

PENNSYLVANIA SOYBEAN CONTEST 2020



Prepared by Delbert G. Voight, Jr., Senior Extension Educator
& Andrew Frankenfield, Senior Extension Educator

Supported and directed by the Pennsylvania Soybean Board



PennState Extension



THE PENNSYLVANIA SOYBEAN CONTEST is designed to focus farmer attention on agronomic and management skills that will increase soybean profitability. If you know what it takes to produce great soybeans, you could be a winner in the Pa. Soybean Contest. The state is divided into five regions. The top producer in each region will win an educational trip to the Commodity Classic.

ELIGIBILITY: Any bona-fide farmer who farms in Pennsylvania and grows 5 acres or more of soybeans within the state is eligible.

PRODUCTION: For the state-wide and regional yield contest winners, participants must use non-irrigated soybeans, but are not restricted as to variety, fertilization, spacing or other cultural practices.

PRIZES! In addition to bragging rights, the state champion receives an educational trip for two (the winner and one other individual* with a direct financial interest in their farming operation) to the Commodity Classic. (Up to \$2,500.) The top yield winner in each region receives an educational trip for the winner to the Commodity Classic. (Up to \$1,500.) Special awards are presented for irrigated bean yield and for oil/protein quality.

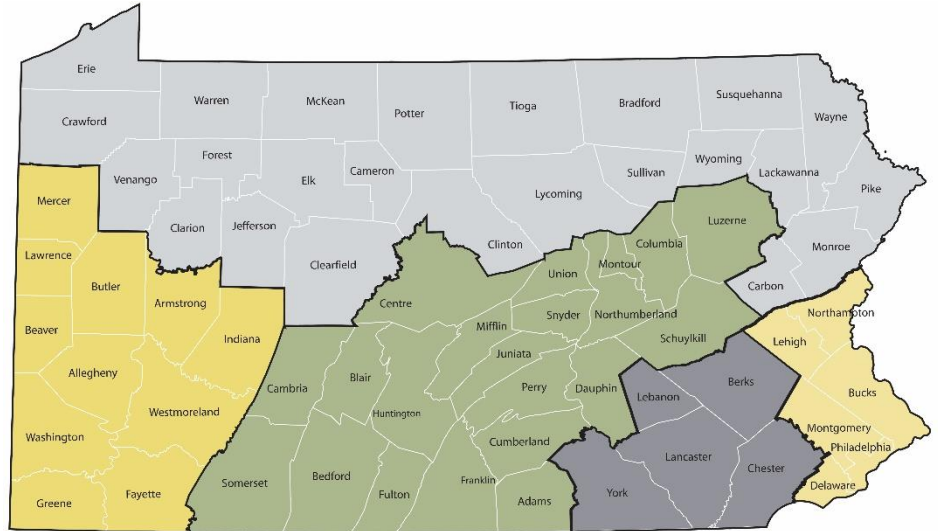
HOW TO ENTER: If you would like to enter the Pennsylvania Soybean Contest, you must register by September 1. Online registration is available at pasoybean.org. Harvest report forms must be postmarked by November 15.

You may also request a registration form from your local Penn State Extension Educator, or by contacting:

Penn State Extension-Lebanon County
PA Soybean Contest c/o Del Voight
2120 Cornwall Road, Suite 1
Lebanon, PA 17042-9777
717-270-4391

Penn State Extension-Montgomery County
PA Soybean Contest c/o Andrew Frankenfield
1015 Bridge Road, Suite H
Collegeville, Pennsylvania 19426-1179
610-489-431

* Subject to approval by the Pa. Soybean Board. All decisions of the Board are final. Awards are non-transferable.



VISIT THE PENNSYLVANIA SOYBEAN BOARD WEBSITE AT PASOYBEAN.ORG



Thanks to our harvest supervisors:

Supervisor	Position
Anna Busch	Agronomy Educator, Penn State Extension Union County
Brittany Clark	Agronomy Educator, Penn State Extension Franklin County
Mike Fournier	Retired County Agent
Andrew Frankenfield	Agronomy Educator, Penn State Extension Montgomery County
Jeff Graybill	Agronomy Educator, Penn State Extension Lancaster County
Randy Harrold	FFA/Ag Ed Instructor, Laurel School District, New Castle, PA
Dwane Miller	Agronomy Educator, Penn State Extension Schuylkill County
Wes Martin	Agronomist, Martin Crop Consulting
Judy Mohn	Agronomist, Rosetree Consulting
Heidi Reed	Agronomy Educator, Penn State Extension York County
Leon Ressler	Agronomy Educator, Penn State Extension Lancaster County
Eric Rosenbaum	Agronomist, Rosetree Consulting
Delbert Voight	Agronomy Educator, Penn State Extension Lebanon County
Brett Young	Treasurer, Mercer County Ag Land Preservation Board

Rank of Contest Entries

South Central

Rank	Name	Yield	County	Brand	Cultivar
1	Twin Lane Farm (Mike & Bob Shearer)	100.69	Lancaster	Pioneer	P32T26E
2	Eric Charles	99.48	Lancaster	Pioneer	P31T77R
3	Jordon Smucker	95.73	Lancaster	Pioneer	32T26E
4	James Hershey	91.92	Lancaster	Asgrow	32X8
5	Patricia Buser	91.91	York	Pioneer	33A81
6	Herman Manbeck	91.08	Berks	Pioneer	35A70X
7	Darren Grumbine	90.46	Lebanon	Pioneer	31A95BX
8	Derrick Weaver	90.43	Lancaster	Pioneer	32T26E
9	Richard Kreider	89.78	Lebanon	Pioneer	29A25X
10	Elvin Reiff	89.66	Lancaster	Hubner	29-19 Extend
11	Merle Stoltzfus	87.61	Lancaster	Hubner	
12	Bob Buser	86.38	York	Pioneer	30A46PR
13	Dale Herr, Jr.	86.09	Lancaster	Asgrow	36x6
14	Ethan Buser	63.89	York	Pioneer	33A81

Central

Rank	Name	Yield	County	Brand	Cultivar
1	Jim/Ward Chapin	90.05	Columbia	Pioneer	31A95BX
2	Leslie Bowman	80.98	Franklin	Pioneer	31A95BX
3	Jay Arentz	78.22	Adams	Local	ZS3097E3
4	Rodney Arentz	78.20	Adams	Asgrow	
5	Robert Reed	39.10	Northumberland	Pioneer	31A95BX



West

Rank	Name	Yield	County	Brand	Cultivar
1	Henry Sniezek	68.45	Lawrence	Seed Consultants	SC7320E
2	Thomas M. Hoovler	63.97	Mercer	Asgrow	30X9

Northern

Rank	Name	Yield	County	Brand	Cultivar
1	Justin Jones	45.15	Bradford	Asgrow	30X8

Southeast

Rank	Name	Yield	County	Brand	Cultivar
1	Brad Kiefer	94.07	Northampton	Asgrow	36X6
2	Aaron Stepnoski	78.84	Bucks		
3	Noah Detwiler	64.59	Montgomery	Chemgro	3751RSX
4	Nathan Crooke	58.53	Bucks	Channel	2918R2

Grain Quality			
Name	Protein %	Oil %	Protein + Oil %
Ethan Buser	36.1	18.9	55.0
Patricia Buser	35.9	18.8	54.7
Noah Detwiler	35.5	19.1	54.6
Robert Buser	35.4	18.9	54.3
Aaron Stepnoski	35.2	18.8	54.0
Nathan Crooke	36.2	17.8	54.0
Herman Manbeck	34.0	19.8	53.8
Eric Charles	33.6	19.9	53.5
Brad Kiefer	34.6	18.9	53.5
Dale Herr, Jr.	33.4	19.9	53.3
Henry Sniezek	34.5	18.6	53.1
Twin Lane Farm	32.9	20.2	53.1
Derrick Weaver	34.2	18.7	52.9
Merle Stoltzfus	33.8	19.1	52.9
Jordan Smucker	33.8	19.0	52.8
Richard Kreider	33.1	19.7	52.8
Elvin Reiff	33.6	19.2	52.8
Jay Arentz	31.9	20.7	52.6
Rodney Arentz	34.4	18.2	52.6
Robert Reed	34.3	18.3	52.6
Justin Jones	34.9	17.2	52.1
Darren Grumbine	31.6	20.4	52.0
Jim/Ward Chapin	31.9	20.0	51.9
James Hershey	33.4	18.5	51.9
Leslie Bowman	31.5	20.3	51.8
Thomas M. Hoovler	33.5	18.2	51.7
Average	34.0	19.1	53.1



Yield Comparisons	Ave Bu/A
Mean Yield	80.6
No-till (n=17, 65% of entries)	82.5
Min-till (n=5, 19% of entries)	81.5
Conventional till (n=4, 15% of entries)	71.3
Drill (n=12, 46% of entries)	79.7
Corn planter (n=14, 54% of entries)	81.4
Planted April 1 to 10 (n=1, 5% of entries)	58.5
Planted April 21 to 30 (n=3, 16% of entries)	93.1
Planted May 1 to 10 (n=6, 32% of entries)	90.2
Planted May 11 to 20 (n=8, 42% of entries)	81.4
Planted May 21 to 30 (n=1, 5% of entries)	68.5
Rows 10" or less (n=7, 27% of entries)	79.3
Rows 11" to 20" (n=15, 58% of entries)	82.2
Rows 30" (n=3, 12% of entries)	75.2
No Foliar Fungicide or Insecticide Applied (n=9, 36% of entries)	78.9 bu/a
Foliar Insecticide Applied (n=2, 8% of entries)	75.8 bu/a
Combination of Foliar Fungicide and Insecticide (n=14, 56% of entries)	85.3 bu/a



Production Information

Seed Treatment (n=21, 91% of entries)	80.5 bu/a
No Seed Treatment (n=2, 9% of entries)	73.3 bu/a
Rhizobia Inoculation (n=24, 96% of entries)	79.8 bu/a
No Rhizobia Inoculation (n=1, 4% of entries)	89.7 bu/a
Dry Inoculation (n=2, 9% of entries)	72.3 bu/a
Liquid Inoculation (n=3, 13% of entries)	74.2 bu/a
Pre-Inoculation (n=18, 78% of entries)	83.5 bu/a
Calibrate Seed Equipment Yes 75% No 25%	81.6 bu/a 74.2 bu/a
pH 6.0-6.3 (33%) pH 6.4-7.4 (67%)	76.3 bu/a 84.7 bu/a
Low P (4%) Med P (26%) High P (70%)	63.9 bu/a 66.8 bu/a 89.0 bu/a
Low K (9%) Med K (23%) High K (68%)	68.4 bu/a 73.1 bu/a 86.9 bu/a
No Foliar Fertilizer (43%) Foliar Fertilizer (57%)	74.3 bu/a 82.8 bu/a
Nitrogen (21%) No Nitrogen (79%)	85.7 bu/a 77.7 bu/a
Herbicide	100% utilized Glyphosate 85% used a preemergent herbicide 73% of those used a residual product pre 100% used a post emergent herbicide 50% used a multiple MOA post 15% utilized Engenia, XtendiMax or Enlist
Yield Limiting Factors	Cool, late spring, dry mid-summer, slow dry down
Average Seeds Per Pound	2,805
Average Seed Drop	162,923
Average Plants at Harvest	121,059 35% loss from planting
Average Pod Count	58

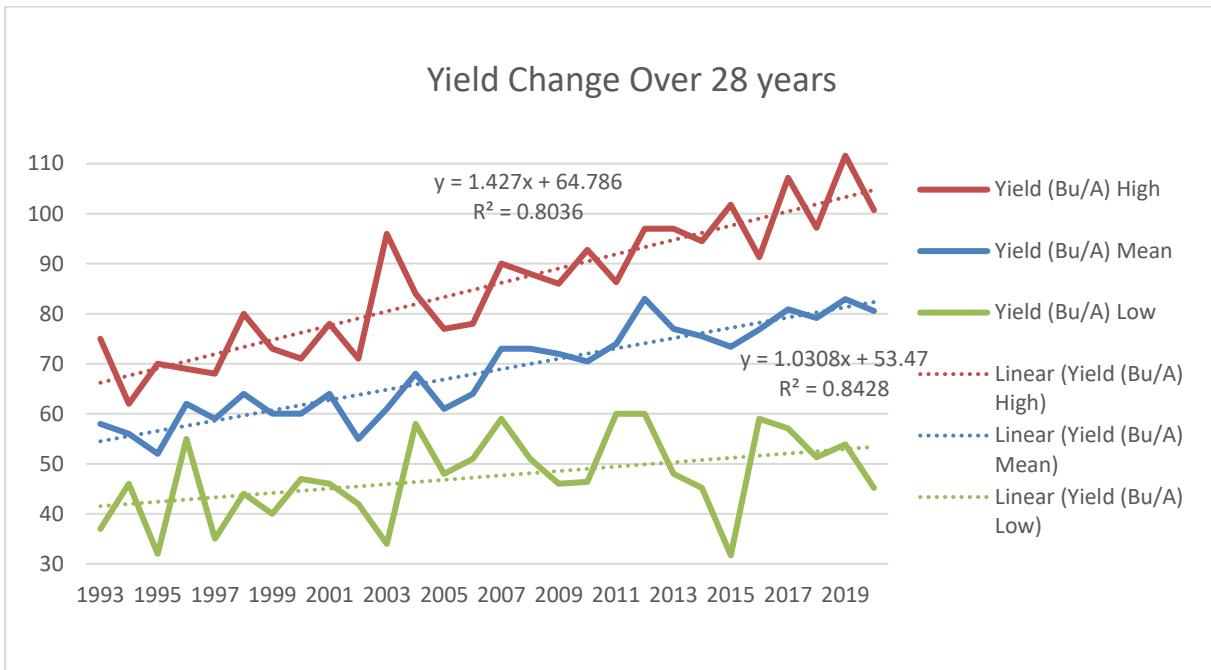


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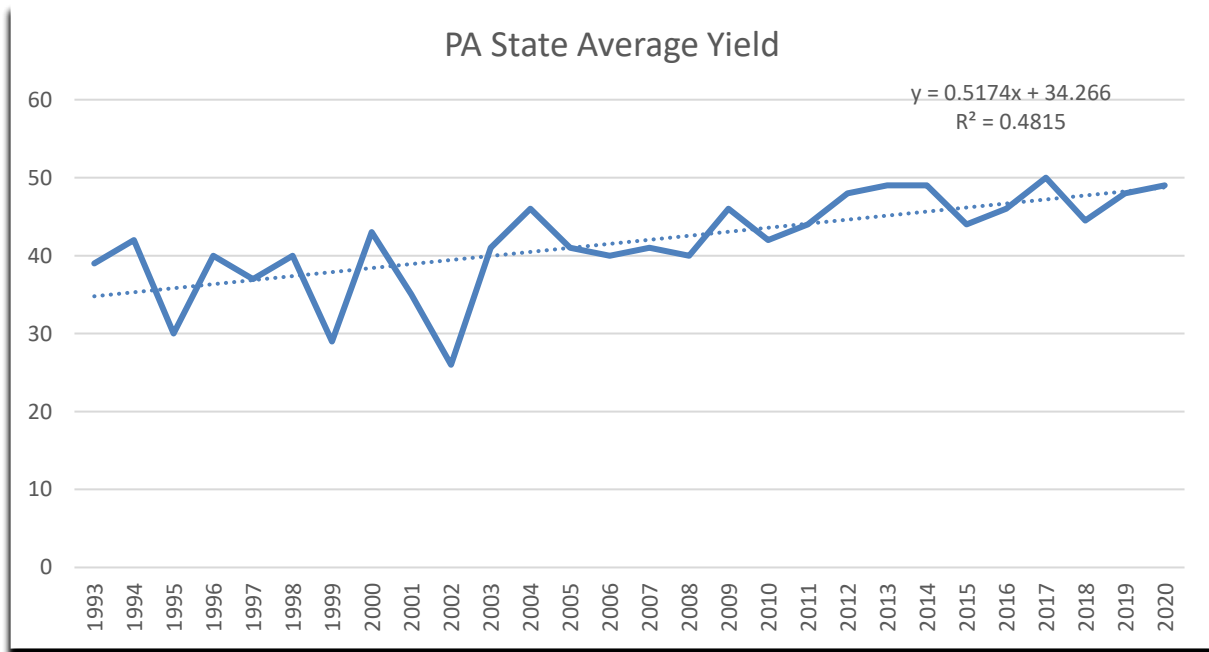
Average Harvest Loss	0.65 bu/a
Average Harvest Date	10/9/20
Cover crop	88% planted a cover crop or small grain crop 62% planted wheat, 38% planted rye

Soybean Management Practices - Regional Award Winners

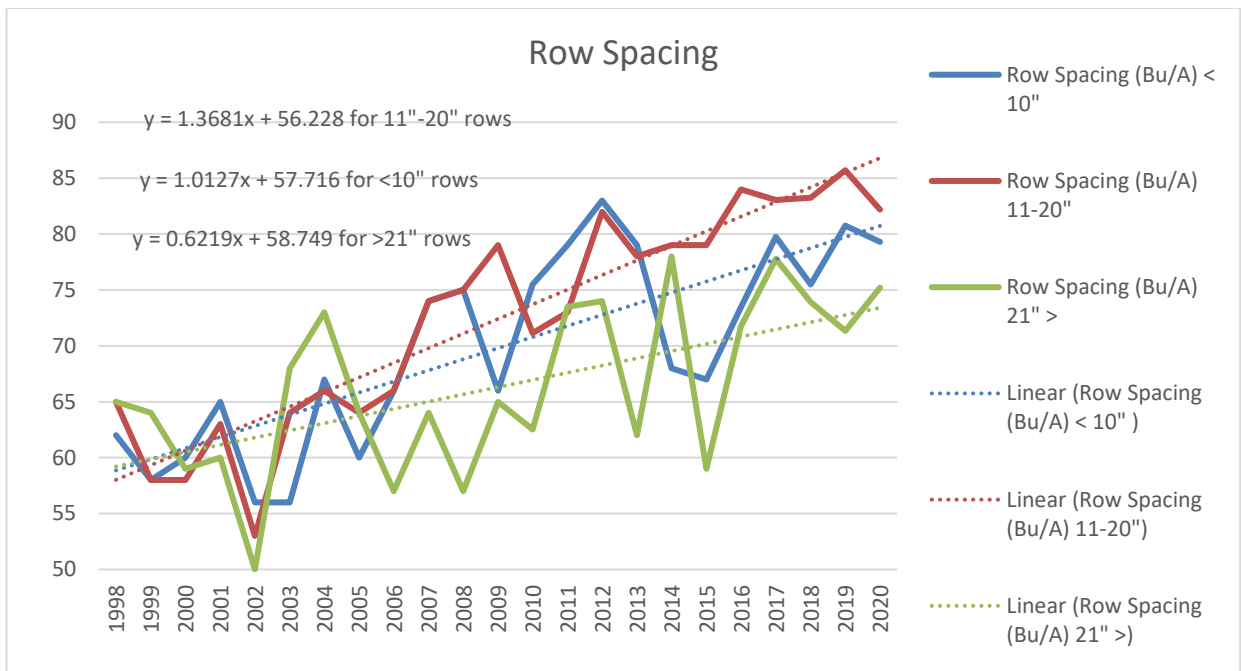
Region	South Central	Central	West	Northern	Southeast
Winner	Twin Lane Farm	Jim/Ward Chapin	Henry Sniezek	Justin Jones	Brad Kiefer
County	Lancaster	Columbia	Lawrence	Bradford	Northampton
Previous Crop	Corn	Corn	Corn	Corn	Corn
Row Width	15"	7.5"	30"	15"	15"
Tillage Type	Min-Till	No-Till	Conventional	No-Till	Conventional
Variety	Pioneer P32T26E	Pioneer 31A95BX	Seed Consultants SC7320E	Asgrow 30X8	Asgrow 36X6
Seeding Date	5/4/20	4/22/2020	5/21/2020	5/5/2020	5/5/2020
Seeding Rate	151,000	165,000	160,000	200,000	175,000
Final Stand	139,200	139,896	139,896	160,080	90,480
Seed Treatment	Pioneer Premium	Pioneer Premium	None	Acceleron + Gaucho	Cruiser Max
Inoculation	Pre	Liquid	Liquid	Dry & Liquid	Pre
Fungicide	Approach Prima	Approach	Affiance	none	None
Insecticides	Province II	Hero	Mustang Maxx	none	None
Pre-Herbicide	Credit Extra, Prowl H20, 2,4-D, Cloak75DF	Metribuzin, Aim, Zidua	None	Roundup PowerMax MTZ	None
Post-Herbicide	Credit Extra Curio	Extreme	Roundup Enlist	Roundup Dual	Roundup PowerMax
Date of Harvest	10/1/20	10/6/2020	x	10/15/20	10/8/2020
Yield	100.69	90.05	87.58	45.15	94.07
Moisture %	14.03	14.10	12.0	19.1	11.50
Ave Pod Count	53	66	42	77	36
Harvest Loss	0.41 bu/a	0.38 bu/a	0.26 bu/a	1.38 bu/a	1.38 bu/a
pH	6.6	x	6.9	6.1	7.4
P	Optimum	x	Optimum	Optimum	Optimum
K	High	x	Optimum	Optimum	High
Biostimulant	x	x	No	No	No
Foliar Fertilizer	Yes FOLI-POP-K	Yes	Yes	No	Yes
Cover Crop	Wheat	wheat, rye, hairy vetch, clover	Rye	Rye	Rye



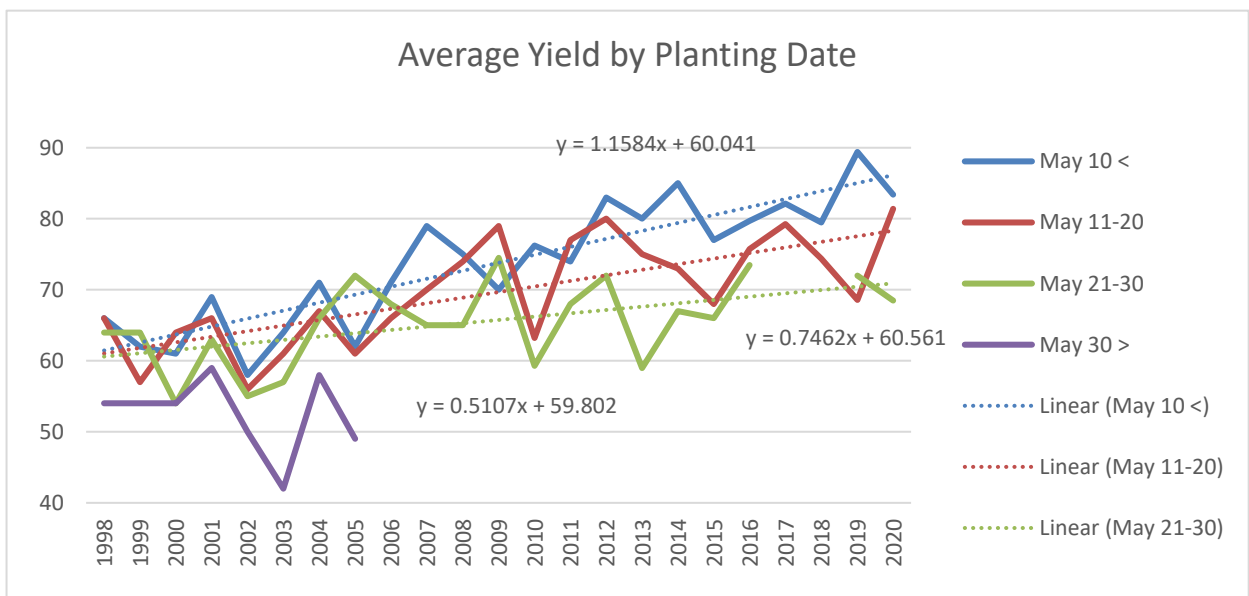
Conclusion: Over a 28-year period, the mean of all entries went up by 1 bushel per year. Over the same period the winning yield went up by nearly 1.5 bushels per year.



Since 1993 the Pennsylvania average soybean yield has increase about ½ bushel per year.

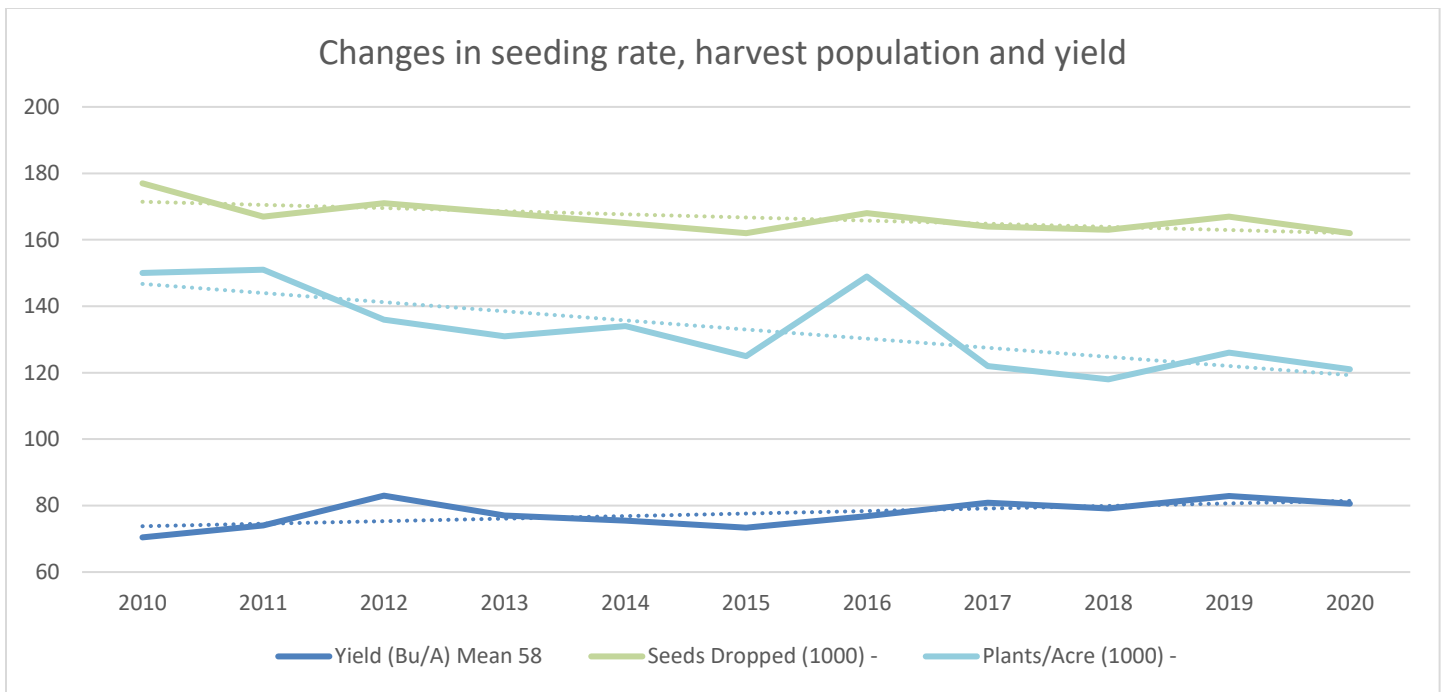


Since 2008 at least 50% of the entries in the contest were planted in 15" rows with a trend of yielding 1.37 bushels more per year compared to drilled soybeans planted in rows less than 10" which are trending up at a rate of 1.01 bushels per year. Wide row soybeans make up about 15% of the entries and are trending below drilled and 15" soybeans at a rate of 0.62 bushels per year.



Since 1998 the average yield of entries planted before May 10 increased 1.16 bushel per year compared to 0.75 bushels from May 10 – 20 and 0.51 bushels from May 21-30.

Since 2005 very few entries were planted after May 30.



Conclusion: Over a 11-year period, there has been a decrease in seeding rate by approximately 20,000 seeds per acre and a decrease in the harvest population by approximately 25,000 plants per acre, all while increasing yield 10 bushels per acre in the same period.

Penn State encourages persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact Andrew Frankenfield at (610) 489-4315 in advance of your participation or visit.

This publication is available in alternative media on request.

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Photos by United Soybean Board