2020 Corn Variety Trial Report
Summary

Two Location Yield Summary

This page provides the yield summaries for both locations. The trials were conducted at IMPACT Agronomics' research farm in Pantego, NC. The organic site was a Hyde loam and the mineral site was a Roanoke fine sandy loam. More details, including planting information, fertility, moisture, test weight and lodging, for each trial and location can be found on the following pages.

Early Hybrid (<116RM) Yield Summary (bu/A)

Brand	Variety	Organic Soil	Mineral Soil	2-Location Average
Armor	AR 1447 VT2P	**198.2**	**123.4**	**160.8**
Armor	AR 1575 VT2P	168.3	103.2	135.8
AgriGold	A6544-VT2PRO	148.6	118.0	133.3
Armor	AR 1299 VT2P	163.3	100.0	131.6
Competitor	A	172.5	85.6	129.1
Competitor	B	160.4	97.3	128.8
Northrup King	NK 1205	156.4	88.7	122.5
AgriGold	A644-04 3110	134.6	88.8	111.7
AgVenture	AV 4313AM	146.6	75.8	111.2
AgVenture	AV EXC 0700AM	145.0	76.6	110.8
Competitor	C	138.9	80.0	109.4
Northrup King	NK 1460	136.8	75.0	105.9
AgriGold	A621-77 VT2RIB	120.5	87.8	104.2

Highlighted values are not significantly different from **highest yield**. (P=.20, LSD).

Late Hybrid (116+RM) Yield Summary (bu/A)

Brand	Variety	Organic Soil	Mineral Soil	2-Location Average
AgriGold	A6711 VT2PRO	153.5	**127.8**	**140.6**
DeKalb	DKC 68-69	157.4	114.9	136.2
Competitor	X	169.8	94.0	131.9
AgriGold	A647-90 VT2PRO	152.3	106.4	129.3
Competitor	Y	**170.4**	81.3	125.9
Competitor	Z	143.3	106.5	124.9
AgVenture	AV 7516AM	152.0	95.9	123.9
Northrup King	NK 1677 3110	141.4	94.0	117.7
AgriGold	A647-46 VT2PRO	150.5	83.7	117.1
DeKalb	DKC 67-44	144.5	82.6	113.5

Highlighted values are not significantly different from **highest yield**. (P=.20, LSD).

Organic Soil – Early Hybrid Trial – Site Description

This trial was planted at IMPACT's Pike Road farm in Pantego, NC. The soil type for this location is a Hyde Loam with approximately 22% organic matter and is classified as an organic soil by NCDA. This trial was planted on April 22 and harvested on September 29. The plots were 6 rows by 40 feet long, with 24 inch row spacing and replicated four times. It was planted at a rate of 33,000 plants/A.

This trial received 0.5 tons/A calcitic lime and 100 lb/A 0-0-60 pre-plant. At planting broadcast application was 20 gal/A 8-0-0-9S + 15 gal/A 30% nitrogen. 2x2 starter application was 12 gal/A 18-10-0-3S. Layby application was 26 gal/A 30% nitrogen + 5 gal/A 11-37-0.

The trial received 1 qt/A Atrazine + 3 pt/A Warrant as a pre-emergence application. Three weeks after planting, the trial received 1.9 oz/A Karate Z + 1 pt/A chlorpyrifos for control of stink bugs and billbugs. Post emergence herbicide was 26 oz/A Roundup + 3 oz/A Laudis. 1 qt/A Brandt Smart Trio was added to this herbicide application.

The organic site was very wet in the early part of the season, but the crop rarely appeared to be stressed from excess water and it grew very well. After pollination, a dry period of several weeks set in. This location did not have any observable leaf roll at any time during this dry period. Kernel counts were very high, but it appears that the drought period did affect kernel fill as yields did not reflect estimates from kernel counts.

The hurricane did cause some lodging problems and % lodged below the ear was rated at harvest. On the organic soil site lodging numbers were higher compared to the mineral soil site. However, the severity was less as the lodged plants generally leaned across to the next row and were harvested fairly well. On the mineral soil site lodged plants fell more into the ally and fell closer to the ground making them more difficult to pick up.

Organic Soil - Early Hybrid Harvest Data

Hybrid	Dry Yield (15.5%)		Test Weight		% Moisture		% Lodging	
AR 1447 VT2P	198.2	a	57.3	a	15.0	b	17.5	def
Competitor A	172.5	b	55.2	de	14.6	c	13.8	ef
AR 1575 VT2P	168.3	b	56.1	bc	15.3	a	20.0	def
AR 1299 VT2P	163.3	bc	56.0	c	14.7	c	30.0	cde
Competitor B	160.4	bcd	56.1	bc	15.0	b	17.5	def
NK 1205	156.4	bcd	55.2	de	14.7	c	40.0	bc
A6544-VT2PRO	148.6	cde	55.6	cd	15.2	ab	57.5	a
AV 4313AM	146.6	cde	54.8	e	14.8	c	32.5	cd
AV EXC 0700AM	145.0	de	54.0	f	14.4	de	50.0	ab
Competitor C	138.9	e	56.7	ab	15.0	b	50.0	ab
NK 1460	136.8	ef	53.1	g	14.6	cd	46.7	abc
A644-04 3110	134.6	ef	55.1	de	15.1	b	55.0	ab
A621-77 VT2RIB	120.5	f	52.2	h	14.2	e	10.0	f
LSD P=.20	16.83		0.70		0.22		16.79	
Standard Deviation	18.23		0.76		0.24		18.18	
CV	11.91		1.37		1.59		53.66	

Means followed by same letter or symbol do not significantly differ (P=.20, LSD).

Organic Soil – Late Hybrid Trial – Site Description

This trial was planted at IMPACT's Pike Road farm in Pantego, NC. The soil type for this location is a Hyde Loam with approximately 22% organic matter and is classified as an organic soil by NCDA. This trial was planted on April 23 and harvested on October 1. The plots were 6 rows by 40 feet long, with 24 inch row spacing and replicated four times. It was planted at a rate of 33,000 plants/A.

This trial received 0.5 tons/A calcitic lime and 100 lb/A 0-0-60 pre-plant. At planting broadcast application was 20 gal/A 8-0-0-9S + 15 gal/A 30% nitrogen. 2x2 starter application was 12 gal/A 18-10-0-3S. Layby application was 26 gal/A 30% nitrogen + 5 gal/A 11-37-0.

The trial received 1 qt/A Atrazine + 3 pt/A Warrant as a pre-emergence application. Three weeks after planting, the trial received 1.9 oz/A Karate Z + 1 pt/A chlorpyrifos for control of stink bugs and billbugs. Post emergence herbicide was 26 oz/A Roundup + 3 oz/A Laudis. 1 qt/A Brandt Smart Trio was added to this herbicide application.

The organic site was very wet in the early part of the season, but the crop rarely appeared to be stressed from excess water and it grew very well. After pollination, a dry period of several weeks set in. This location did not have any observable leaf roll at any time during this dry period. Kernel counts were very high, but it appears that the drought period did affect kernel fill as yields did not reflect estimates from kernel counts.

The hurricane did cause some lodging problems and % lodged below the ear was rated at harvest. On the organic soil site lodging numbers were higher compared to the mineral soil site. However, the severity was less as the lodged plants generally leaned across to the next row and were harvested fairly well. On the mineral soil site lodged plants fell more into the ally and fell closer to the ground making them more difficult to pick up.

Organic Soil - Late Hybrid Harvest Data

Hybrid	Dry Yield (15.5%)		Test Weight		% Moisture		% Lodging	
Competitor Y	170.4	a	57.8	ab	17.0	b	21.3	efg
Competitor X	169.8	a	56.9	cd	15.9	e	15.0	g
DKC 68-69	157.4	ab	57.6	ab	19.9	a	33.8	def
A6711 VT2PRO	153.5	bc	56.8	d	16.2	cde	48.8	bc
A647-90 VT2PRO	152.3	bc	56.7	d	16.8	bc	20.0	fg
AV 7516AM	152.0	bc	56.8	d	16.1	e	40.0	bcd
A647-46 VT2PRO	150.5	bc	57.9	a	16.7	bcd	35.0	cde
DKC 67-44	144.5	bc	55.7	e	16.1	de	80.0	a
Competitor Z	143.3	bc	57.4	bc	16.3	cde	32.5	def
NK 1677 3110	141.4	c	55.6	e	17.0	b	50.0	b
LSD P=.20	14.69		0.47		0.60		14.67	
Standard Deviation	15.72		0.50		0.65		15.78	
CV	10.24		0.87		3.85		41.94	

Means followed by same letter or symbol do not significantly differ (P=.20, LSD).

Mineral Soil – Early Hybrid Trial – Site Description

This trial was planted at IMPACT's Shop farm in Pantego, NC. The soil type for this location is a Roanoke Fine Sandy Loam with approximately 7% organic matter and is classified as a mineral soil by NCDA. This trial was planted on April 14 and harvested on September 1. The plots were 6 rows by 40 feet long, with 24 inch row spacing and replicated four times. It was planted at a rate of 31,000 plants/A.

This trial received no fertilizer pre-plant. At planting broadcast application was 20 gal/A 8-0-0-9S + 15 gal/A 30% nitrogen. 2x2 starter application was 12 gal/A 18-10-0-3S. Layby application was 26 gal/A 30% nitrogen + 5 gal/A 11-37-0.

The trial received 1 qt/A Atrazine + 3 pt/A Warrant as a pre-emergence application. Three weeks after planting, the trial received 1.9 oz/A Karate Z + 1 pt/A chlorpyrifos for control of stink bugs and billbugs. Post emergence herbicide was 26 oz/A Roundup + 3 oz/A Laudis. 1 qt/A Brandt Smart Trio was added to this herbicide application.

The mineral site was very wet in the early part of the season, but the crop rarely appeared to be stressed from excess water and it grew very well. After pollination, a dry period of several weeks set in. This location did not have any observable leaf roll at any time during this dry period. Kernel counts were very high, but the drought period significantly affected kernel fill and caused kernel abortion in the top half to third of the ear. As a result, yields did not reflect the potential of initial kernel counts.

The hurricane did cause some lodging problems and % lodged below the ear was rated at harvest. On the organic soil site lodging numbers were higher compared to the mineral soil site. However, the severity was less as the lodged plants generally leaned across to the next row and were harvested fairly well. On the mineral soil site lodged plants fell more into the ally and fell closer to the ground making them more difficult to pick up.

Mineral Soil - Early Hybrids - Harvest Data

Hybrid	Dry Yield (15.5%)		Test Weight		% Moisture		% Lodging	
AR 1447 VT2P	123.4	a	54.9	a	14.6	bc	36.3	de
A6544-VT2PRO	118.0	a	53.5	c	14.9	b	27.5	ef
AR 1575 VT2P	103.2	b	54.3	b	15.9	a	15.8	f
AR 1299 VT2P	100.0	b	51.7	e	13.9	ef	78.8	a
Competitor B	97.3	bc	52.9	cd	14.4	cd	33.8	de
A644-04 3110	88.8	cd	52.7	d	14.4	cd	82.5	a
NK 1205	88.7	cd	52.7	d	14.3	c-f	65.0	b
A621-77 VT2RIB	87.8	cd	48.8	h	13.4	g	25.8	ef
Competitor A	85.6	de	50.9	f	13.9	f	33.8	de
Competitor C	80.0	de	52.8	d	14.4	cde	53.8	bc
AV EXC 0700AM	76.6	e	49.8	g	13.9	ef	43.8	cd
AV 4313AM	75.8	e	51.9	e	14.1	def	65.0	b
NK 1460	75.0	e	50.6	f	13.9	ef	82.5	a
LSD P=.20	10.59		0.67		0.44		13.55	
Standard Deviation	11.47		0.73		0.48		14.67	
CV	12.43		1.40		3.36		29.62	

Means followed by same letter or symbol do not significantly differ (P=.20, LSD).

Mineral Soil – Late Hybrid Trial – Site Description

This trial was planted at IMPACT's Shop farm in Pantego, NC. The soil type for this location is a Roanoke Fine Sandy Loam with approximately 7% organic matter and is classified as a mineral soil by NCDA. This trial was planted on April 15 and harvested on September 5. The plots were 6 rows by 40 feet long, with 24 inch row spacing and replicated four times. It was planted at a rate of 31,000 plants/A.

This trial received no fertilizer pre-plant. At planting broadcast application was 20 gal/A 8-0-0-9S + 15 gal/A 30% nitrogen. 2x2 starter application was 12 gal/A 18-10-0-3S. Layby application was 26 gal/A 30% nitrogen + 5 gal/A 11-37-0.

The trial received 1 qt/A Atrazine + 3 pt/A Warrant as a pre-emergence application. Three weeks after planting, the trial received 1.9 oz/A Karate Z + 1 pt/A chlorpyrifos for control of stink bugs and billbugs. Post emergence herbicide was 26 oz/A Roundup + 3 oz/A Laudis. 1 qt/A Brandt Smart Trio was added to this herbicide application.

The mineral site was very wet in the early part of the season, but the crop rarely appeared to be stressed from excess water and it grew very well. After pollination, a dry period of several weeks set in. This location did not have any observable leaf roll at any time during this dry period. Kernel counts were very high, but the drought period significantly affected kernel fill and caused kernel abortion in the top half to third of the ear. As a result, yields did not reflect the potential of initial kernel counts.

The hurricane did cause some lodging problems and % lodged below the ear was rated at harvest. On the organic soil site lodging numbers were higher compared to the mineral soil site. However, the severity was less as the lodged plants generally leaned across to the next row and were harvested fairly well. On the mineral soil site lodged plants fell more into the ally and fell closer to the ground making them more difficult to pick up.

Mineral Soil - Late Hybrid Harvest Data

Hybrid	Dry Yield (15.5%)		Test Weight		% Moisture		% Lodging	
A6711 VT2PRO	127.8	a	56.2	a	21.4	abc	45.0	c
DKC 68-69	114.9	ab	56.6	a	22.5	ab	23.8	de
Competitor Z	106.5	bc	55.2	abc	18.7	cde	11.7	ef
A647-90 VT2PRO	106.4	bc	56.0	ab	24.0	a	5.0	f
AV 7516AM	95.9	cd	55.0	abc	16.3	e	45.0	c
NK 1677 3110	94.0	cd	54.1	cd	17.2	de	91.3	a
Competitor X	94.0	cd	54.2	bcd	18.5	cde	20.0	def
A647-46 VT2PRO	83.7	d	52.9	d	20.1	bcd	31.3	cd
DKC 67-44	82.6	d	54.1	cd	15.5	e	68.8	b
Competitor Y	81.3	d	53.9	cd	22.8	ab	22.5	de
LSD P=.20	16.31		1.81		3.33		16.19	
Standard Deviation	17.48		1.93		3.57		17.42	
CV	17.71		3.53		18.14		47.82	

Means followed by same letter or symbol do not significantly differ (P=.20, LSD).

Seed Company Information

We would like to thank all of the seed companies that sponsored hybrids in these two trials this year. We would also like to thank the growers who donated some seed to use as the competitor varieties. We look forward to continuing and expanding our hybrid testing next year.

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