

This year brought many challenges to the popcorn industry. Most growing zones of popcorn were short on heat units when September arrived. This was evident in the data as the areas with some frost damage and excess moisture in the fall struggled with poor quality. A one day difference in maturity made a big difference with certain hybrids finishing properly. There was a wider range in each individual hybrid's quality and yield depending on when it was planted and where it was located. Most growing areas saw a tough environment whether it was from hail damage, frost damage, moisture damage, grower damage, or some other type. This led to a wide range of moisture, quality, and yield for the farmer and processor to deal with. The lack of heat units brought us a great growing season for agronomic expression and great pollination weather. This led to large stalks and brace roots which played a key role in having good standing popcorn in the late harvest season. It was very important this year to allow the popcorn the proper time to dry in the bin in order to maintain quality. Most popcorn didn't have the chance to lose moisture slowly in the field on the cob like most years and needed a duplicated environment in order to salvage quality.

Concerning Goss's Wilt, there is still more research to be done. Making observations on hybrids the last two years has led to inconclusive results. Hybrids that showed resistance to Goss's Wilt the first year, didn't show this the second year. This is similar to the problem they are having with field corn. It seems to be more of a timing issue concerning Goss's Wilt infection. When the plant is infected at an early stage (before tassels) it didn't matter what hybrid it was. When the plant was infected at a later stage they seemed to have some resistance. The plant needs to have an open wound to be infected.

If your plants have open wounds from any type of damage (wind, hail, insects) you may see positive results from spraying a fungicide at this time to help improve overall plant health. There is research being done on experimental treatments for Goss' Wilt. Our suggestion would be to grow hybrids that have an overall higher tolerance or resistance to plant disease in general. The hybrids we would recommend currently would be 15820, 8156, 1517, 54830. Try to minimize the risk for Goss's Wilt by not growing popcorn on popcorn and cover the residue. Don't plant on or near fields that were infected the previous year.

Hybrid Notes:

42820 is our earliest hybrid (98 days). In the test plots that had frost damage it had one of the best expansions. It tends to flex its ear and has a thinner husk which leads to a fast dry down, but some blemished, discolored kernels on the tips.

Our 15 crosses excel in areas with more leaf diseases and stalk rot. 15820 and 8156 have shown good results in a variety of growing zones this year. They both have a beautiful orange color and work very well in the microwave. 8156 each of the last 3 years has the lowest unpopped kernels in the microwave. 15820 has shown it is the most diverse hybrid we currently sell.

54830 showed again this year it is able to maintain a higher balling % than 11830 under stress.

We are excited about some of our experimental hybrids 1117, 1517, 11262, 15262. These hybrids prefer Zones 7 and 8 but have shown outstanding yields and quality. Some of the experimental numbers we have enough seed for strip tests and small fields. Please let us know which ones you would like to try or please call us with any questions.

Seed Treatments:

All Seed will be treated with Maxim XL. This is a combination of Maxim, Apron, and Dynasty fungicides package. These can be combined with Cruiser 250 for the Cruiser 250 extreme pack. The cost for Cruiser is .36 cents/lb. A .09 cents/lb. savings from last year due to Cruiser dropping in price. Please contact us if you are interested in any other seed treatments that are not listed.

Tote Packaging: We can also package your seed in 2,000 lb. tote bags if it is more convenient for you.

Please go to our website for pricing information and more research information www.zanggerpopcornhybrids.com or call 308-219-0316

**ZANGGER POPCORN HYBRIDS
2010 HYBRIDS PRICING SHEET**

HYBRID	DESCRIPTION	AVAILABILITY	PRICE
N1160	BUTTERFLY- MED/HIGH POP- 60-65 K/10gr - GOOD FALL DRY DOWN, GREAT MICROWAVE	YES	\$4.25/LB
N11649	BUTTERFLY-MED POP- 60-65 K/10gr - DROUGHT TOLERANT, CONSISTENT QUALITIES	YES	4.25/LB
N11850	BUTTERFLY- MED/HIGH POP- 54-60 K/10gr LARGER ROUND KERNEL, STANDS GREAT	LIMITED	4.25/LB
N11830	MUSHROOM- 33-38 MWVT- 50-56 K/10gr - 70%-100% BALLS- VERY HIGH YIELD POTENTIAL	YES	4.25/LB
N15820	BUTTERFLY- MED/HIGH POP 60-65 K/10gr GOOD DISEASE TOLERANCE, HIGH YIELD	YES	4.25/LB
N42820	BUTTERFLY- MED/HIGH POP 60-65 K/10gr GOOD FALL DRY DOWN GOOD MICROWAVE	YES	4.25/LB
N8156	BUTTERFLY- MED/HIGH POP- 60-65 K/10gr HIGH YIELD POTENTIAL, GOOD COLOR	LIMITED	4.25/LB
N54830	MUSHROOM- 31-34 MWVT- 38-42 K/10gr - 80%-100% BALLS- VERY HIGH YIELD POTENTIAL	SOLD OUT	4.25/LB
N1517/N8341/ N1117/N11262N 15264/N6317	EXPERIMENTAL HYBRIDS	SMALL AMOUNTS AND STRIP TESTS	25 LBS. > FREIGHT ONLY.
N15820	EEC AND NOP ORGANIC CERTIFIED SEED	YES	6.00/LB

* All seed is treated with Maxim XL + Apron XL + Dynasty (fungicides) package.

Cruiser 250 (no rootworm control) is available for an additional fee. Call for treatment options
For more information on these treatments www.syngentacropprotection.com

Price includes bag, fungicide treatment, and delivery of 5,000lbs or more

Discounts available:

Attending Popcorn Rendezvous and placing order by September 30th .10 cents per lb. discount.

Prepaid Discount schedule applies to all (non-organic) hybrids and any amount of seed ordered

* Discount Schedule: If seed is paid for in full, by these following dates. Discount applies

September 30th \$4.05lb / October 31st \$4.08lb / November 30th \$4.11lb / December 31st \$4.14lb

January 31st \$4.17lb / February 28th \$4.20lb / March 31st \$4.23lb / After April 1st Full price \$4.25lb

Orders of 25 lbs. or less on experimental hybrids will be charged freight cost only

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009
South Central Nebraska Growing Zone Mid 7**

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	% BROKEN STALKS	STALK ROT %	YIELD AT 14% MOISTURE	PLANT DISEASE 5= NONE 3= UNACCEPTAB LE	AGRONOMIC COMPOSITE SCORE SUM OF VAR.	QUALITY, COMPOSITE SCORE SUM OF VAR.
EX1H820	56	49.7	0	3.8	3.4	2.4	19.1	23%	52%	8150	4.4	23.7	63.6
42820	59	46.0	0	3.0	3.0	1.7	17.5	24%	30%	8043	4.5	23.4	57.5
1517	62	51.0	0	3.0	2.3	2.4	21.7	4%	10%	8040	5.0	25.1	63.3
11649	61	47.0	0	3.5	3.0	2.4	17.0	35%	85%	8010	4.1	24.3	59.4
EX15281	64	46.8	0	3.5	3.3	1.9	21.2	11%	0%	7666	5.0	23.1	58.8
EX6317	54	49.0		4.0	3.0	1.4	18.0	8%	35%	7544	4.7	26.6	62.9
EXS43852	61	50.9	0	4.3	3.8	1.9	20.0	24%	33%	7533	4.4	25.0	65.8
EXSM820	54	50.3	0	4.2	3.6	2.7	16.8	18%	33%	7428	4.4	23.6	64.0
15820	60	48.5	0	3.5	3.0	2.2	17.0	27%	42%	7278	4.8	23.4	61.4
11830 field	58	37.5	45B	2.0	2.0	2.2	17.9	15%	25%	7163	4.0	25.8	47.6
11830	53	38.8	63B	2.3	2.3	1.7	18.9	16%	60%	7127	4.1	24.6	49.1
1117	53	50.5	0	3.8	3.7	2.4	19.9	4%	15%	6950	4.6	25.7	64.7
1160	58	50.0	0	3.3	3.3	2.5	17.5	45%	100%	6923	4.2	23.8	62.1
11262	53	46.0	0	3.0	2.6	2.1	21.3	25%	39%	6724	4.4	24.7	57.2
EXS98852	76	50.3	0	4.3	4.0	2.1	18.3	49%	75%	6721	4.3	23.1	65.2
8156	62	49.0	0	3.3	3.0	2.1	18.6	27%	53%	6651	4.6	23.0	61.6
54830	39	32.7	82B	2.2	2.2	1.5	17.8	8%	30%	6374	4.7	27.0	43.2
EX63952	54	50.8	0	3.5	3.3	2.2	19.5	8%	15%	5420	4.5	25.7	64.7
AVERAGE	58	47.3					18.6	19%	41%	7151	4.5	24.5	60.1

The Test plot was planted 5-7-09 in perfect conditions on 30 inch rows into soybean residue. The test plot was at a population of 29,000 plants per acre The Test Plot was pivot irrigated. This plot was very healthy and showed many suckers. Conditions were ideal most of the summer and the plants showed great expression. There was eye spot and grey leaf spot in the plot to make observations. Observations were made 6-15-09 and 8-15-09 and at harvest 10-03-09. There was three winds of around fifty miles per hour prior to harvest that caused some breakage. N11830 surrounded the plot and yielded 6,900 lbs. It was planted at 30,000 population 1.5 inches deep. Bullet was used as the pre-emergence 106 lbs of N was applied + the bean credit. 46 lbs. of that was sidedressed with a cultivator. There was 15 inches of rain and 8 inches of irrigation. Headline was applied with the pivot when popcorn was at 50% tassel. There was no hail damage reported.

Hybrid Notes: This plot had great expression with quality and yields. This area was the most mature plot and reached maturity before any stress occurred. The 15 crosses showed much more tolerance to leaf diseases and stalk rot, especially the 1517. The 15820 and 8156 had good quality and some of the experimental numbers 1517, 1117, 6317, SM820 had exceptional quality.

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009**

Western Nebraska Growing Zone Upper 7 Lower 6

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	% BROKEN STALKS	STALK ROT %	YIELD AT 14% MOISTURE	QUALITY, COMPOSITE SCORE SUM OF VAR.
11262	60	44.6		3.5	3.1	1.8	17.6	16%	48%	6556	56.9
15820	66	48.3		3.3	3.0	2.3	16.3	8%	90%	6308	61.0
EX139820	70	47.8		3.3	3.5	2.4	15.4	25%	40%	6131	60.9
42820	63	49.5		3.5	3.5	1.7	15.9	9%	95%	5914	62.5
1517	63	44.3		2.5	2.8	2.4	21.7	3%	58%	5738	55.5
8156	66	49.0		3.5	3.2	2.2	18.2	14%	88%	5638	61.9
11649	68	47.1		3.5	3.5	2.4	16.6	14%	83%	5637	60.5
1117	62	45.8		3.0	3.3	2.3	20.1	3%	45%	5451	58.0
1160	63	49.2		4.0	3.8	2.5	17.2	17%	37%	5220	63.4
54830	49	39.3	60B	2.3	2.5	1.4	17.2	25%	50%	4601	50.7
EX15952	67	49.8		3.5	3.5	1.1	15.1	49%	90%	4475	63.1
11830	62	40.3	45B	2.3	2.7	1.9	17.6	12%	23%	4446	51.5
EX11280	68	47.3		3.5	3.5	2.1	17.0	31%	50%	4399	60.3
EX6317	61	46.5		2.8	3.0	2.4	21.8	4%	30%	4227	58.7
EX63952	55	48.8		3.5	3.8	2.1	17.2	7%	63%	4156	63.0
EX8341	68	45.3		3.5	3.5	2.3	16.9	39%	20%	3969	58.6
AVERAGE	56	46.2					19	6%	53%	65	58.3

The test plot was planted 5-15-09 on 30 inch rows on soybean residue in no till ground. The plot was pivot irrigated. The plot had great expression and very nice growing season until it was hailed at around R-4 stage (cap) at a rating of 74%. The plot was planted within a field N11649 that was planted on 5-8-09 at a seeding rate of 32,000. The plot was at a population of 29,000. The Field 11649 was planted at 2 inches depth. Herbicide used was 2.5 quarts/acre of Lumax. The plot had a total of 150 units of N. 60 units of 11-52-0 threw the pivot and 3 GPA of 9-24-3 applied as a starter fertilizer. Insecticide used was 4 oz Capture in furrow, 5 oz thru pivot 1st Generation Corn borer 7-10-09 and 5 oz thru pivot 2nd generation corn borer 8-19-09. The test plot was harvested 11-18-09 and the field was harvested 11-21-09. The field 11649 yielded 5085 lbs/acre.

Hybrid Notes: There was visible frost damage on some of the later maturing hybrids. A lot of the plants were broken at the 3rd and 4th node with more stalk rot present due to more stress from the hail damage. The earlier maturing hybrids maintained higher yields and especially expansion. 42820, 15820, 8156, and 139820 42820 is our earliest hybrid at 98 days to maturity. The later season numbers had lower expansion and quality, even if the maturity difference was 2 or 3 days. 1517, 1117, 11262. 54830 was able to maintain higher balling % under these stressful conditions vs. the 11830

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009
Northern Nebraska Growing Zone 6**

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	% BROKEN STALKS	STALK ROT %	YIELD AT 14% MOISTURE	QUALITY, COMPOSITE SCORE SUM OF VAR.
11262	57	43.4	0	2.4	2.6	1.9	24.2	2%	54%	9968	54.4
1517	61	46.0	0	3.0	3.0	2.2	25.9	2%	28%	9629	58.6
EX15952	57	46.0	0	3.3	3.3	2.1	22.7	12%	73%	9431	59.0
1160	51	46.3	0	3.5	3.3	2.3	21.5	5%	40%	9354	59.7
54830	39	30.5	92B	2.0	2.0	1.4	24.4	5%	38%	8824	40.9
15820	61	43.3	0	2.8	3.1	2.3	21.3	4%	55%	8711	55.9
EX542830	48	32.8	87B	2.0	2.0	1.9	22.6	0%	5%	8588	43.4
42820	55	44.7	0	3.3	3.5	1.7	20.4	2%	62%	8432	57.7
8156	61	45.8	0	3.0	3.3	2.1	21.1	2%	50%	8374	58.8
11649	62	45.2	0.0	3.0	2.8	2.4	22.5	2%	25%	8257	57.6
EX6317	60	50.0	0	2.5	3.5	2.6	24.6	0%	43%	8085	62.8
EX139820	57	50.0	0	3.5	3.3	2.4	24.1	4%	48%	7933	63.1
EX1H820	56	50.3	0	2.5	3.5	2.1	22.4	0%	40%	7890	62.9
EX8341	59	49.0	0	2.8	3.3	2.0	24.6	0%	28%	7835	60.6
1117	55	45.5	0	2.8	3.3	2.4	25.2	0%	55%	7659	57.9
EXSM820	53	49.2	0	3.0	3.5	2.6	21.9	2%	43%	7568	62.2
11830	50	37.7	58B	2.0	2.0	2.1	22.7	1%	40%	7031	48.2
Average	55	45.2					23	3%	47%	8551	57.5

Test plot was planted 5-8-09 on edible bean residue. The final population was 29,000 plants per acre on 22 inch rows. The plot showed tremendous expression agronomically with tremendous ears and yields. The plot was very late maturing with a shortage of heat units. The plot was harvested 11-3-09 at a high moisture with green stalks yet. The plot had a high amount of stalk rot but was standing very well. A lot of the ears hadn't dropped yet. N15820 surrounded the field it but I currently don't have any data to report.

Hybrid Notes: 11262 and 1517 had very good yields but their expansions were lower when comparing them to the other plots. I believe this is due to these two hybrids being longer in maturity. Some of our new shorter season experimental number (8341, 139820,6317) had great expansions

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009**

Central Illinois Growing Zone Mid 7

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	% BROKEN STALKS	STALK ROT %	YIELD AT 14% MOISTURE	PLANT DISEASE 5= NONE 3= UNACCEPTAB LE	GREY LEAF SPOT 0= NONE 3= TOTAL COVERAGE	AGRONOMIC COMPOSITE SCORE SUM OF VAR.	QUALITY, COMPOSITE SCORE SUM OF VAR.
EX15990	52	47.0	3.8	3.5	2.1	17.9	5%	20%	7585	4.7	0.5	24.8	61.4
42820	56	47.8	3.3	2.8	1.7	16.5	4%	90%	6846	4.4	1.5	24.8	59.8
8156	57	48.5	3.7	3.3	2.2	17.1	6%	28%	6671	4.6	0.7	24.8	61.3
15264	60	47.0	4.0	3.3	2.4	17.7	2%	5%	6659	4.9	0.0	26.8	61.1
EX15280	58	47	3.8	3.0	2.3	21.8	2%	5%	6457	4.9	0.0	26.1	59.4
15820	58	49.2	3.8	3.3	2.2	17.1	3%	33%	6216	4.7	0.7	25.2	62.7
1517	57	51.0	3.3	3.0	2.0	21.1	0%	0%	6215	4.9	0.3	27.8	64.4
EX15952	54	50.0	3.5	2.8	1.9	19.8	0%	25%	6146	4.5	1.5	25.3	63.0
1160	58	49.5	4.0	3.5	2.5	8.0	7%	83%	5911	4.0	2.0	24.2	63.3
11649	60	47.8	4.3	4.0	2.3	15.3	3%	93%	5822	3.6	3.0	25.3	62.8
1117	58	51.3	3.5	3.3	2.4	17.5	2%	50%	5193	4.0	2.5	26.0	65.1
EX15970	58	50.5	4.0	3.3	2.6	15.0	4%	28%	4980	4.6	0.3	26.1	64.6
EXSM820	53	50.0	4.2	3.8	2.6	16.5	8%	55%	4901	4.1	2.0	24.5	64.1
AVERAGE	57	48.6				17	3%	49%	5965	4.2	1.4	25.3	62.0

The test plot was planted 5-11-09 on sandy soil. The row width was 30 inches. The plot was pivot irrigated. Observations were made 8-17-09 at this time there was disease pressure from Grey leaf spot and eye spot. There was some eradic stands due to insect damage. This was a very uniform test plot with good expression.

Hybrid Notes: The 15 crosses showed more tolerance to leaf diseases and overall had better yield and quality. There was quite a bit of stalk rot in the plot but due to lack of wind pressure and large stalks and brace roots the plot was standing well. 8156 and 15820 performed well here two years in a row. 15264 and 1517 were the best two plants in the test plot overall.

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009**

Southern Indiana Growing Zone Mid 8

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	% BROKEN STALKS	STALK ROT %	YIELD AT 14% MOISTURE	PLANT DISEASE 5= NONE 3= UNACCEPTAB LE	AGRONOMIC COMPOSITE SCORE SUM OF VAR.	QUALITY, COMPOSITE SCORE SUM OF VAR.
15820	54	47.0	0	3.3	3.0	2.1	18.2	2%	23%	7590	4.5	24.9	59.6
54830	39	31.8	90B	2.0	2.0	1.5	19.0	2%	18%	7383	4.8	26.6	42.2
15264	56	46.5	0	3.0	2.5	2.2	20.4	0%	0%	7368	4.6	24.5	58.1
EX11258	63	47.5	0	3.3	3.0	1.9	18.7	0%	80%	7111	3.8	25.8	60.1
11262	56	45.5	0	2.6	2.5	1.7	19.9	8%	59%	7028	4.0	25.9	56.9
8156	58	48.3	0	4.0	3.4	1.8	10.2	7%	48%	6952	4.5	24.1	61.7
1117	55	47.0	0	3.0	3.0	2.4	20.1	0%	40%	6450	4.4	25.1	59.2
11649	53	45.0		2.0	2.0	1.5	21.2			6389	4.6	24.1	54.3
EX11280	59	48.5	0	3.6	3.3	2.0	18.5	1%	64%	6368	4.1	25.8	61.6
1160	54	48.5	0	3.0	3.3	2.3	17.5	0%	50%	6348	3.6	23.8	61.7
42820	60	47.5	0.0	4.3	4.0	1.9	19.0	6%	100%	6319	4.1	24.0	61.8
EX15952	66	51.0		2.5	2.5	2.5	18.7	20%	100%	6286	3.5	21.8	62.2
1517	65	50.3	0	4.0	3.5	2.2	21.2	0%	20%	6049	4.6	25.4	64.5
EX15970	59	49.3	0	3.0	2.5	2.4	17.6	0%	40%	5771	4.6	24.3	61.6
11830	52	36.0	75B	2.0	2.0	1.8	17.6	2%	58%	5593	3.8	25.8	46.3
EX6317	52	50.5	0	2.8	2.3	2.3	19.1	0%	43%	5247	4.1	24.9	62.2
AVERAGE	56	46.2					19	6%	53%	65	4.2	24.8	58.3

The test plot was planted on 5-22-09. The plot received plenty of moisture with very timely rains all growing season. The plot received no environmental damage. The plot was planted on 30 inch rows at a population of 29,000 plants per acre. Observations for plant disease were made 8-20-09. The plot was harvested on 10-28-09 and stalk evaluations were made at this time. Preplanting herbicide of Bicep was used at 3 quarts per acre rate. After planting Atrex at 1.5 lbs. was used. On June 12th Laudis was used. The plot had 211 units of Nitrogen applied. April 28th 55 gallons of 28% N (164 units) and June 1st broadcast 250 lbs. of 19-19-19 per acre (47 units) No insecticides or fungicides were used. The field around the plot averaged 5,400 lbs./acre.

Hybird Notes: The 15 crosses (15820,15264, 8156,1517) responded the best to this environment with good disease tolerance, quality, and yield The 11262 and 54830 also performed well.

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009
Northern Illinois Growing Zone 5**

VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	BROKEN STALK %	STALK ROT %	YIELD AT 14% MOISTURE	LEAF DISEASE 5= NONE 3= UNACCEPTABLE	AGRONOMIC COMPOSITE SCORE SUM OF VAR.	QUALITY, COMPOSITE SCORE SUM OF VAR.
11262	51	39.0	40BM	2.0	2.0	1.9	22.0	0%	8%	9267	4.6	26.4	49.6
8156	55	42.3	45B	2.0	2.0	2.2	22.0	8%	38%	8481	4.7	24.6	52.9
15820	56	42.0	37B	2.0	2.0	2.2	22.0	3%	25%	8382	4.7	25.0	52.6
42820	53	45.8	25B	2.0	2.0	1.9	22.0	2%	28%	8052	4.5	25.4	56.3
EX8341	55	45.8	25B	2.5	2.5	2.1	22.0	2%	5%	7920	4.8	26.0	56.9
1160	54	45.0	20B	2.0	2.0	2.3	22.0	0%	53%	7607	4.5	25.5	55.2
EX139820	56	47.0	15B	2.0	2.0	2.4	22.0	0%	15%	7392	4.5	25.2	57.3
EX15952	51	43.5	30B	2.0	2.0	2.0	22.0	0%	5%	7376	4.3	25.8	53.5
1517	54	44.0	22B	2.0	2.0	2.2	22.0	0%	0%	7046	4.9	27.1	54.9
11649	54	40.8	30B	2.0	2.0	2.3	22.0	0%	28%	6820	4.5	25.8	51.1
EX15958	56	43.0	25B	2.0	2.0	2.2	22.0	12%	0%	6468	4.3	26.2	52.9
EXSM820	55	46.0	8B	3.0	2.8	2.6	22.0	0%	5%	6193	4.7	25.6	57.9
1117	48	42.0	35B	2.0	2.0	2.2	22.0	0%	0%	6056	4.8	27.0	53.0
11830	46	37.5	54B	2	2.0	2.2	22.0	0%	15%	5467	4.8	27.3	47.1
54830	37	31.5	99B	2.0	2.0	1.5	22.0	0%	13%	5401	4.7	26.4	41.6
AVERAGE	52.0	42.6						2%	17%	7026	4.6	26.0	53.2

The test plot was planted on 5-11-09 in good conditions. The plot was on popcorn on popcorn ground and planted in 30 inch rows. The test plot experienced fantastic growing conditions and had tremendous agronomic expression. This area experienced a major lack of heat units which led to high moistures and minor frost damage. This stress led to low expansions and a mushrooming and balling effect. Observations were made 8-16-09 and the plot was harvested 10-26-09

Hybrid Notes: The hybrids that were least affected by the cold stress were the shorter season numbers (42820, 8341, 139820, SM820) These numbers were able to maintain a higher expansion with less mushrooms.

**ZANGGER POPCORN HYBRIDS
HYBRID RESEARCH PLOT 2009
Northwestern Indiana Growing Zone Upper 7**

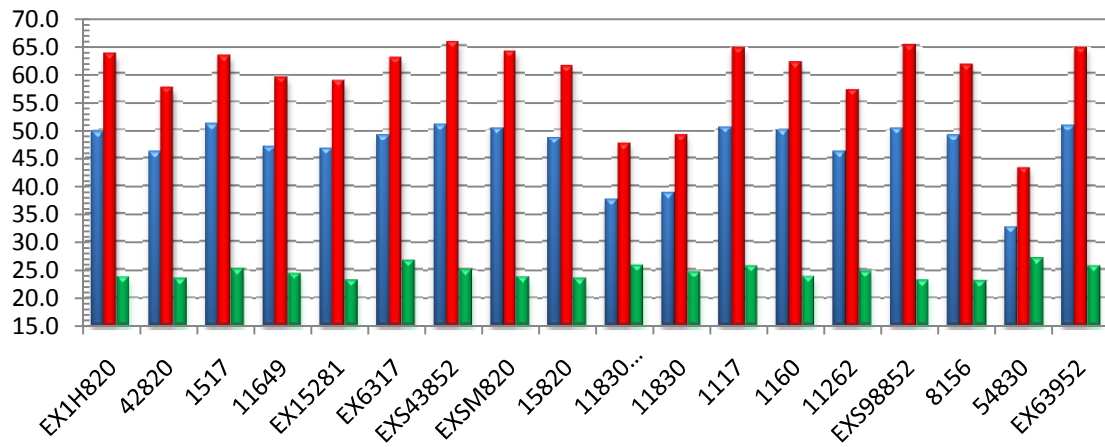
VARIETY	KCT # OF KERNALS IN TEN GRAMS	OIL EXPANSION	% MUSHROOM OR BALL IN OIL	TASTE SCORE 5=VERY TENDER, 1= TOUGH AS CARDBOARD	HULL SCORE 5=NO HULLS, 1=SHARP LARGE HULLS	KERNAL SHAPE 1= ROUND 3= POINTED/ RICE TYPE F=FLAT	HARVEST MOISTURE	BROKEN STALK %	STALK ROT %	YIELD AT 14% MOISTURE	LEAF BLIGHT 0=NONE 3= TOTAL COVERAGE	AGRONOMIC COMPOSITE SCORE SUM OF VAR.	QUALITY, COMPOSITE SCORE SUM OF VAR.
EX15958	62	49.0		4.0	3.0	2.3	21.0	0%	10%	6075	1.0	24.3	63.2
11649	62	42.0		4.0	3.0	2.3	18.8	25%	10%	5603	1.5	22.1	55.6
54830	42	30.0	95B	2.0	2.0	1.6	20.1	0%	1%	4934	0.7	25.2	40.4
11262	58	46.3	0	3.7	3.3	2.1	22.1	28%	3%	4883	1.3	25.4	60.0
1517	59	48.5	0	3.5	3.5	2.3	23.5	0%	0%	4866	0.4	24.7	62.6
8156	66	44.0	0	3.8	3.3	2.3	21.3	40%	3%	4664	1.9	22.1	57.8
42820	67	42.5	0	3.8	3.3	1.7	19.9	28%	1%	4632	1.4	23.0	56.1
EXS43P852	65	49.0		4.0	3.0	1.8	20.1	0%	0%	4543	1.0	25.5	63.2
11830	60	35.0	60B	3.3	3.0	2.1	18.4	55%	5%	4472	1.1	24.4	47.5
1117	67	46	0.0	3.5	3.3	2.6	21.3	23%	0%	4358	0.9	24.5	59.5
EX139820	66	48.0	0	4.0	3.8	2.4	19.7	0%	25%	4292	1.3	25.0	62.7
EX11280	62	46.5	0	3.5	3.5	2.2	18.8	0%	33%	4269	1.5	25.2	60.7
EX6317	62	46.8	0	3.8	3.0	2.5	22.7	0%	33%	4179	1.3	23.5	60.4
EX63952	55	50.0		4.0	4.0	2.3	19.2	0%	0%	4068	0.2	26.8	65.5
15820.0	65	43.5	0	3.8	4.0	2.2	19.0	25%	3%	4047	1.8	20.8	57.8
EX15852	66	50.0	0	4.0	3.0	2.2	18.1	15%	4%	3595	0.9	23.9	64.1
Average	63.0	45.2					20.0	18%	16%	4339		23.9	59.0

The test plot was planted 5-12-09 on 30 inch rows. The plot had received a good amount of rain before planting and had suffered some compaction due to disking on wet soil and the fertilizer applicator. The plot was at a population of 28,000 plants per acre. The plot received 12 inches of rain and 5 inches of irrigation throughout the season. Force was used at planting. Stratego at a 10 ounce rate was used at tassel along with baythroid at a 2 ounce rate. Observations were made 8-19-09 and leaf blight was observed at this time. The field was popcorn on popcorn. The plot was harvested on 10-27-09.

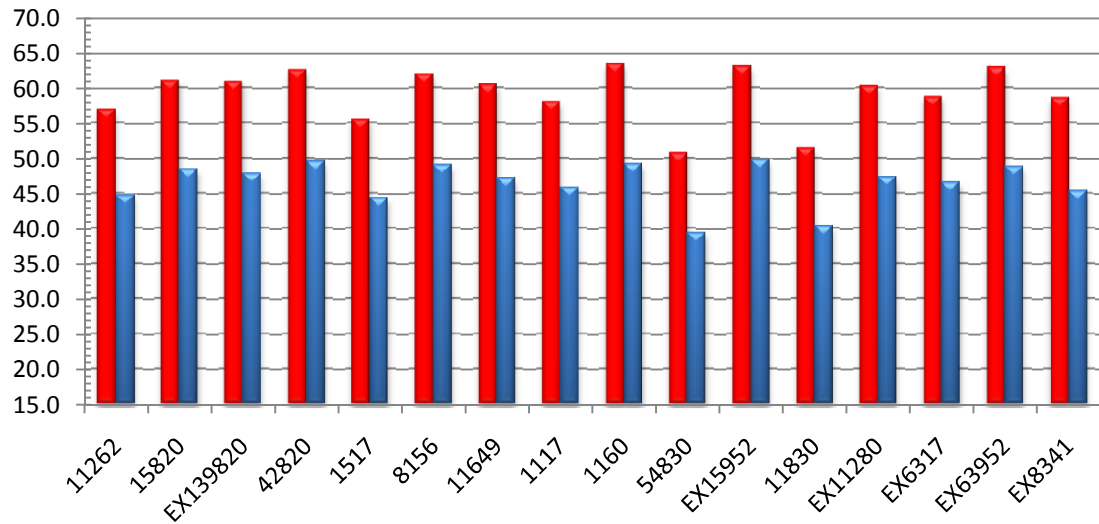
The field surrounding the plot was 15820 planted 5-5-09 at a 30,000 plant per acre population. The field suffered from spots of compaction due to the wet spring and varied planting depth of .5 inches to 1.5 inches. This resulted in pockets of down popcorn and smaller and lighter ears. The field averaged 5,000 lbs/acre

The first two lands of the test plot were planted at a 1 inch depth which led to more erratic stands, smaller ears, and stalk issues.

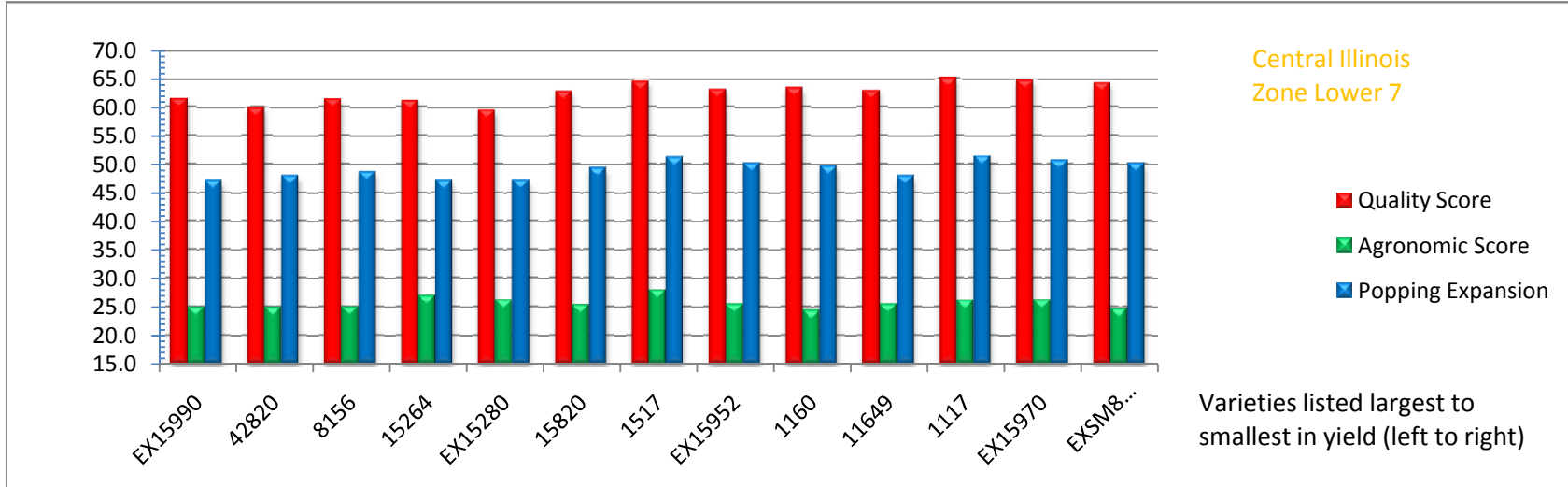
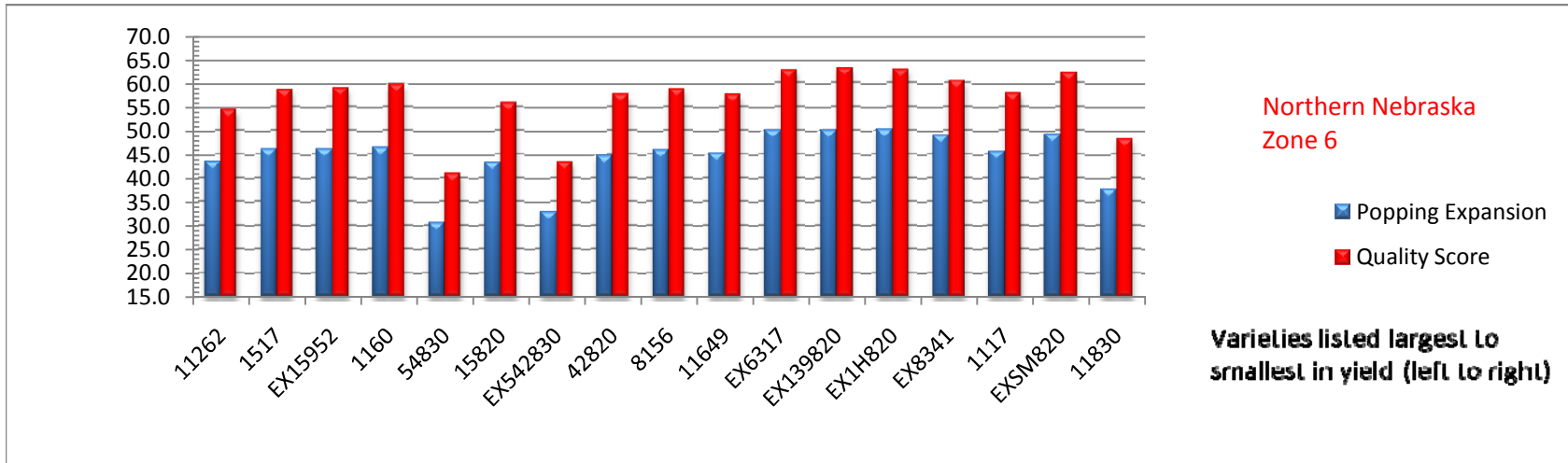
The last two lands of the test plot were planted at a 2 inch depth which led to better stands, larger ears, and less disease.



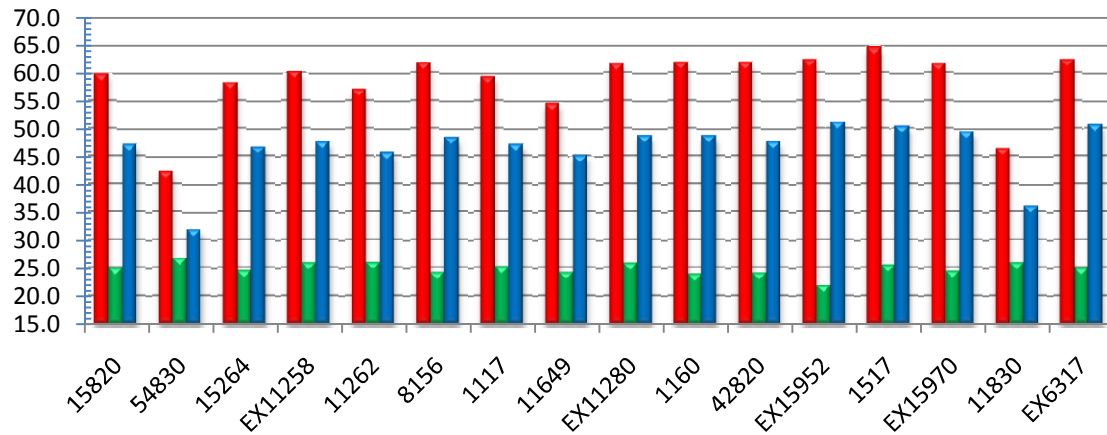
Varieties listed largest to smallest in yield (left to right)



Varieties listed largest to smallest in yield (left to right)

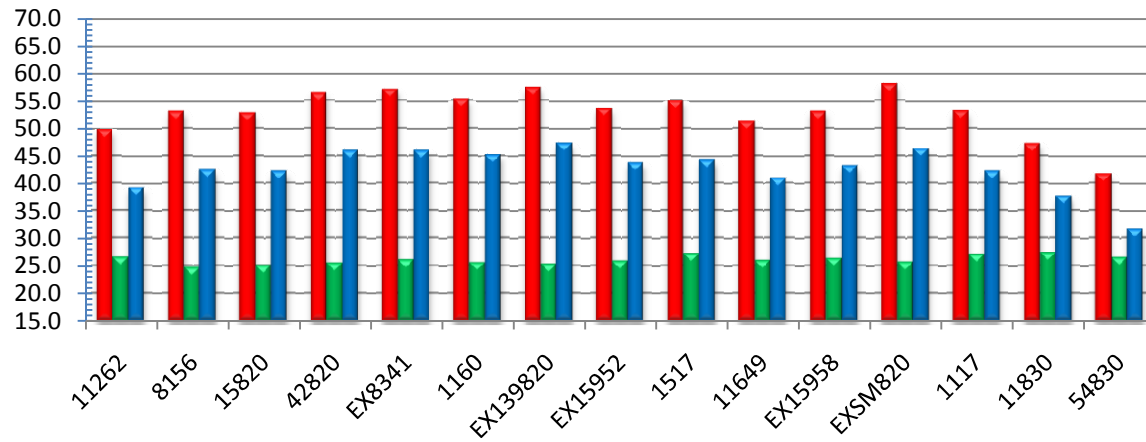


Southern Indiana
Zone Mid 8



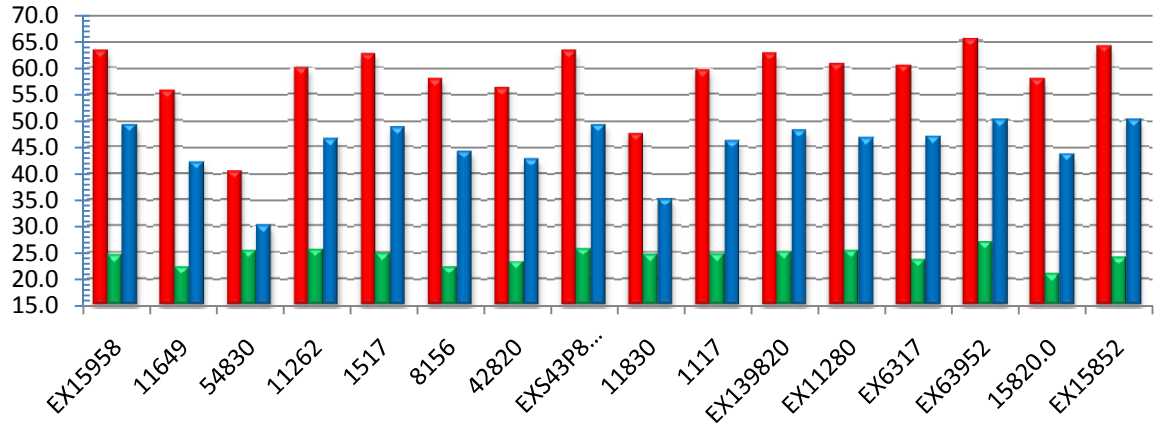
Varieties listed largest to
smallest in yield (left to right)

Northern Illinois
Zone 5



Varieties listed largest to
smallest in yield (left to right)

Northwestern Illinois
Zone Upper 7



Varieties listed largest to
smallest in yield (left to right)

The Research Plot data was derived by the following means:

Oil Expansion: A metric weight to volume test. The seed is popped in the new model Cretors popper. A 250 gram sample was cleaned and ran over a 12/64 screen. They were popped in peanut oil. Samples were conditioned to 14% moisture in our conditioning room and stored for at least three weeks before popping them. The samples were all hand shelled. We have popping samples that were combined on some of our hybrids please contact us for that info.

Harvest Moisture: Moisture of kernals at harvest

% Broken Stalks: Percent of broken stalks below the ear at harvest

% Stalk Rot: Percent of stalks showing rot below the ear

Agronomic Composite Score: Numerical score achieved by adding values from the following weighted values: Ear tip condition, Ear size, Leaf size, Lodging, Stalk, Braceroots, and Plant disease.

Quality Composite Score: Numerical score achieved by adding values from the following weighted values: taste, hulls, kernal color, and ear tip condition. This is then added to popping expansion

Replicatiions: Hybrids were replicated in each plot at least 2 times and most hybrids were replicated 3 to 4 times and then the average was reported.

Yield Data: Any entries with missing plants or other circumstances which led to data errors were thown out of the averages.