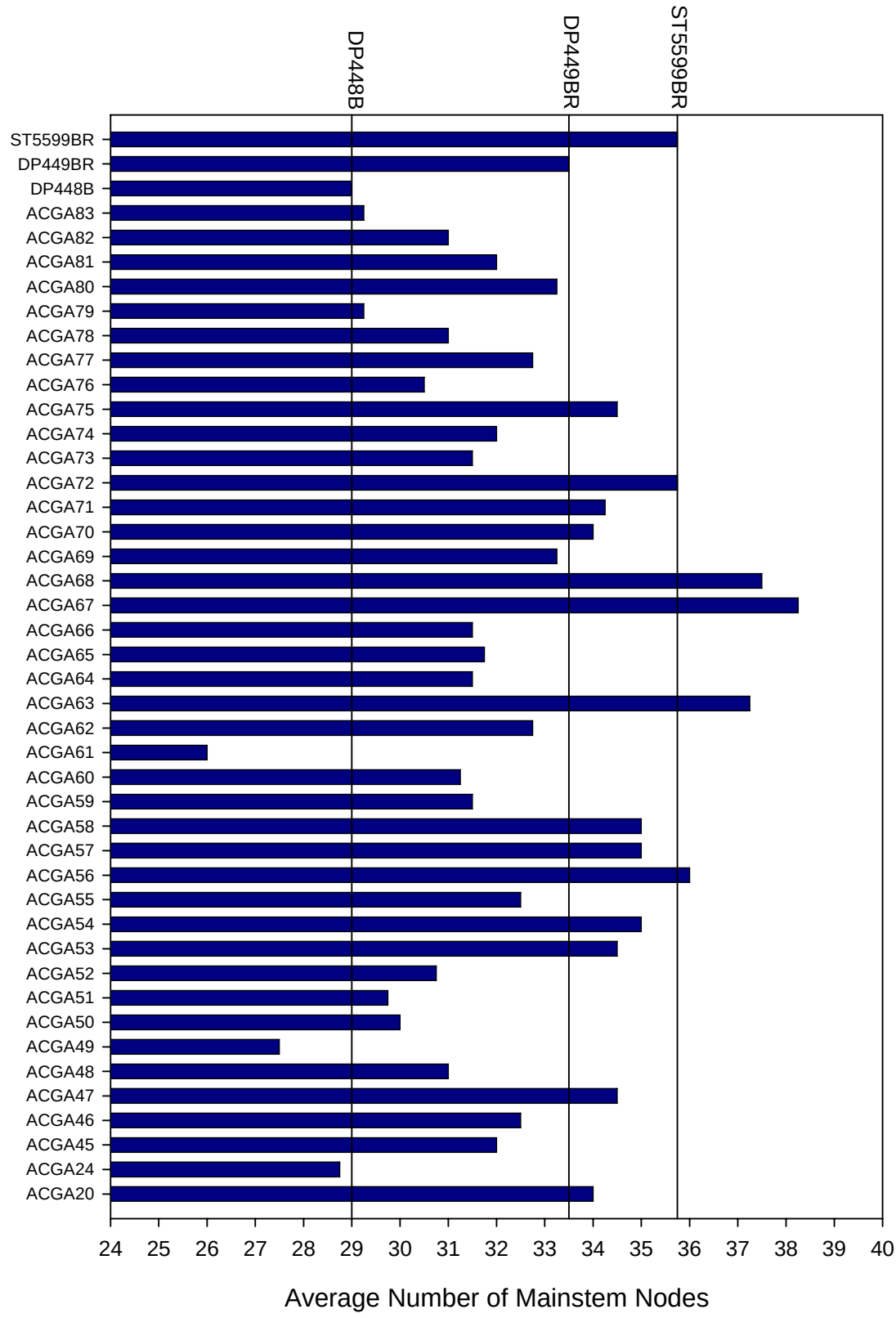

Figure 15. Average total number of mainstem nodes for each ACGA strain. Vertical lines indicate mainstem node numbers for each commercial variety control. Data from Yuma, AZ, 2005.

Table 4. Lint yield and fiber quality results for the ACGA preliminary strains evaluation at Maricopa, AZ, 2005.

Strain	Seed Cotton lbs/acre	Means Separation*	Percent Lint	Staple 32nds	Micronaire	Strength g/tex	Length inches	Uniformity
ACGA82	1463.3	a	41.7	37.7	4.8	36.2	1.18	83.2
ACGA68	1388.0	a b	35.1	38.0	5.5	36.3	1.19	84.2
ACGA70	1386.1	a b	35.1	38.3	5.2	35.3	1.20	82.9
ACGA72	1363.5	a b	35.5	36.5	5.2	33.7	1.13	82.3
ACGA74	1359.1	a b c	43.5	36.3	5.3	28.3	1.13	81.1
ACGA65	1345.9	a b c d	33.3	38.3	5.1	36.0	1.20	83.7
ACGA64	1327.8	a b c d e	36.8	36.7	5.2	33.8	1.15	82.8
ACGA75	1327.5	a b c d e	33.8	36.3	5.2	33.2	1.13	82.6
ACGA67	1310.8	a b c d e	34.2	38.3	5.6	36.1	1.20	83.5
ACGA47	1299.7	a b c d e f	33.3	37.5	5.5	34.9	1.17	83.3
ACGA66	1287.8	a b c d e f	37.4	36.7	5.1	35.3	1.15	81.7
ACGA53	1277.4	a b c d e f	42.1	36.0	5.1	30.9	1.13	81.5
ACGA46	1273.6	a b c d e f	33.6	37.3	5.6	34.2	1.17	81.3
ACGA57	1270.1	a b c d e f	35.8	37.5	5.1	34.7	1.17	83.5
ACGA54	1260.5	a b c d e f g	34.4	37.3	5.3	35.4	1.17	83.6
ACGA45	1257.4	a b c d e f g	34.7	38.3	5.6	35.1	1.20	83.5
DP448B	1246.7	a b c d e f g	37.4	36.3	4.8	32.0	1.13	82.1
ACGA77	1240.7	a b c d e f g	41.8	36.5	5.1	34.8	1.13	82.5
ACGA55	1226.6	b c d e f g	36.9	37.0	5.1	34.6	1.16	83.8
ACGA69	1219.5	b c d e f g	34.6	38.0	5.5	34.8	1.19	83.6
ACGA24	1213.3	b c d e f g h	40.2	36.8	5.1	32.3	1.15	81.7
ACGA52	1199.3	b c d e f g h i	39.3	37.0	5.0	31.1	1.15	82.2
ACGA63	1192.8	b c d e f g h i	38.2	37.3	4.9	33.5	1.15	82.1
ACGA76	1190.1	b c d e f g h i	42.9	37.3	5.0	33.0	1.17	82.6
DP449BR	1188.0	b c d e f g h i	35.8	36.0	5.2	32.5	1.12	82.8
ACGA20	1184.3	b c d e f g h i j	37.1	37.0	5.3	34.0	1.15	83.5
ACGA62	1165.3	b c d e f g h i j	35.4	36.5	5.3	35.3	1.14	82.1
ACGA71	1164.7	b c d e f g h i j	34.2	36.8	4.9	33.9	1.15	83.1
ACGA79	1164.3	b c d e f g h i j	38.3	36.0	5.1	32.1	1.12	82.4
ACGA59	1129.1	c d e f g h i j	34.8	36.5	5.2	35.1	1.14	82.1
ACGA61	1128.1	d e f g h i j	33.6	37.3	5.1	35.0	1.16	83.2
ACGA73	1104.6	e f g h i j	38.4	35.3	4.9	31.5	1.10	82.2
ACGA56	1078.0	f g h i j	32.8	38.0	4.9	35.9	1.20	83.4
ACGA48	1071.2	f g h i j k	32.1	36.8	5.1	34.2	1.14	82.6
ACGA60	1033.1	g h i j k l	33.5	36.8	5.2	35.6	1.14	82.3
ACGA78	1030.8	g h i j k l	34.8	36.0	4.9	33.4	1.13	82.6
ACGA49	987.7	h i j k l m	35.2	37.0	4.8	34.2	1.16	83.5
ST5599BR	983.7	h i j k l m	39.6	34.8	4.9	31.6	1.08	82.1
ACGA58	978.0	i j k l m	33.2	37.7	4.8	34.6	1.18	83.8
ACGA83	956.8	j k l m	38.5	36.5	4.7	34.5	1.14	82.1
ACGA51	847.7	k l m	40.3	37.0	4.9	31.0	1.16	80.5
ACGA81	823.8	l m	34.7	35.7	4.5	32.6	1.11	82.0
ACGA80	809.5	l m	34.4	36.3	4.8	35.2	1.14	82.4
ACGA50	795.3	m	38.3	37.0	5.0	33.1	1.15	81.6
LSD§	213.4		0.04	1.3	0.33	2.4	0.04	1.9
OSL†	0.0001		0.0001	0.0001	0.0001	0.0001	0.0001	0.0748
CV‡	14.0		8.3	2.5	4.5	4.8	2.4	1.6

*Means followed by the same letter are not statistically different according to a Fisher's least significant difference means separation test.

§ Least Significant Difference

† Observed Significance Level

‡ Coefficient of Variation

Table 5. End of season plant measurement data, average seedcotton weight per boll, premium/discount and crop value, Maricopa, AZ, 2005.

Strain	Final Plant Height (in.)	Average First Fruiting Branch	Number of Mainstem Nodes	Average Seecotton Weight per Boll	Points Premium/Discount	Crop Value $/acre
ACGA20	31.1	6.8	26.8	3.6	206	564
ACGA24	33.7	7.8	27.0	3.4	339	599
ACGA45	42.3	7.5	27.3	3.6	246	598
ACGA46	47.3	6.8	30.3	3.4	118	591
ACGA47	44.8	5.5	27.5	3.8	103	601
ACGA48	41.7	6.8	30.3	3.7	148	499
ACGA49	35.0	5.8	28.0	3.6	576	500
ACGA50	36.4	6.3	25.5	2.8	364	390
ACGA51	39.4	5.0	29.8	2.9	242	411
ACGA52	40.9	7.0	29.5	2.9	313	586
ACGA53	40.9	7.3	32.5	3.1	178	615
ACGA54	44.3	9.0	30.8	3.5	239	598
ACGA55	44.0	7.5	29.0	2.9	335	598
ACGA56	44.3	8.0	30.8	3.6	369	521
ACGA57	42.4	7.0	24.8	3.0	153	599
ACGA58	47.2	6.5	31.0	2.7	230	460
ACGA59	38.2	6.8	28.8	3.5	338	547
ACGA60	43.8	7.0	25.0	3.4	185	486
ACGA61	43.5	7.3	27.5	3.5	413	553
ACGA62	39.1	7.0	24.8	3.2	210	556
ACGA63	40.7	6.5	27.5	3.7	428	592
ACGA64	38.0	7.0	30.8	3.5	308	645
ACGA65	44.5	7.0	26.5	3.5	228	638
ACGA66	42.4	8.5	31.3	2.9	307	622
ACGA67	47.0	6.5	29.5	3.6	121	607
ACGA68	43.2	6.5	27.5	3.6	141	648
ACGA69	38.9	8.3	28.8	3.2	229	578
ACGA70	42.4	8.3	31.8	3.8	203	660
ACGA71	40.6	7.8	27.3	3.6	493	579
ACGA72	39.9	6.8	26.3	3.7	208	646
ACGA73	31.4	7.0	26.0	3.1	-37	506
ACGA74	29.4	8.0	28.5	3.7	153	622
ACGA75	43.1	5.8	27.3	4.0	94	612
ACGA76	45.2	8.0	29.5	2.9	465	602
ACGA77	39.9	6.5	29.3	3.0	346	614
ACGA78	40.3	8.3	32.3	3.4	578	520
ACGA79	34.4	7.5	29.0	3.3	348	570
ACGA80	35.7	7.0	23.3	3.9	56	372
ACGA81	40.0	5.0	31.0	3.4	375	403
ACGA82	39.7	7.0	31.5	2.9	418	679
ACGA83	38.2	6.8	26.0	3.1	306	469
DP448B	39.9	7.3	26.0	3.2	421	621
DP449BR	34.7	7.3	28.3	3.5	165	560
ST5599BR	40.3	6.8	24.3	3.3	171	470

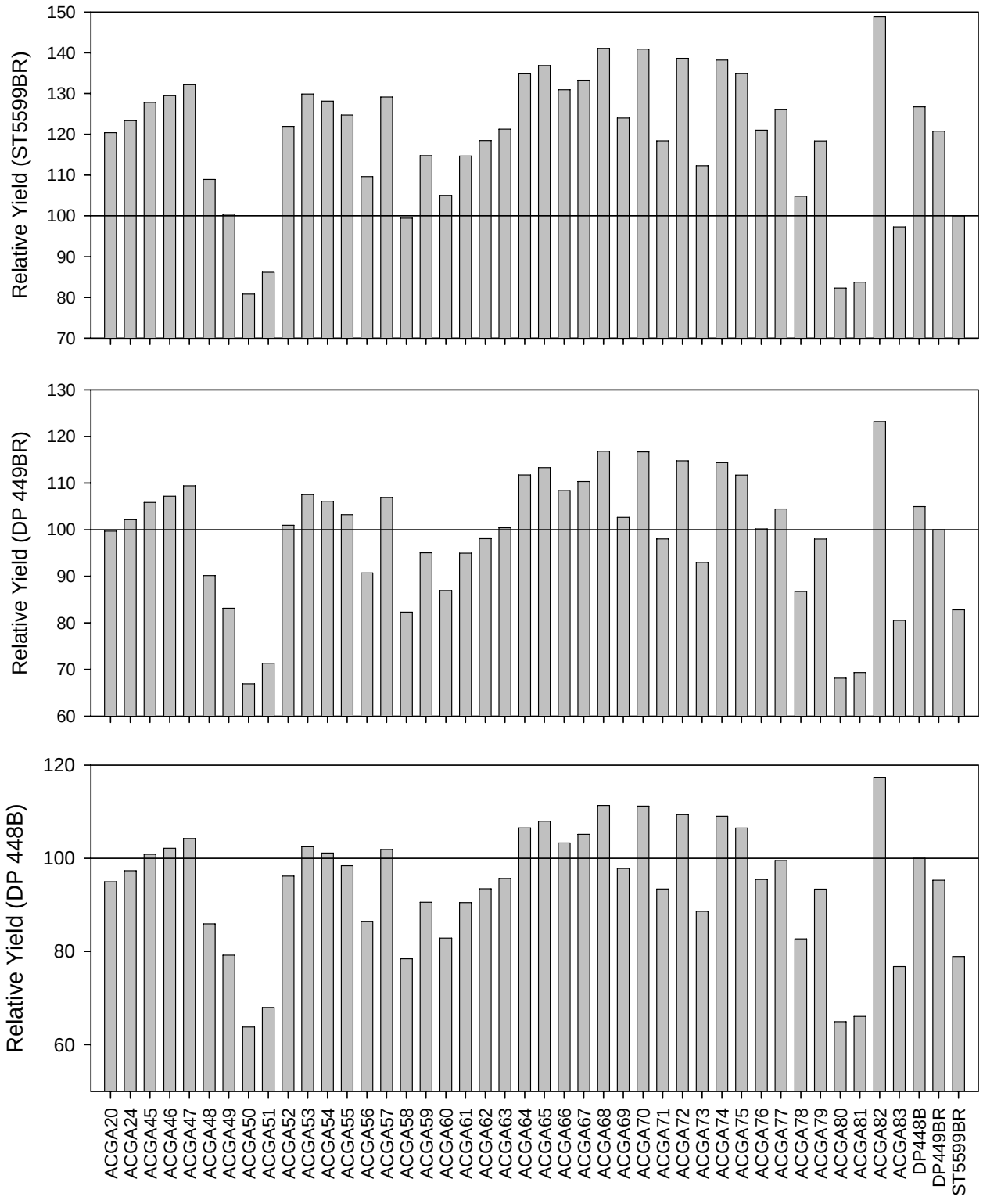

Figure 16. Percent relative lint yield for each of the ACGA strain entries. Relative lint yield was calculated by dividing the mean yield of the strain by mean lint yield of each of the commercial variety controls in this trial (a) ST5599BR, (b) DP449BR and (c) DP448B at Maricopa, AZ, 2005.

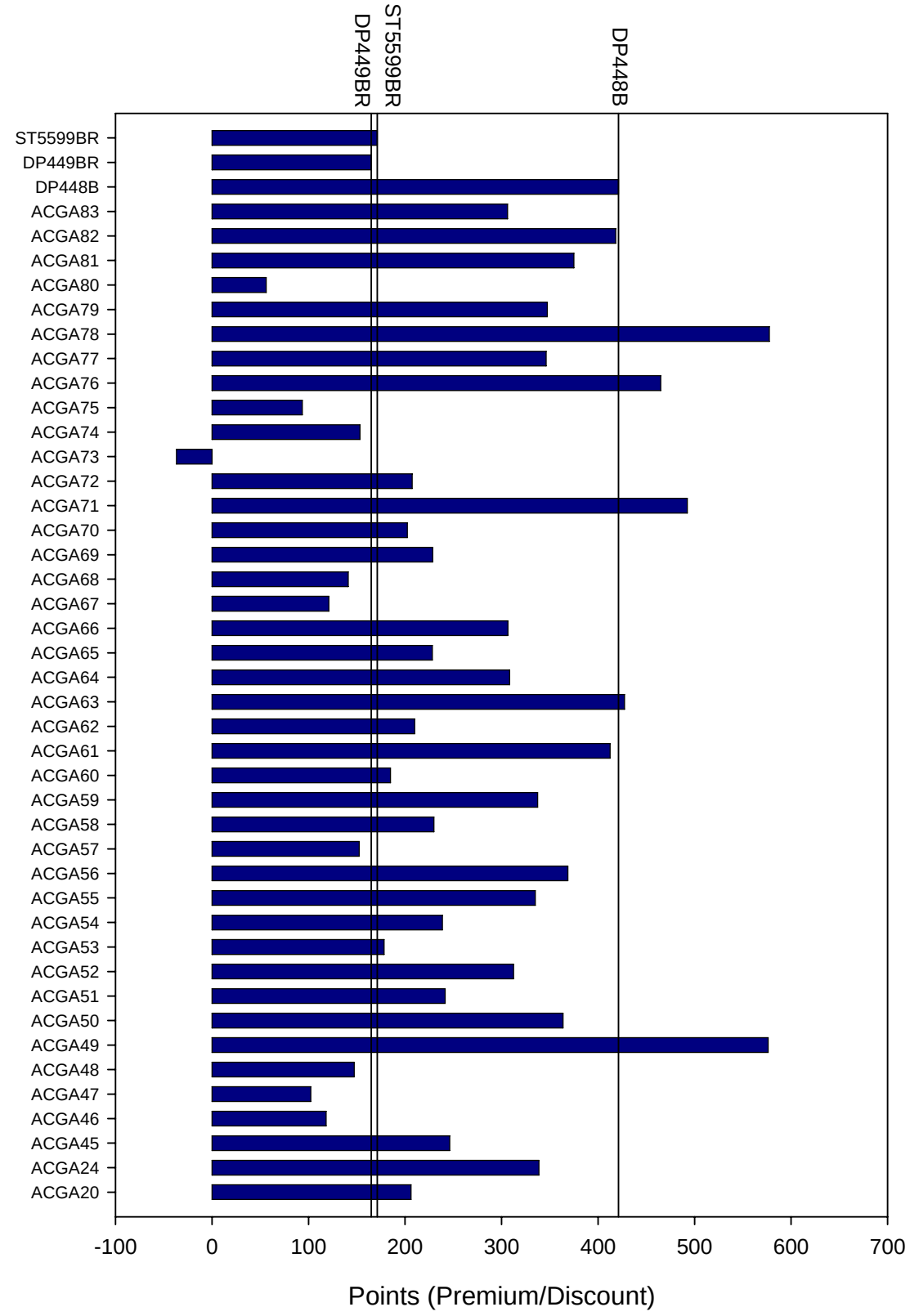

Figure 17. Points associated with the premium and discounts based upon fiber quality characteristics for each ACGA strain. Points were determined using the 2005 CCC loan schedule for Upland cotton. Vertical lines indicate points level for each commercial variety control. Data from Maricopa, AZ, 2005.

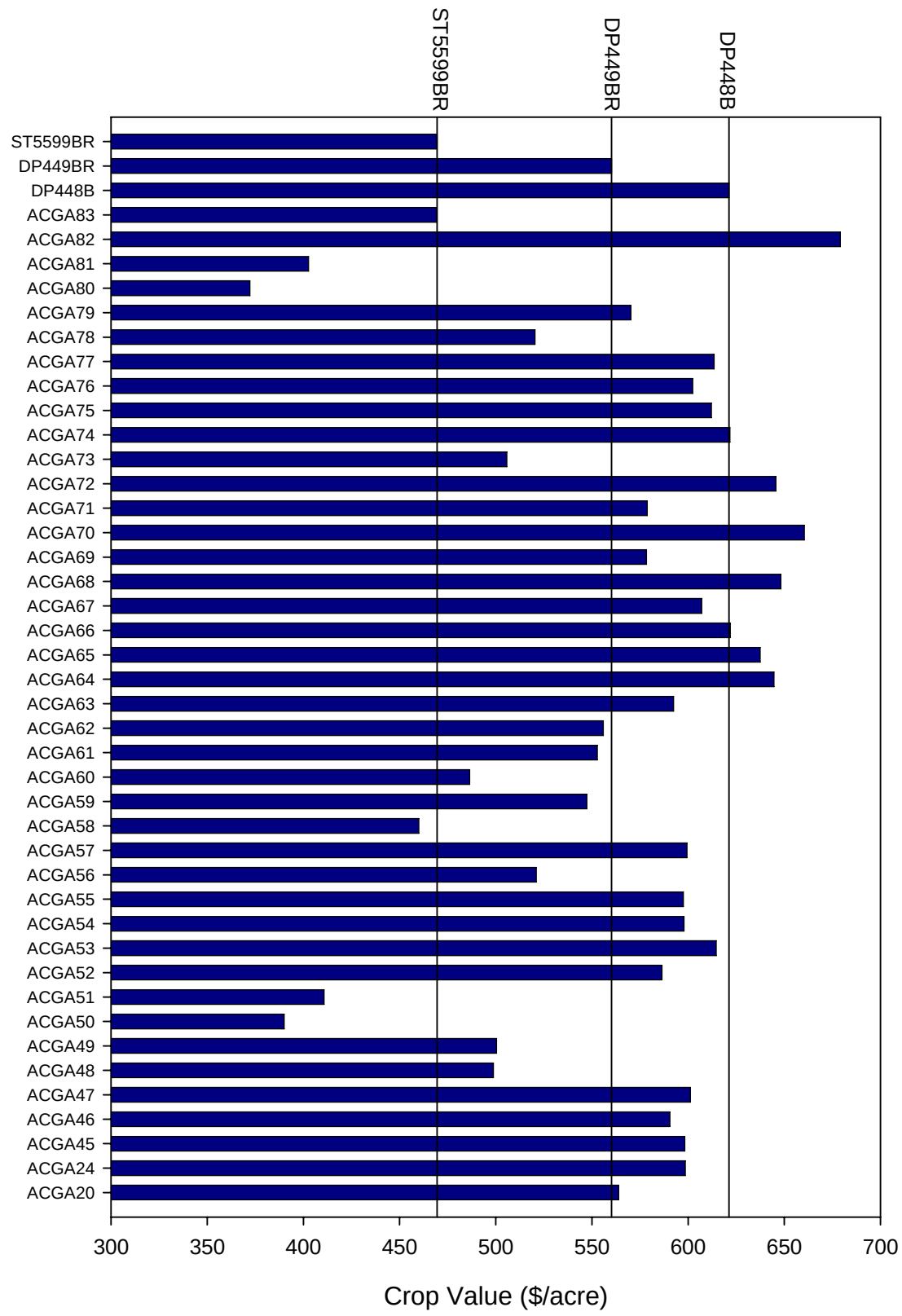

Figure 18. Total crop value for each ACGA strain. Final crop price was calculated from a base price of 52.00 cents/pound plus premiums/discounts for fiber quality. Total crop value was calculated by multiplying the final price by lint yield. Vertical lines indicate crop value levels for each commercial variety control. Data from Maricopa, AZ, 2005.

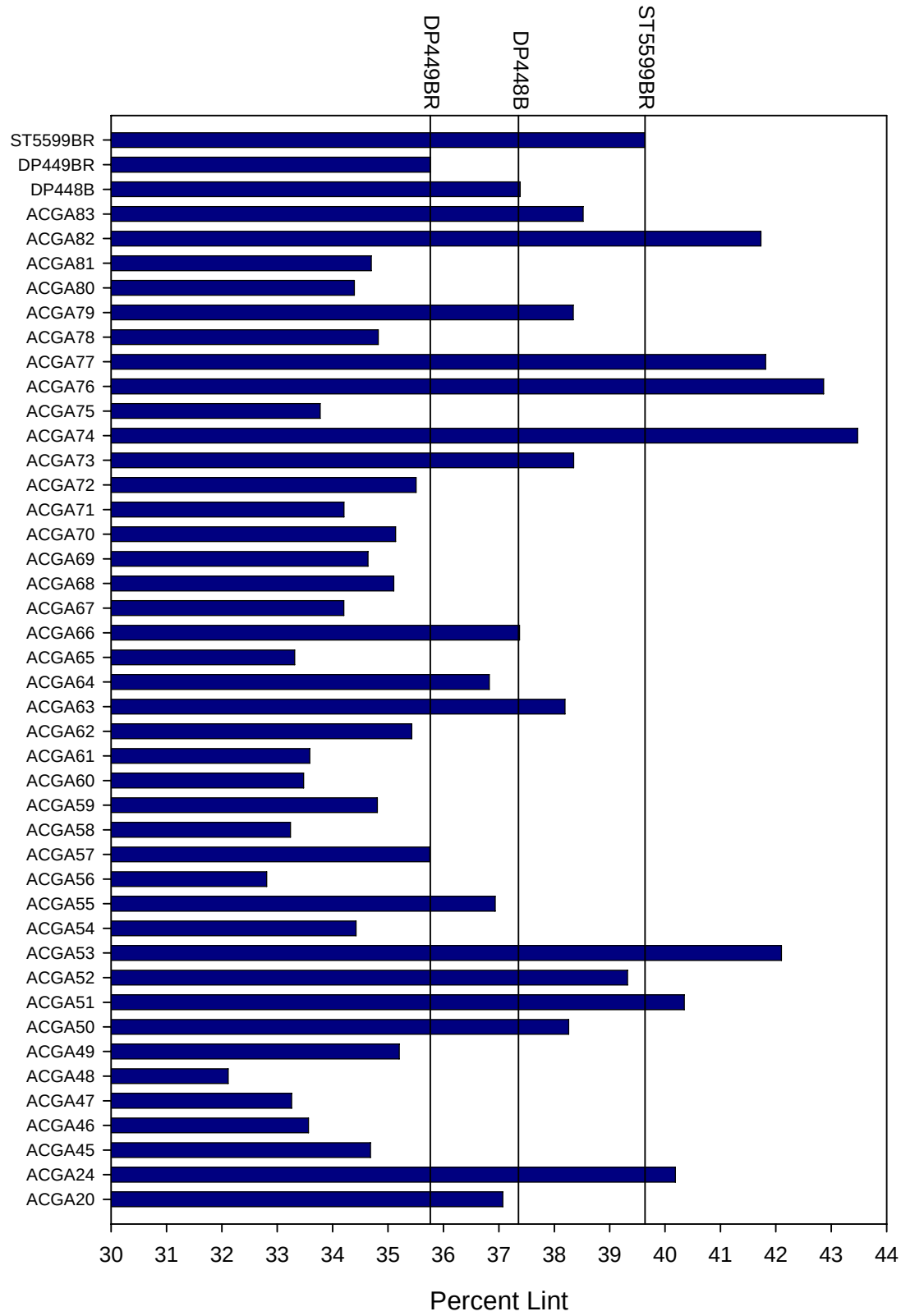

Figure 19. Percent lint for each ACGA strain. Percent lint was determined by ginning a 50 boll sample from each experimental unit. Vertical lines indicate percent lint levels for each commercial variety control. Data from Maricopa, AZ, 2005.

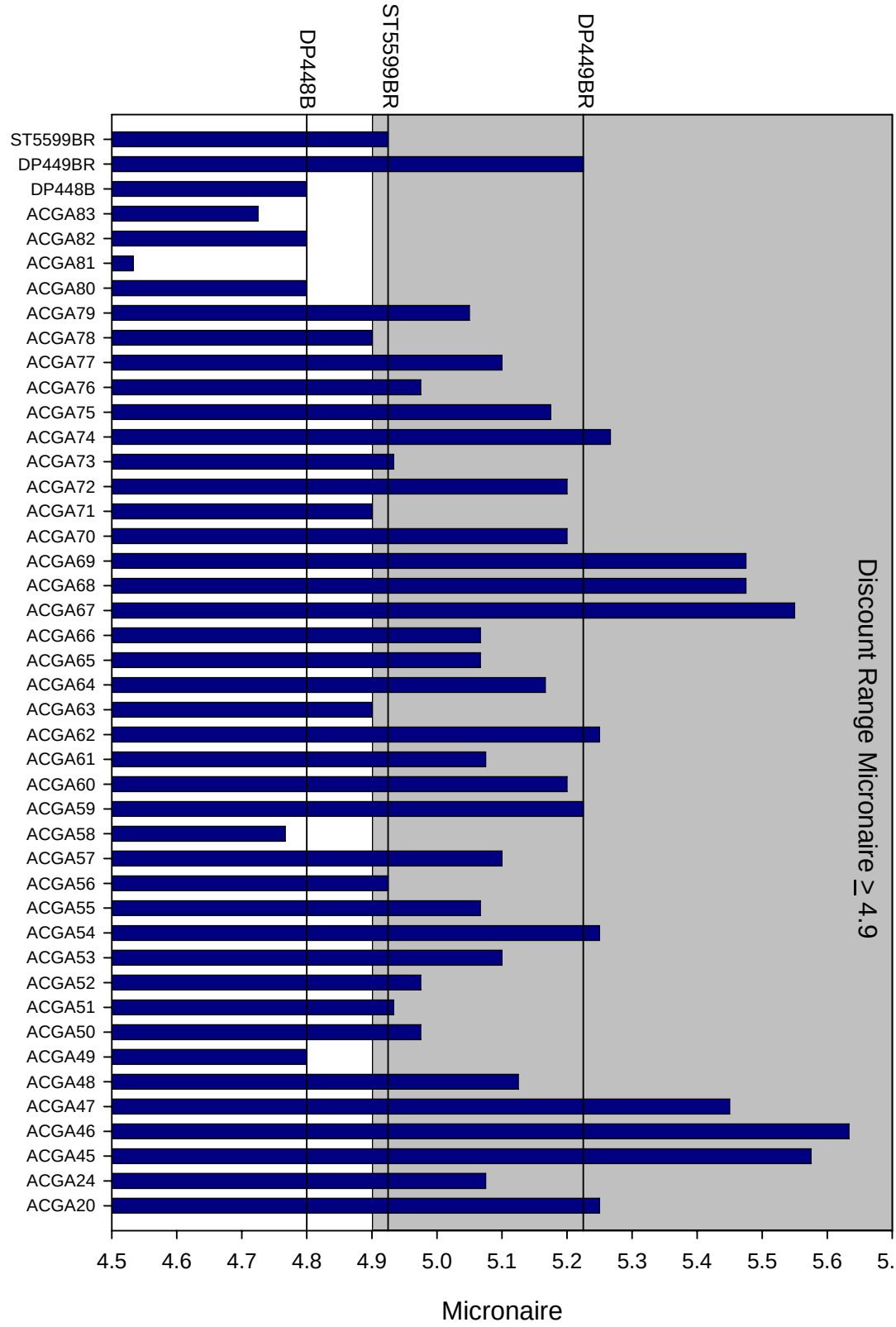

Figure 20. Fiber micronaire values for each ACGA strain. Discount range for fiber micronaire is indicated by grey box. Vertical lines indicate micronaire levels for each commercial variety control. Data from Maricopa, AZ, 2005.

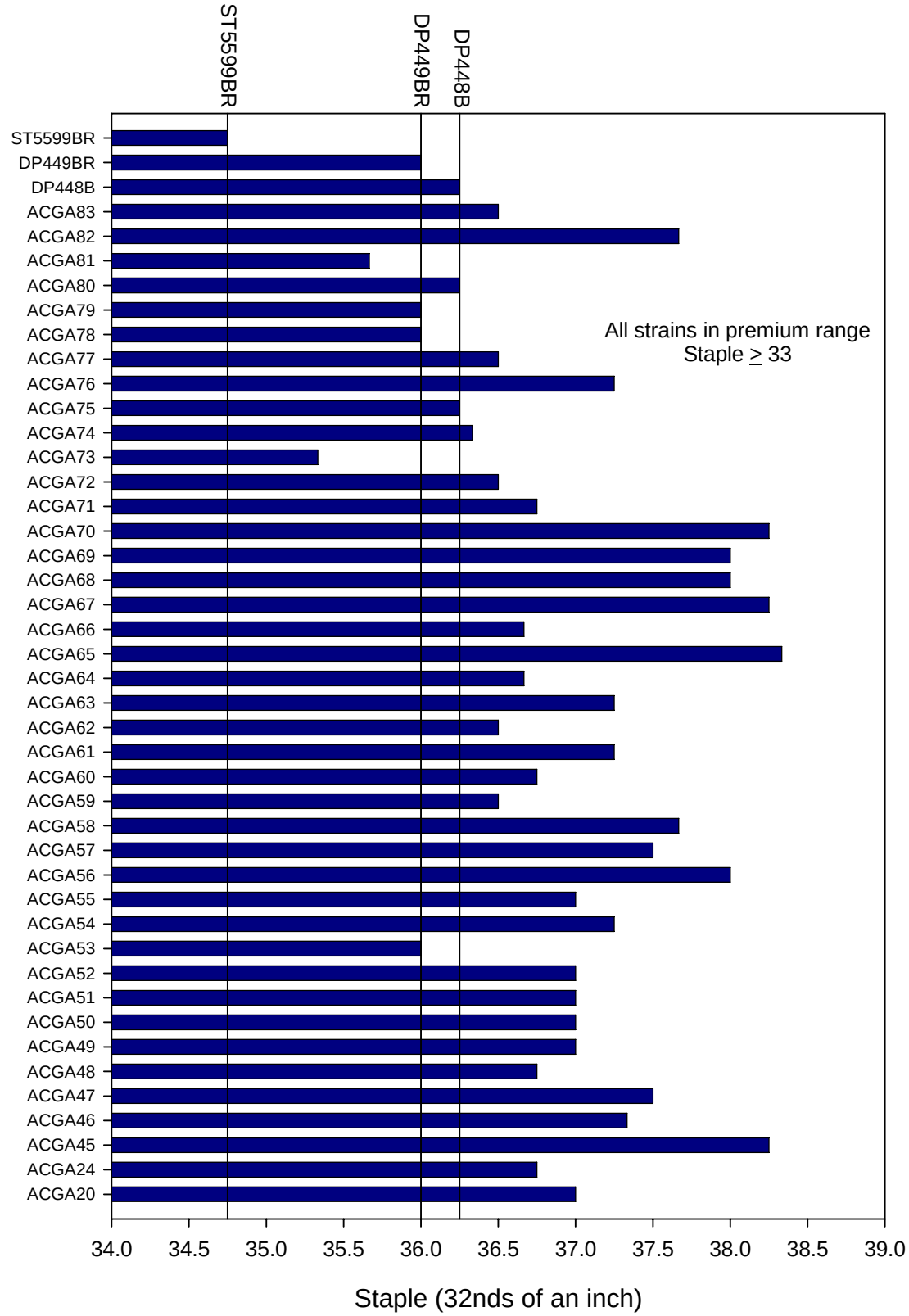

Figure 21. Fiber staple (32nds) values for each ACGA strain. All entered strains fell in the premium range for fiber staple. Vertical lines indicate staple levels for each commercial variety control. Data from Maricopa, AZ, 2005.

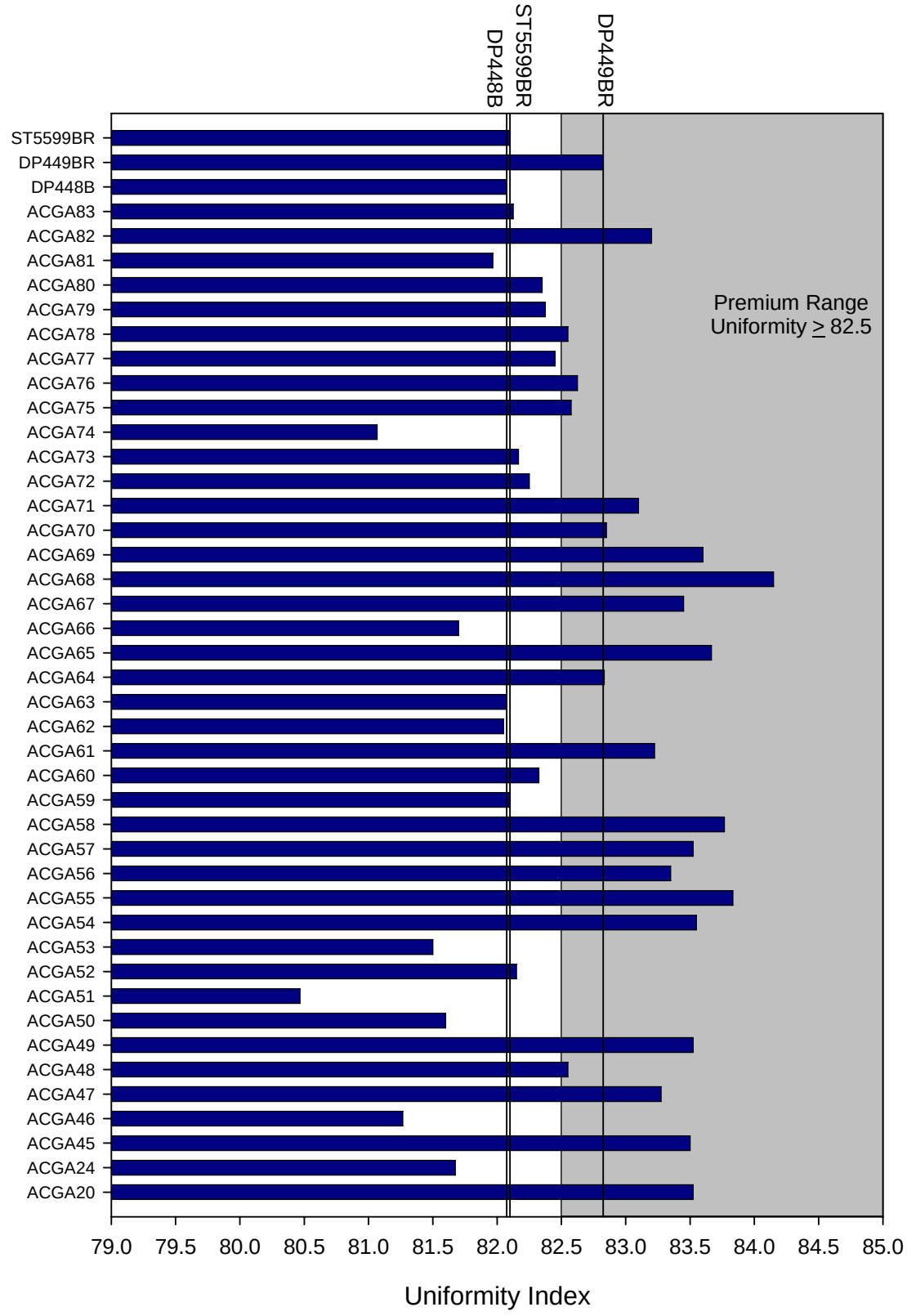

Figure 22. Fiber uniformity index values for each ACGA strain. Premium range for fiber uniformity is indicated by grey box. Vertical lines indicate uniformity levels for each commercial variety control. Data from Maricopa, AZ, 2005.

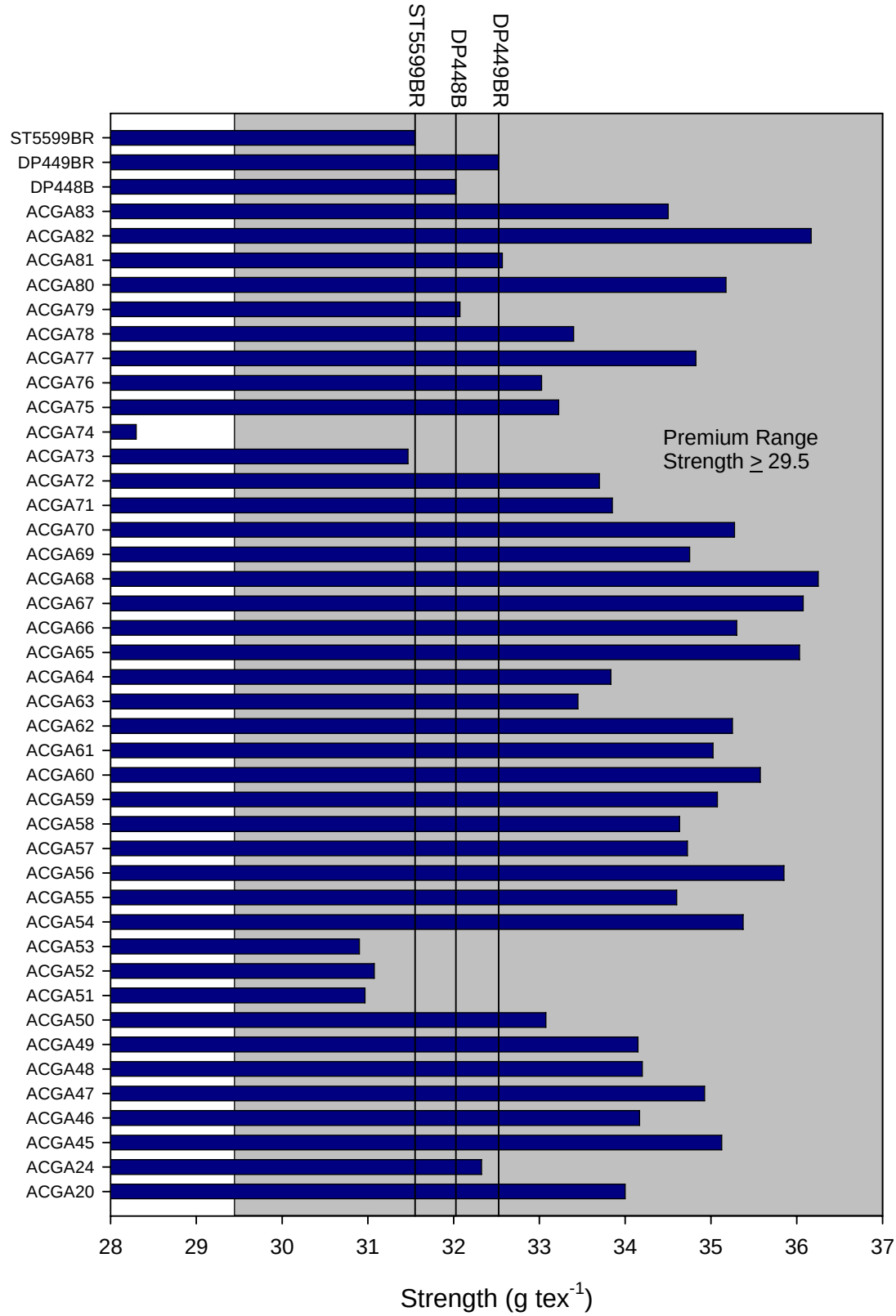

Figure 23. Fiber strength (g tex^{-1}) values for each ACGA strain. Premium range for fiber strength is indicated by grey box. Vertical lines indicate strength levels for each commercial variety control. Data from Maricopa, AZ, 2005.

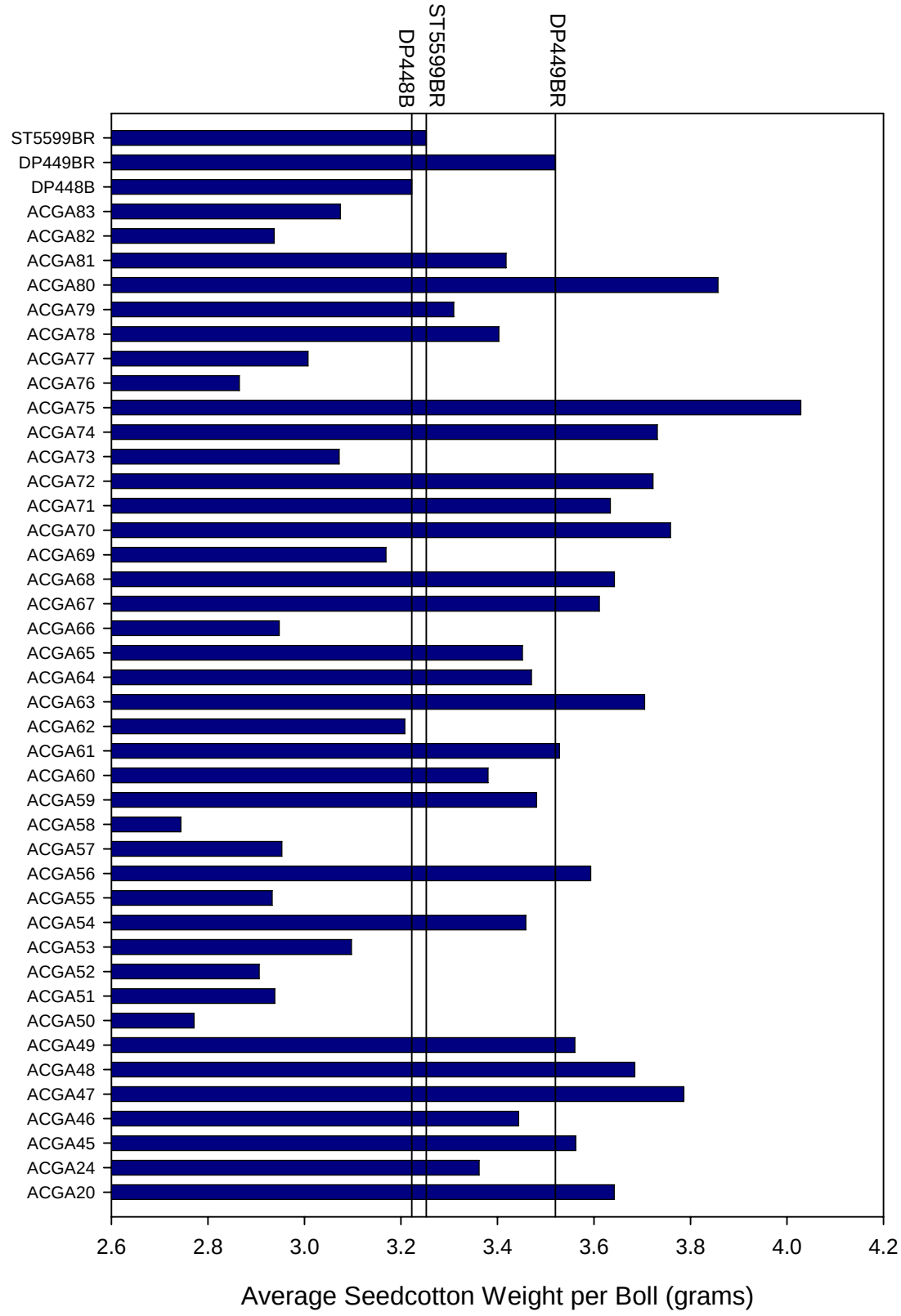

Figure 24. Average seedcotton weight (grams) per boll for each ACGA strain. Vertical lines indicate weight levels for each commercial variety control. Data from Maricopa, AZ, 2005.

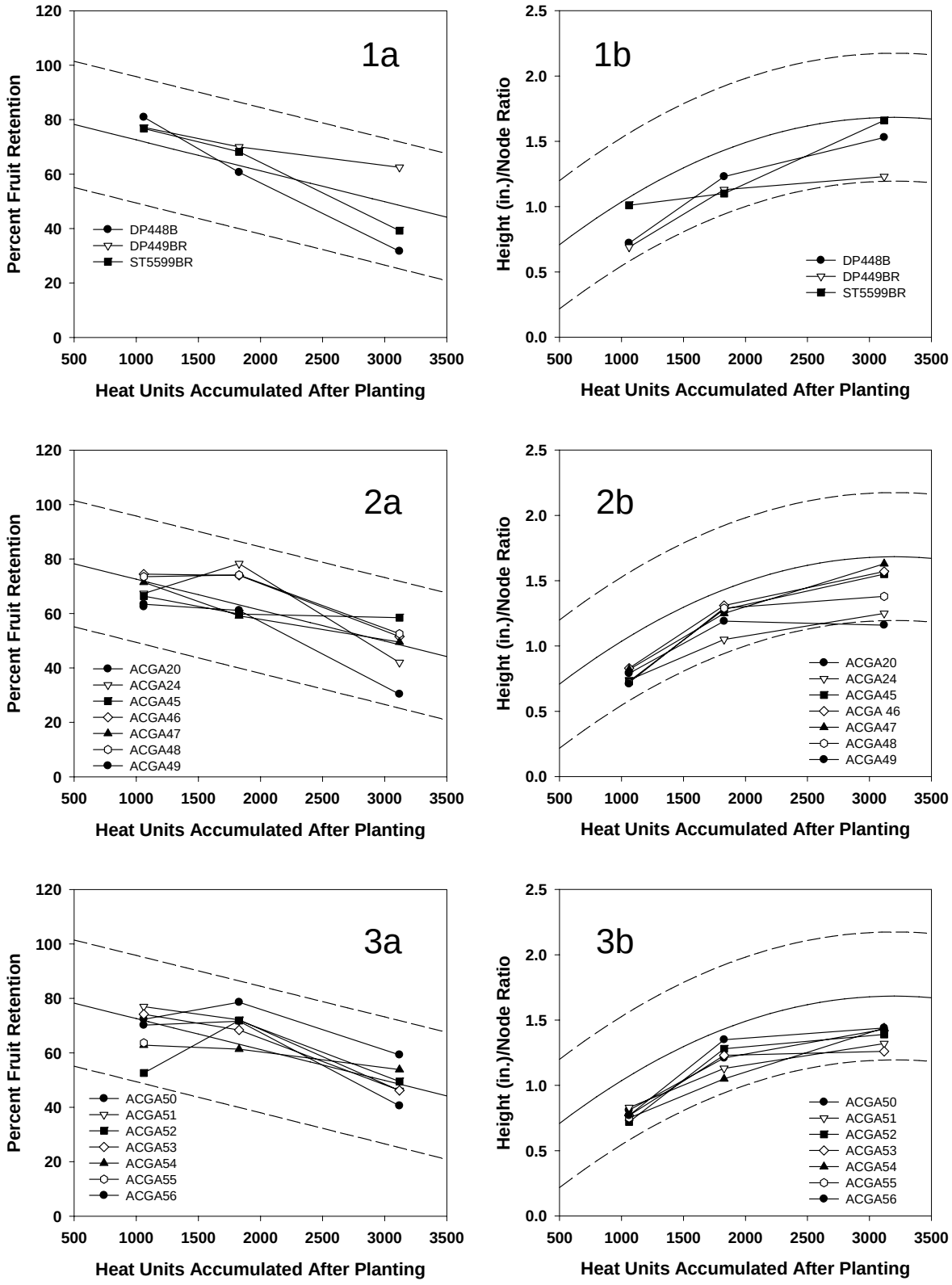

Figure 25. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

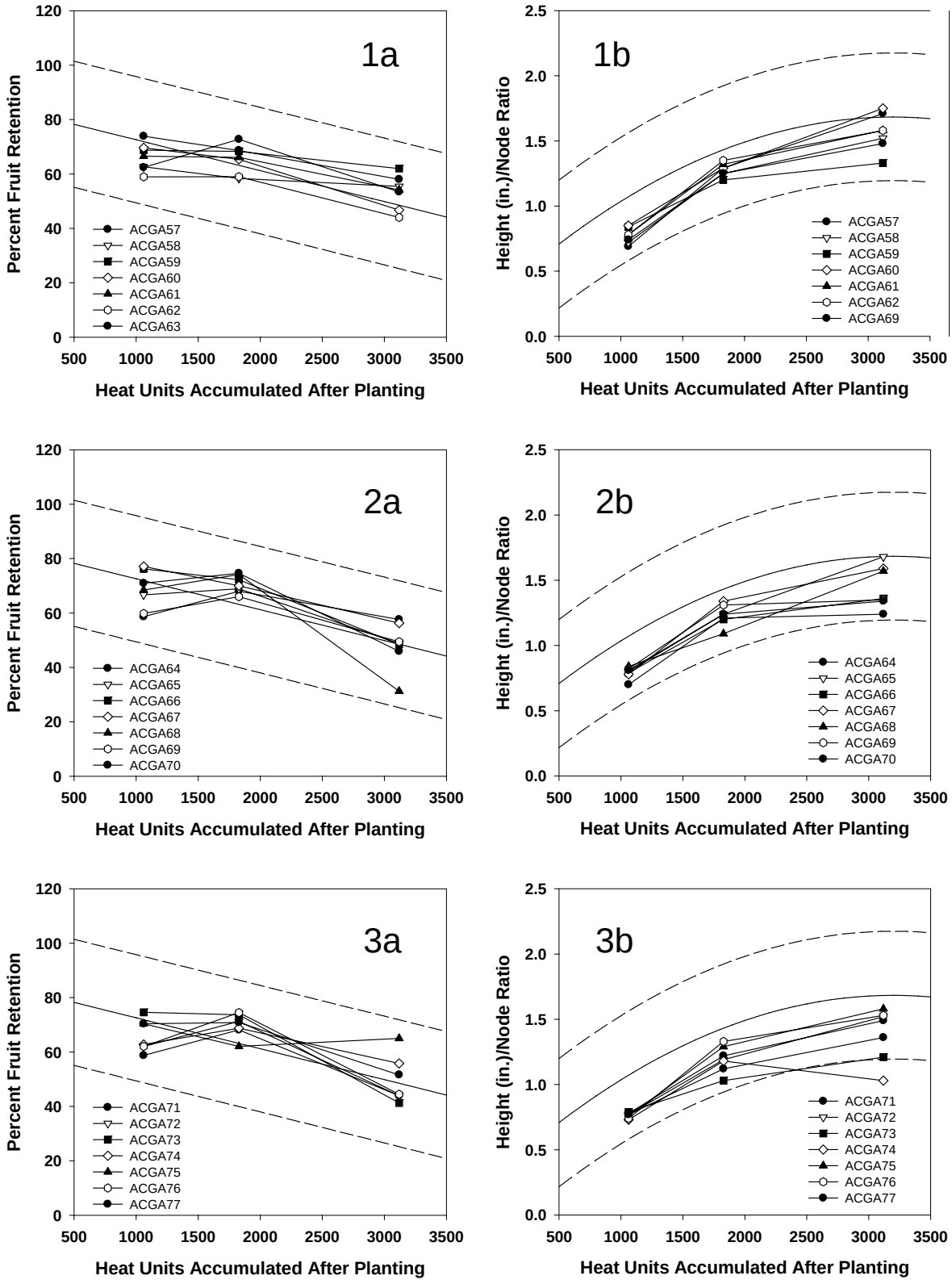

Figure 26. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

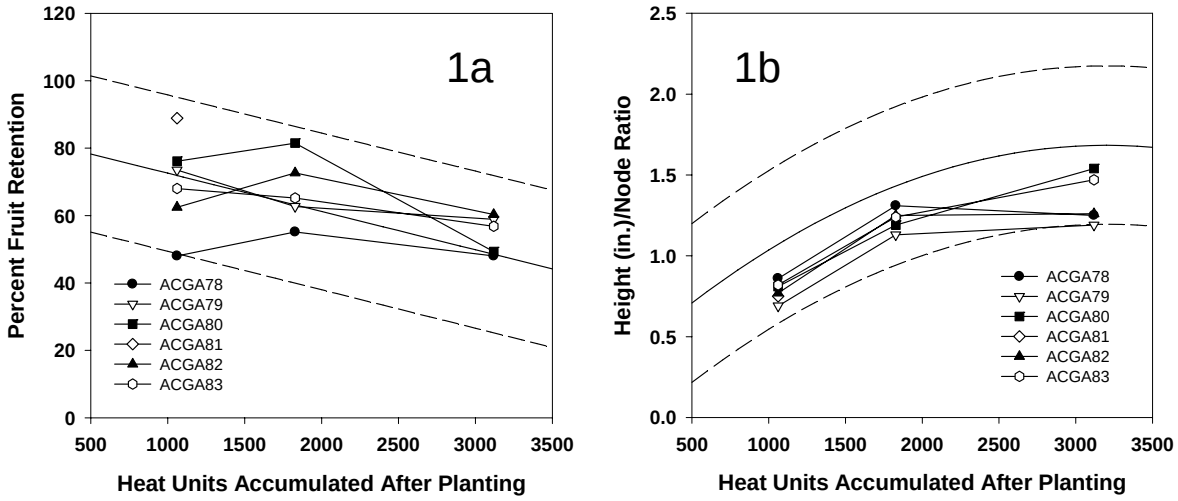

Figure 27. Percent fruit retention (a) and height to node ratio (b) levels for the control varieties (1) and ACGA (2 and 3) advanced strains planted at Yuma, AZ, 2005. The data are plotted as a function of heat units accumulated after planting. Solid and dotted lines represent baseline and upper/lower confidence intervals respectively for the two parameters.

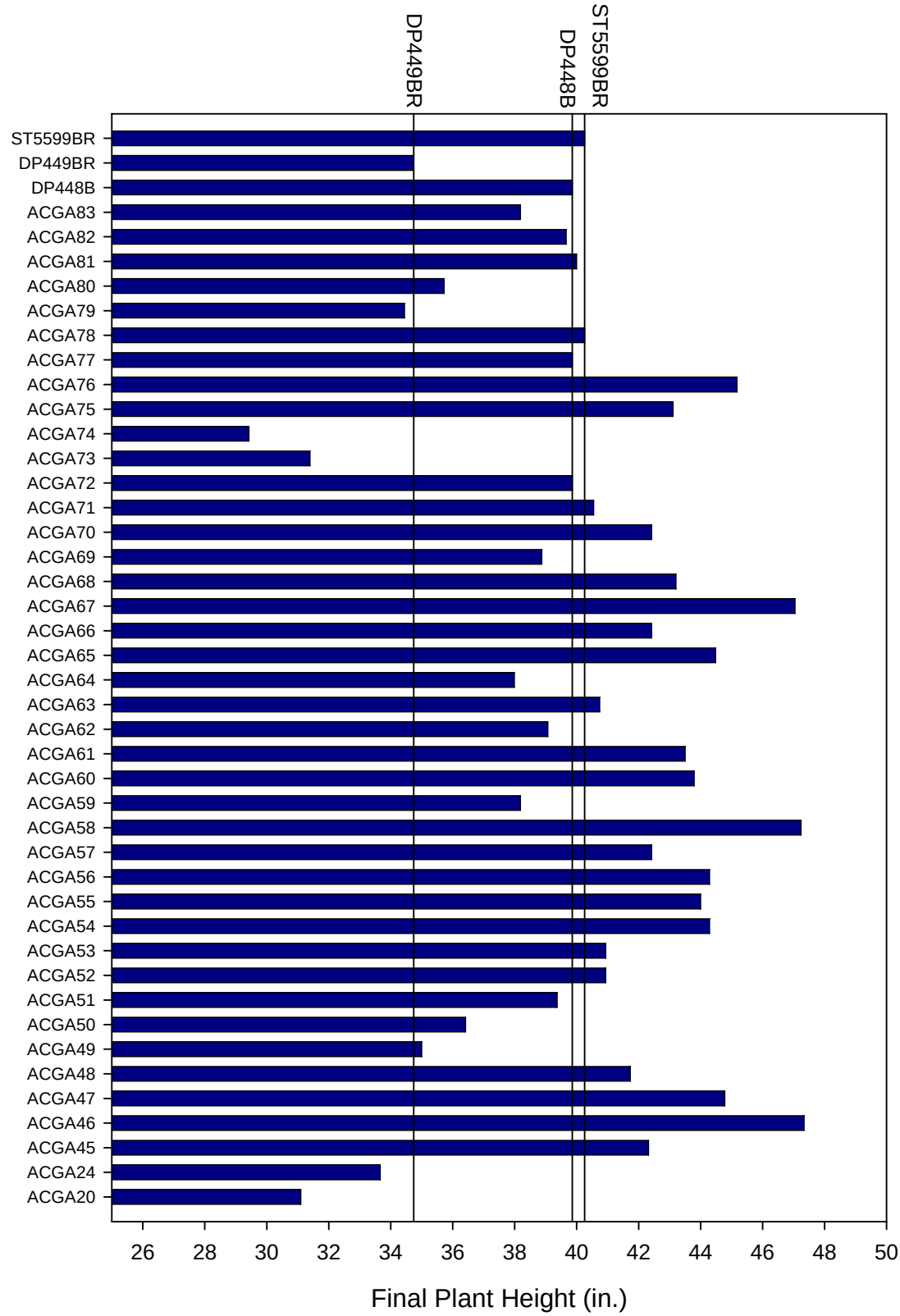

Figure 28. Average final plant height for each ACGA strain. Vertical lines indicate height levels for each commercial variety control. Data from Maricopa, AZ, 2005.

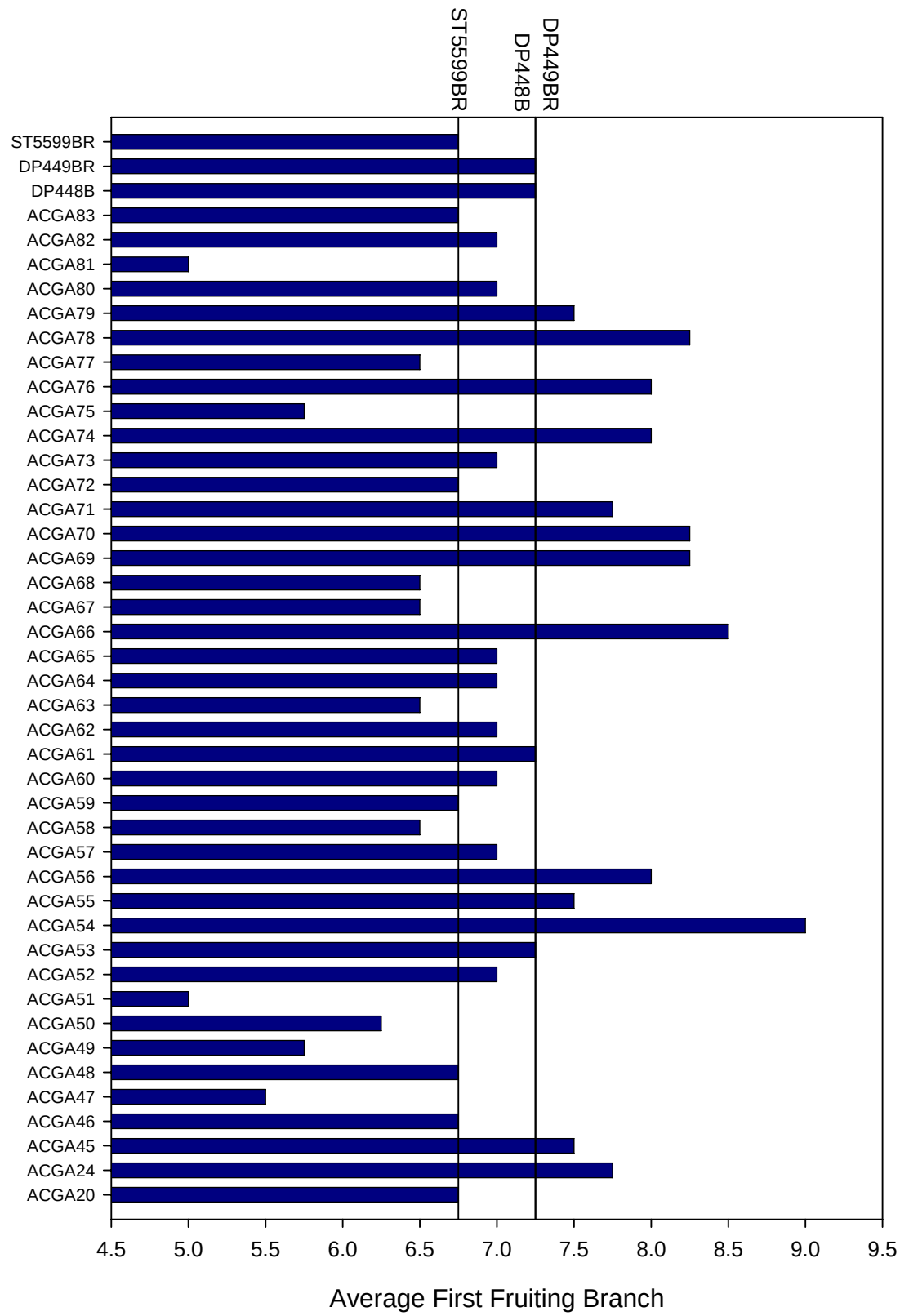

Figure 29. Average first fruiting branch for each ACGA strain. Vertical lines indicate first fruiting branch levels for each commercial variety control. Data from Maricopa, AZ, 2005.

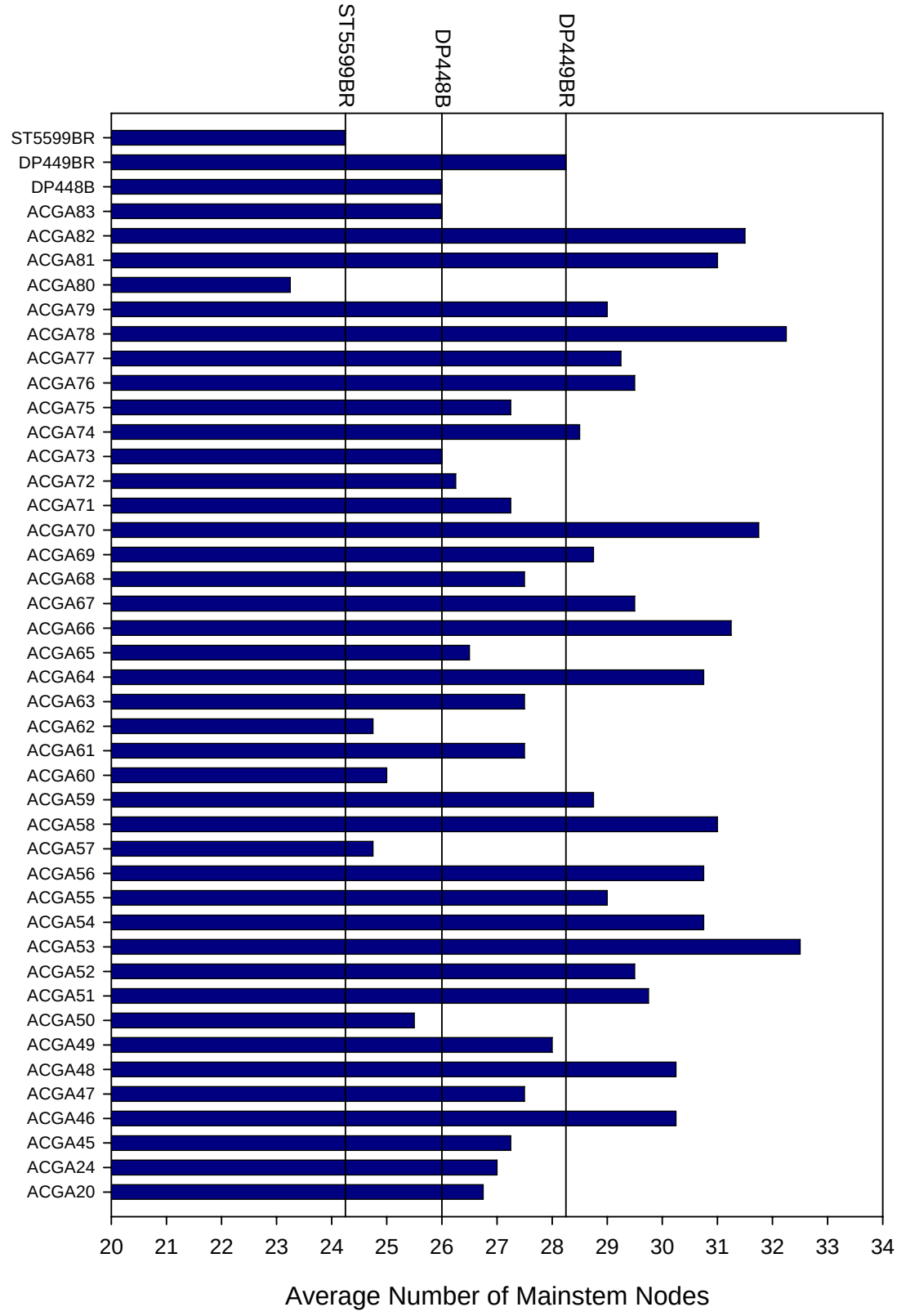

Figure 30. Average total number of mainstem nodes for each ACGA strain. Vertical lines indicate mainstem node numbers for each commercial variety control. Data from Maricopa, AZ, 2005.