



Pennsylvania Soybean Yield Contest 2022 Report

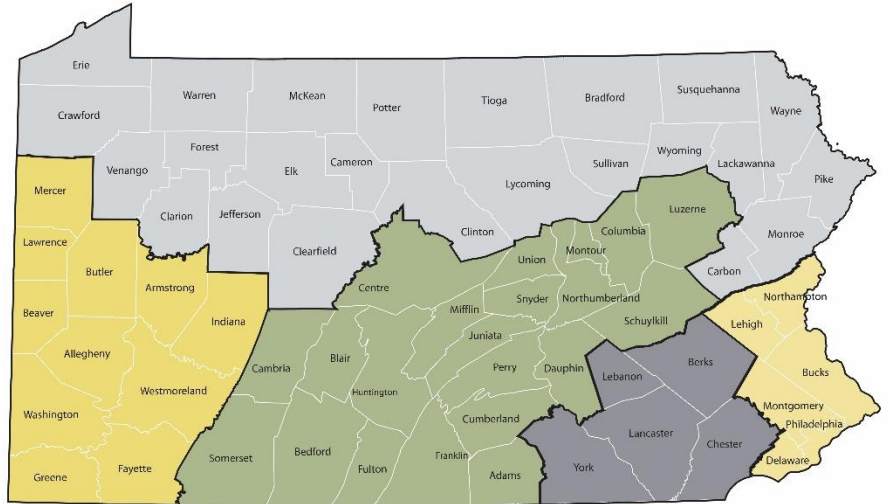
*Prepared by Delbert G. Voight, Jr., Senior Extension Educator
& Andrew Frankenfield, Senior Extension Educator*

Supported and directed by the Pennsylvania Soybean Board

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 www.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
610-489-4315

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



THANKS TO OUR HARVEST SUPERVISORS

Supervisor	Position
Joey Akins	Agronomy Educator, Penn State Extension Mercer County
Justin Brackenrich	Agronomy Educator, Penn State Extension Butler County
John Bray	Retired Agronomy Educator, Penn State Extension
Sarah Frame	Agronomy Educator, Penn State Extension Berks County
Andrew Frankenfield	Agronomy Educator, Penn State Extension Montgomery County
William Gallagher	Retired County Agent, Penn State Extension
Jeff Graybill	Agronomy Educator, Penn State Extension Lancaster County
Ryan Herstine	Ag Technician, Bucks County Conservation District
Jason LePage	Agronomist, Rosetree Consulting LLC
Heidi Reed	Agronomy Educator, Penn State Extension York County
Jon Stutzman	Agronomist, Stutzman Crop Care Inc
Pierce Wilson	Agricultural Coordinator, Fayette County Conservation District
Brett Young	Treasurer, Mercer County Ag Land Preservation Board

RANK OF CONTEST ENTRIES

South Central

Rank	Name	Yield	County	Brand	Cultivar
1	Dale Herr, Jr.	97.49	Lancaster	Pioneer	P32T26E
2	Kenton Reiff	87.22	Lancaster	Hubner	33-52XF
3	Herman Manbeck	84.56	Berks	Pioneer	P31A95BX
4	Bob Buser	83.69	York	Pioneer	P30A46
5	Joshua Towson	82.26	York	Pioneer	P39A45X
6	Ethan Buser	72.53	York	Pioneer	P34A65PR
7	Jake Mase	58.01	Lebanon	Asgrow	37XF1

Central

Rank	Name	Yield	County	Brand	Cultivar
1	Eric Meyers	85.05	Franklin	Pioneer	P36A83
2	Leslie Bowman	82.40	Franklin	Pioneer	P34A65PR
3	Rodney Arentz	73.31	Adams	Local Seed	LS3715E3S
4	Jay Arentz	61.15	Adams	FS Hysoy	HS31E12



RANK OF CONTEST ENTRIES

West

Rank	Name	Yield	County	Brand	Cultivar
1	Randal Smith	77.70	Butler	Pioneer	P28A42X
2	Rick Telesz	74.38	Lawrence	Growmark	33F10
3	Tony Miller	70.59	Indiana	Pioneer	P29A25X
4	Thomas M. Hoovler	65.13	Mercer	Asgrow	AG27XF1
5	Richard Burd	61.24	Fayette	Pioneer	P30T99E
6	Mike Reskovic	59.84	Fayette	Pioneer	P34T21se
7	Quinn Conner	54.01	Fayette	Pioneer	P28T14E

Northern

Rank	Name	Yield	County	Brand	Cultivar
	No entries				

Southeast

Rank	Name	Yield	County	Brand	Cultivar
1	Brad Kiefer	93.38	Northampton	Pioneer	P38A54E
2	Nathan Crooke	63.49	Bucks	Channel	2918Xtend
3	Noah Detwiler	56.43	Montgomery	Chemgro	3751RSX

YIELD COMPARISONS	AVE BU/A
Mean Yield	73.52 bu/a
No-till (n=16, 76% of entries)	74.78 bu/a
Min-till (n=3, 14% of entries)	72.17 bu/a
Conventional till (n=2, 10% of entries)	65.41 bu/a
Drill (n=8, 38% of entries)	72.38 bu/a
Corn planter (n=13, 62% of entries)	74.22 bu/a
Planted before April 1 st (n=1, 5% of entries)	85.05 bu/a
Planted April 21 to 30 (n=7, 37% of entries)	78.78 bu/a
Planted May 1 to 10 (n=4, 21% of entries)	78.15 bu/a
Planted May 11 to 20 (n=1, 5% of entries)	70.59 bu/a
Planted May 21 to 30 (n=5, 26% of entries)	66.41 bu/a
Planted in June (n=1, 5% of entries)	56.43 bu/a
Rows 10" or less (n=5, 24% of entries)	66.03 bu/a
Rows 11" to 20" (n=12, 57% of entries)	77.64 bu/a
Rows 30" (n=4, 19% of entries)	70.50 bu/a
No Foliar Fungicide or Insecticide Applied (n=9, 45% of entries)	69.08 bu/a
Foliar Insecticide Applied (n=1, 5% of entries)	54.01 bu/a
Foliar Fungicide Applied (n=2, 10% of entries)	77.31 bu/a
Combination of Foliar Fungicide and Insecticide (n=8, 40% of entries)	81.94 bu/a



PRODUCTION INFORMATION

Seed Treatment (n=15, 79% of entries)	75.76 bu/a
No Seed Treatment (n=4, 21% of entries)	72.41 bu/a
Rhizobia Inoculation (n=19, 95% of entries)	73.75 bu/a
No Rhizobia Inoculation (n=1, 5% of entries)	84.56 bu/a
Dry Inoculation (n=7, 37% of entries)	69.85 bu/a
Liquid Inoculation (n=2, 11% of entries)	76.18 bu/a
Pre-Inoculation (n=10, 53% of entries)	76.39 bu/a
Calibrate Seed Equipment Yes 70% No 30%	73.49 bu/a 71.75 bu/a
Soil Test Yes (76%) No (24%)	75.55 bu/a 67.01 bu/a
pH 6.0-6.3 (14%) pH 6.4-7.5 (86%)	61.19 bu/a 78.75 bu/a
Med P (57%) High P (43%)	70.57 bu/a 83.79 bu/a
Low K (7%) Med K (14%) High K (79%)	63.49 bu/a 65.87 bu/a 79.28 bu/a
No Foliar Fertilizer (55%) Foliar Fertilizer (45%)	66.70 bu/a 82.60 bu/a
Nitrogen (21%) No Nitrogen (79%)	71.49 bu/a 73.99 bu/a
Herbicide	89% utilized Glyphosate 100% Used a post emergent herbicide 89% Used a preemergent herbicide 100% of those used a residual product pre 58% used a multiple MOA post 43% utilized Engenia or Enlist
Yield Limiting Factors	Dry conditions, deer, slugs
Average Seeds Per Pound	2,728
Average Seed Drop	156,325



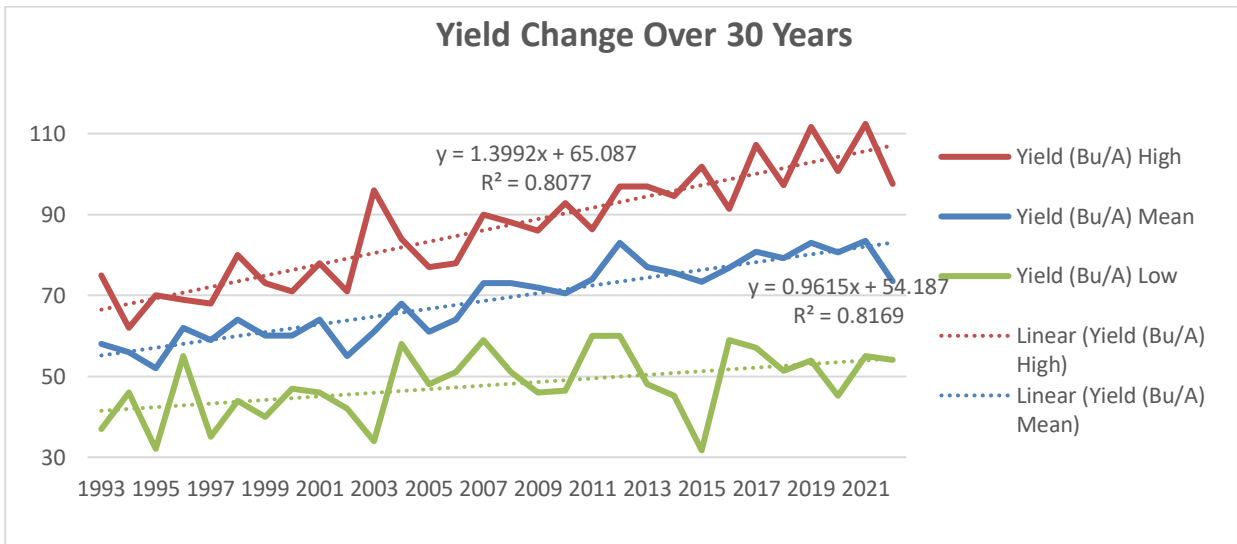
PRODUCTION INFORMATION

Average Plants at Harvest	111,332 29% loss from planting
Average Pod Count	58 pods
Average Harvest Loss	0.22 bu/a
Average Harvest Date	10/16/22
Cover crop	75% planted a cover crop or small grain crop 53% planted wheat, 20% planted rye

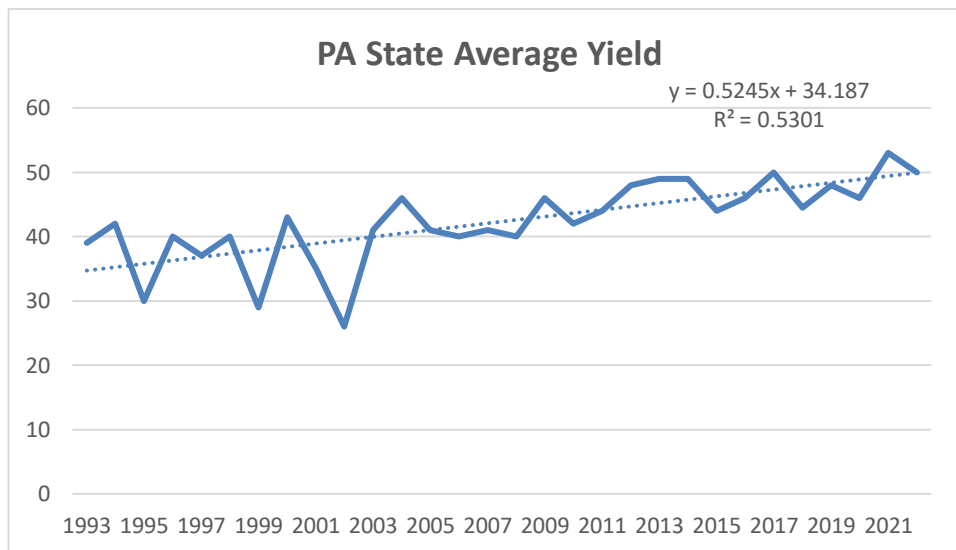


SOYBEAN MANAGEMENT PRACTICES - REGIONAL AWARD WINNERS

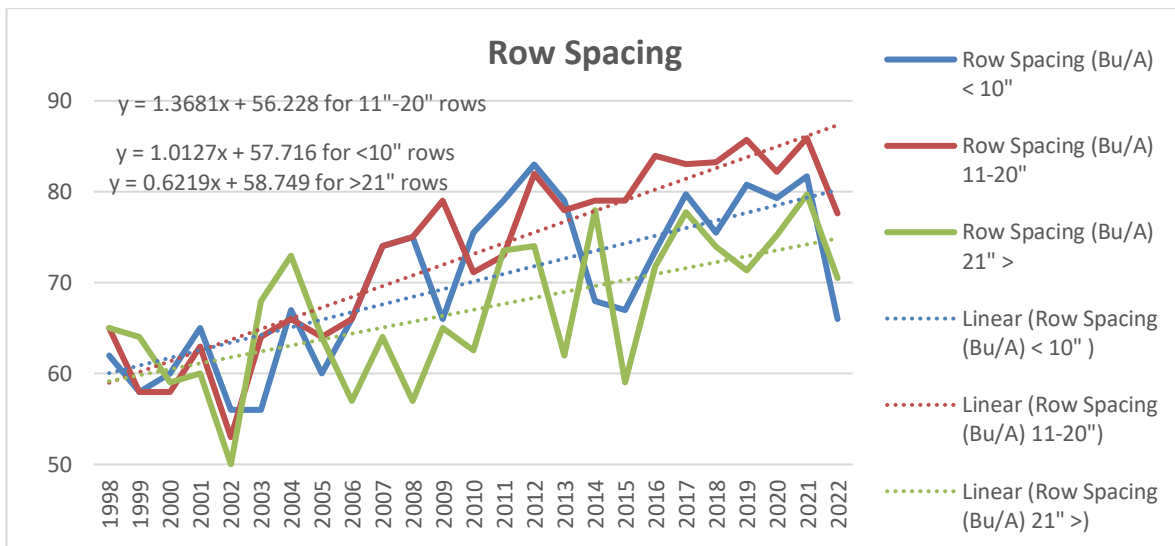
Region	South Central	Central	West	Northern	Southeast
Winner	Dale Herr, Jr.	Eric Meyers	Randal Smith		Brad Kiefer
County	Lancaster	Franklin	Butler		Northampton
Previous Crop	Corn	Corn	Corn		Corn
Row Width	15"	30"	15"		15"
Tillage Type	No-Till	No-Till	No-Till		Min-till
Variety	Pioneer P32T26E	Pioneer P36A83	Pioneer P28A42X		Pioneer P38A54E
Seeding Date	4/28/22	3/21/22	5/13/22		5/5/22
Seeding Rate	150,000	110,000	190,000		140,000
Final Stand	118,320	27,840	93,960		110,000
Seed Treatment	Pioneer Premium	Pioneer Premium	None		Pioneer Premium
Inoculation	Dry	Pre	Pre		Pre
Fungicide	Trivapro	Priaxor, Miravis Neo, Miravis top	Priaxor		Miravis Neo
Insecticides	Sniper	Lambda	Lamcap II		None
Pre-Herbicide	Sharpen, Tribal	Gramoxone Solstice	Glyphosate, Xtendimax		None
Post-Herbicide	Glyphosate, Enlist One	Glyphosate	Glyphosate, Xtendimax		Glyphosate
Date of Harvest	9/28/22	9/29/22	10/25/22		10/21/22
Yield	97.49	85.05	77.70		93.38
Moisture %	12.73	16.40	12.00		13.30
Ave Pod Count	43	90	32		58
Harvest Loss	0.2 bu/a	0.5 bu/a	0.4 bu/a		1.0 bu/a
Biostimulant	Accomplish LM	No	No		No
Foliar Fertilizer	Yes	Yes	No		Yes
Cover Crop	Rye	Wheat for grain	Wheat		No



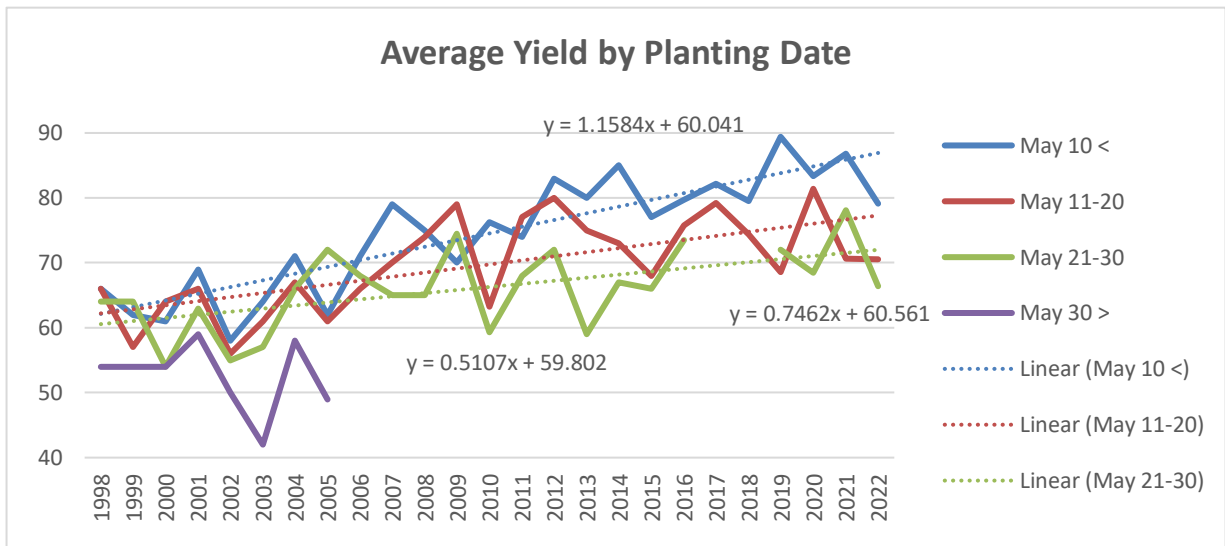
Conclusion: Over a 30-year period, the mean of all entries went up by 1 bushel per year. Over the same period the winning yield went up by nearly 1.4 bushels per year.



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

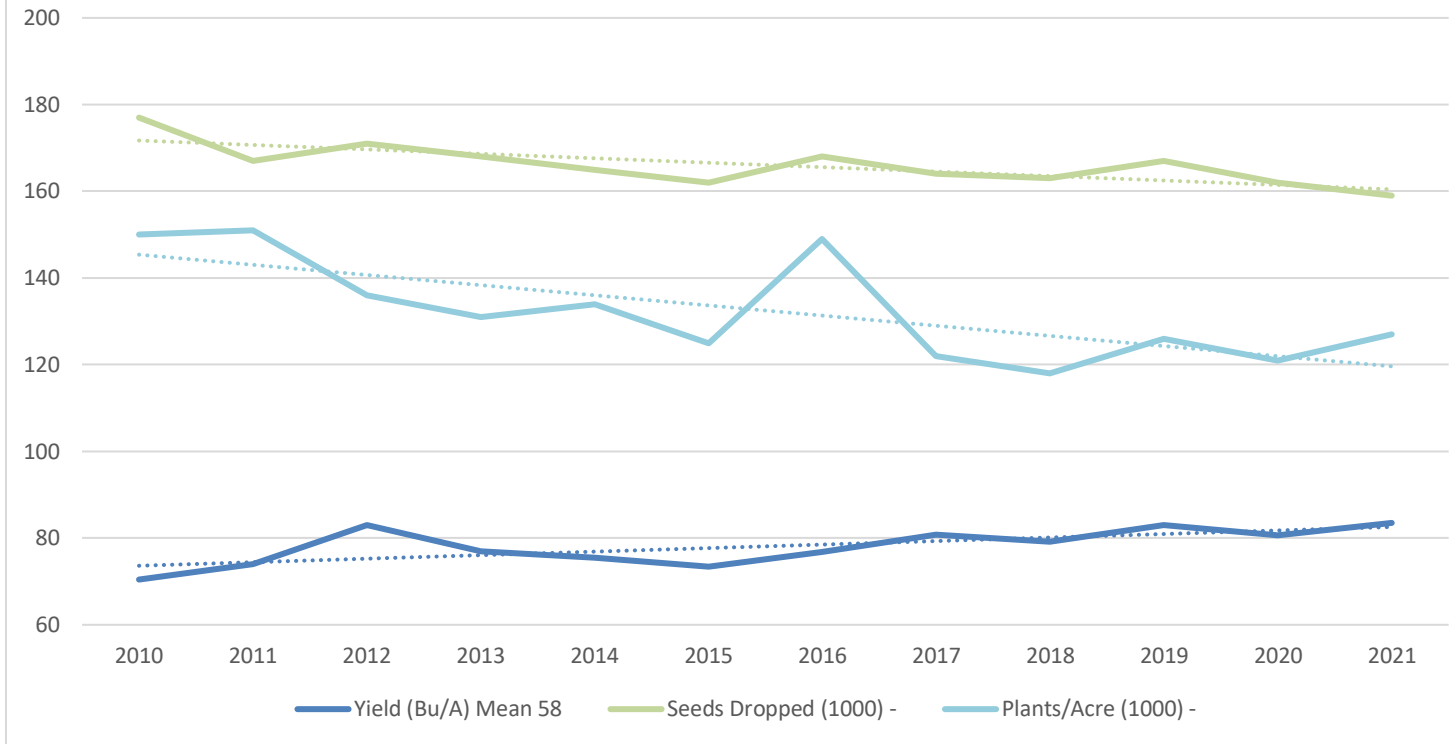


Since 2008 at least 50% of the entries in the contest were planted in 15" rows with a trend of yielding 1.37 bushels more per year compared to drilled soybeans planted in rows less than 10" which are trending up at a rate of 1.01 bushels per year. Wide row soybeans make up about 15% of the entries and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

Changes in Seeding Rate, Harvest Population and Yield



Conclusion: Over a 12-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.

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Cover photo by Alayna Harrell, 2022 PSB Summer Intern