

PENNSYLVANIA SOYBEAN CONTEST 2019 REPORT

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

Supported and directed by the Pennsylvania Soybean Board

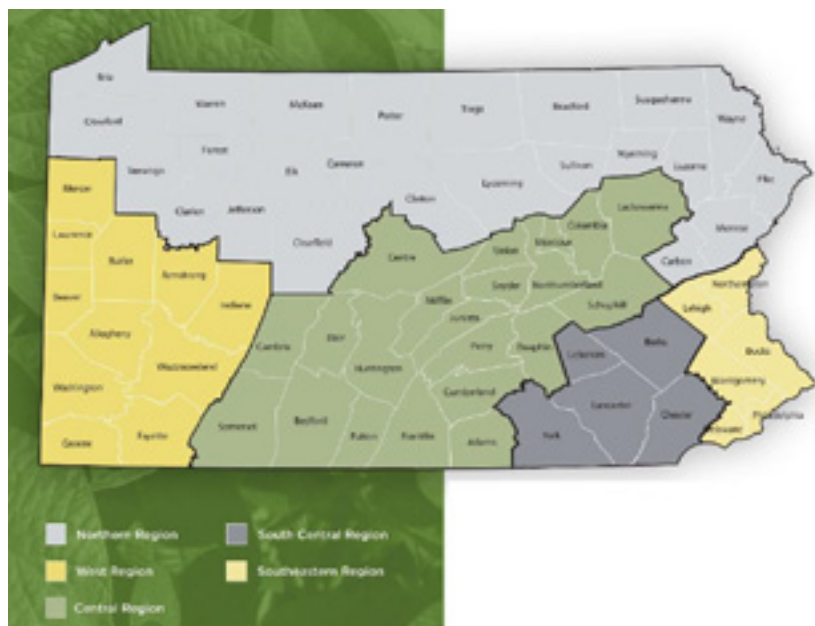


PennState Extension

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 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
Anna Busch	Agronomy Educator, Penn State Extension Union County
Justin Brackenrich	Agronomy Educator, Penn State Extension Butler County
Mike Fournier	Retired County Agent
Robert Davis	Livestock Nutritionist
Andrew Frankenfield	Agronomy Educator, Penn State Extension Montgomery County
William Gallager	Retired County Agent
Devin Gerlach	Agronomist, Keystone Crop Consultants
Casey Guindon	Agronomy Educator, Penn State Extension Bradford County
Jeff Graybill	Agronomy Educator, Penn State Extension Lancaster County
Robin Kauffman	Independent Corn and Soybean Research
Heidi Reed	Agronomy Educator, Penn State Extension York County
Eric Rosenbaum	Agronomist, Rosetree Consulting
Jon Stutzman	Agronomist, Stutzman Crop Care
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	Mike Shearer	111.62	Lancaster	Pioneer	31T77
2	Eric Charles	111.08	Lancaster	Pioneer	31T77
3	James Hershey	109.66	Lancaster	Pioneer	27T03
4	Daryl Alger	101.98	Lebanon	Asgrow	36X6
5	Lapp Farms LLC	96.63	Chester	Pioneer	27T03
6	Darren Grumbine	96.22	Lebanon	Pioneer	33A24
7	Matt Breneman	93.84	Lancaster	Pioneer	27T03
8	Patricia Buser	93.06	York	Pioneer	37T51
9	John Groff	92.85	Lancaster	Hubner	H34-37R2X
10	Dale Herr Jr	92.39	Lancaster	Pioneer	31T77
11	Jay Horst	92.37	Lancaster	Pioneer	27T03
12	Merle Stoltzfus	91.30	Lancaster	Hubner	H36-28R2X
13	Brendon Landis	88.90	Lancaster	NK	S35-K9X RR2X
14	Richard Kreider	88.39	Lebanon	Pioneer	29A25X
15	Herman Manbeck	87.91	Berks	Pioneer	39T28
16	Dylan Keller	83.53	York	Pioneer	37T51PR
17	Matthew Beiler	83.29	Lancaster	Pioneer	37T51PR
18	Glen Krall	81.22	Lebanon	Pioneer	29A25X
19	Elvin Reiff	80.88	Lancaster	Hubner	H38-27R2X
20	Longenecker Farms	79.51	Lancaster	Pioneer	33A24X
21	Bob Buser	76.80	York	Pioneer	33A81
22	Linda Krall	72.19	Lebanon	Pioneer	31T77
23	Ethan Buser	70.57	York	Pioneer	37T51

Rank of Contest Entries

Central

Rank	Name	Yield	County	Brand	Cultivar
1	Jay Arentz	91.31	Adams	Pioneer	34A13X
2	Leslie Bowman	85.41	Franklin	Pioneer	P37A69X
3	Robert Reed	69.42	Northumberland	Pioneer	P27T03R

West

1	Richard Burd	87.58	Fayette	Pioneer	34A13X
2	Rick Telesz	70.87	Lawrence	HiSoy	37x70
3	Thomas M Hoovler	64.07	Mercer	Asgrow	30X9

Northern

1	Raymond Martin	64.31	Tioga	Pioneer	31T77R
2	Matt Ahern	54.57	Bradford	Pioneer	27T03R
3	Matt Davis	53.87	Bradford	FS HiSOY	21X80

Southeast

1	Tim Stewart	83.87	Bucks	Asgrow	38X8
2	Nathan Crooke	82.67	Bucks	Channel	2018
3	Ryan Beer	80.10	Bucks	Pioneer	31T77R
4	Mark Schmidt	66.81	Bucks	Channel	
5	Aaron Stepnoski	66.07	Bucks	Asgrow	38X8
6	John Frederick	63.80	Bucks	FS HiSoy	39A42



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Grain Quality

NAME	PROTEIN %	OIL %	PROTEIN + OIL %
Nathan Crooke	36.0	20.1	56.1
Lapp Farms	36.3	19.4	55.7
Ethan Buser	36.8	18.5	55.3
Rick Telesz	37.5	17.5	55.0
Dylan Keller	36.1	18.6	54.8
Patricia Buser	35.3	19.2	54.5
Robert Reed	35.8	18.6	54.4
Bob Buser	35.3	19.1	54.4
Mark Schmidt	35.7	18.6	54.3
Matthew Beiler	34.3	20.0	54.3
James Hershey	34.6	19.6	54.2
Dale Herr Jr.	33.9	20.2	54.2
Jay Horst	34.5	19.7	54.2
Matt Breneman	33.9	20.2	54.1
Tim Stewart	34.3	19.5	53.8
Linda Krall	34.1	19.7	53.8
Herman Manbeck	34.4	19.3	53.7
Ryan Beer	33.9	19.8	53.6
Matt Ahern	36.1	17.5	53.6
Jay Arentz	35.4	18.1	53.5
Richard Kreider	33.4	20.0	53.5
Merle Stoltzfus	34.0	19.4	53.4
Eric Charles	32.6	20.7	53.4
Glen Krall	33.7	19.6	53.3
John Frederick	34.0	19.1	53.1
Longenecker Farms	33.3	19.8	53.1
Raymond Martin	36.1	16.9	53.1
Richard Burd	35.7	17.3	53.0
Matt Davis	35.1	17.9	53.0
Mike Shearer	32.3	20.6	53.0
Leslie Bowman	32.9	20.0	52.9
John Groff	34.0	18.7	52.7
Thomas M. Hoovler	36.0	16.6	52.6
Aaron Stepnoski	33.7	18.8	52.5
Darren Grumbine	33.0	19.5	52.5
Elvin Reiff	33.7	18.8	52.5
Daryl Alger	32.6	19.8	52.5
Brendon Landis	32.4	19.6	52.0

Yield Comparisons

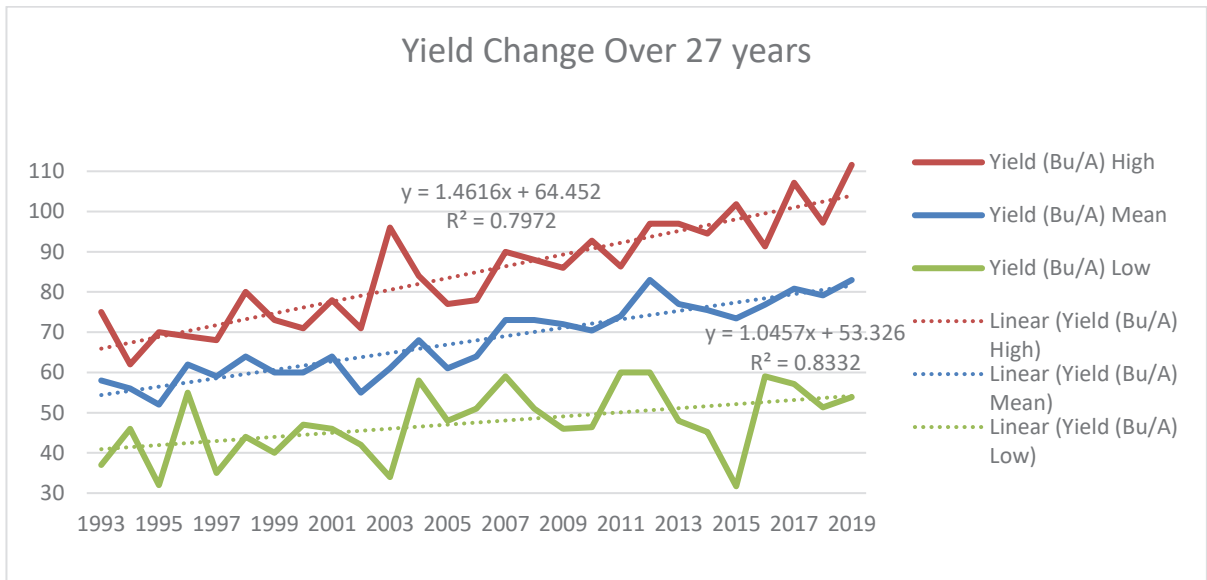
Yield Comparisons	Ave Bu/A
Mean Yield	83.18
No-till (n=27, 75% of entries)	84.36
Min-till (n=9, 25% of entries)	75.97
Drill (n=16, 44% of entries)	83.59
Corn planter (n=20, 56% of entries)	82.81
Planted April 1 to 10 (n=1, 3% of entries)	87.58
Planted April 11 to 20 (n=1, 3% of entries)	82.67
Planted April 21 to 30 (n=13, 38% of entries)	91.38
Planted May 1 to 10 (n=7, 21% of entries)	85.95
Planted May 11 to 20 (n=4, 12% of entries)	68.56
Planted May 21 to 30 (n=8, 24% of entries)	72.02
Rows 10" or less (n=11, 31% of entries)	82.88
Rows 11" to 20" (n=19, 53% of entries)	85.71
Rows 30" (n=6, 17% of entries)	71.35
No Foliar Fungicide or Insecticide Applied (n=11, 32% of entries)	71.92
Foliar Fungicide Applied only (n=11, 32% of entries)	86.82
Foliar Insecticide Applied (n=2, 6% of entries)	84.20
Combination of Foliar Fungicide and Insecticide (n=10, 29% of entries)	89.01

Production Information

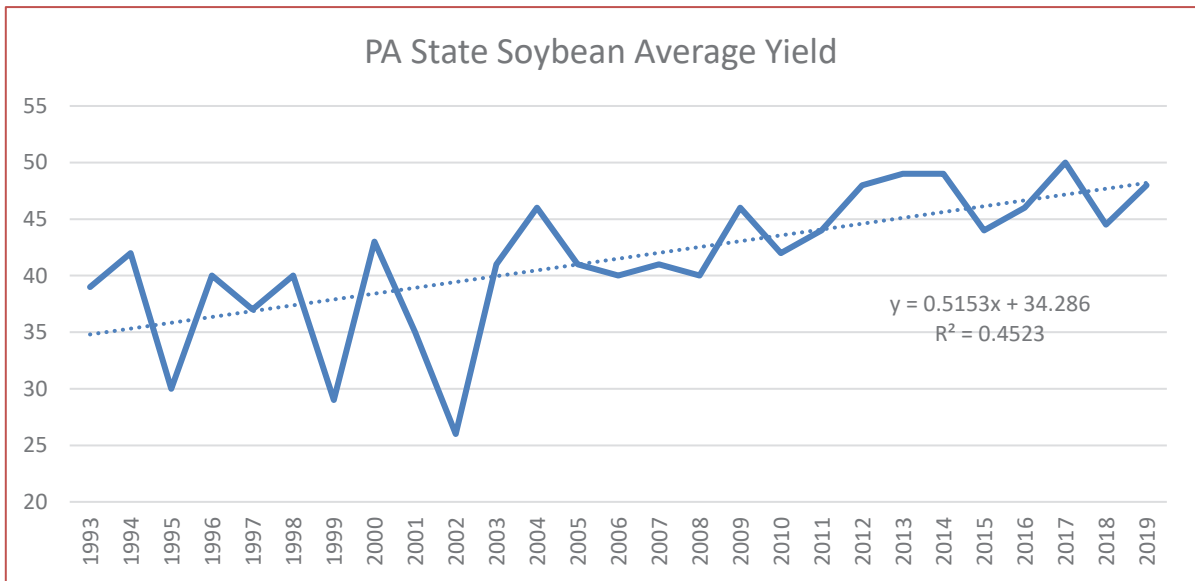
Seed Treatment (n=30, 86% of entries)	87.65 bu/a
No Seed Treatment (n=5, 14% of entries)	70.97 bu/a
Rhizobia Inoculation (n=35, 100% of entries)	83.18 bu/a
Dry Inculcation (n=8, 23% of entries)	79.16 bu/a
Liquid Inculcation (n=2, 6% of entries)	86.87 bu/a
Pre-Inculcation (n=25, 71% of entries)	82.46 bu/a
Calibrate Seed Equipment	47%
Soil Test (within past 3 years)	91%
pH	6.6
Foliar Fertilizer (n=10, 32% of entries)	84.16 bu/a
No Foliar Fertilizer (n=21, 68% of entries)	82.15 bu/a
Herbicide	94% utilized Glyphosate 70% used a preemergent herbicide 91% of those used a residual product pre 97% used a post emergent herbicide 45% used a multiple MOA post 12% utilized Engenia, XtendiMax or FeXapan Post
Yield Limiting Factors	Wet spring/early summer and dry late summer
Average Seeds Per Pound	2,671
Average Seed Drop	167,246
Average Plants at Harvest	116,045 31% loss from planting
Average Pod Count	52
Average Harvest Loss	0.82 bu/a
Average Harvest Date	10/2/19
Cover crop	72% planted a cover crop or small grain crop 65% planted wheat, 26% planted rye

Soybean Management Practices - Regional Award Winners

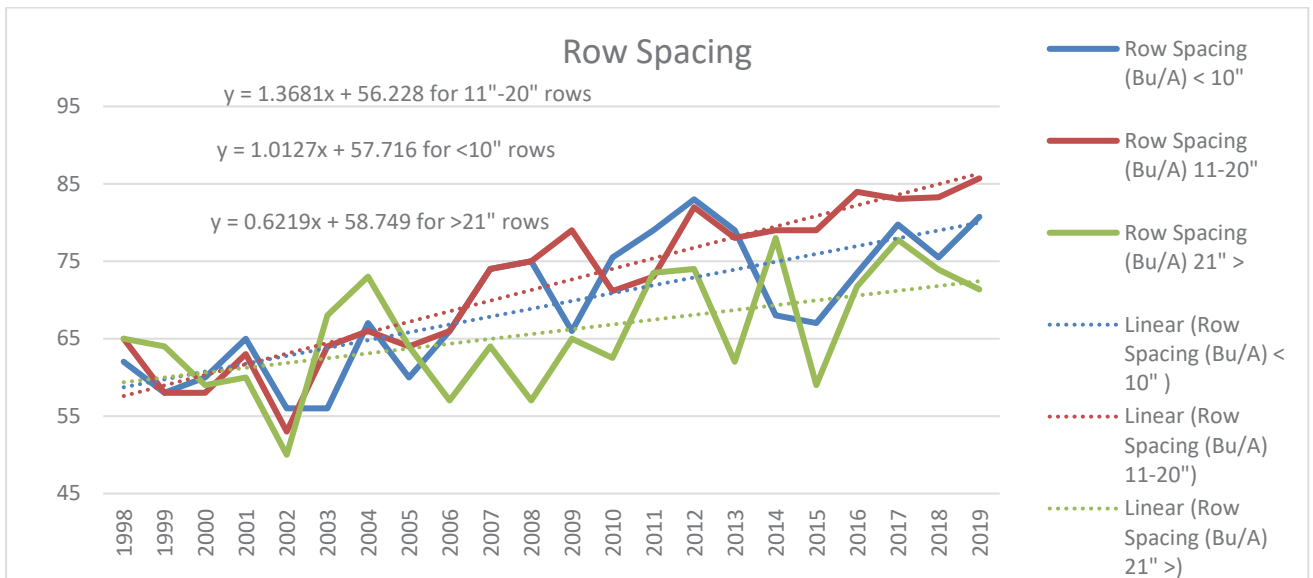
Soybean Management Practices - Regional Award Winners					
Region	South Central	Central	West	Northern	Southeast
Winner	Mike Shearer	Jay Arentz	Richard Burd	Raymond Martin	Tim Stewart
County	Lancaster	Adams	Fayette	Tioga	Bucks
Previous Crop	Corn	Corn	Corn	Corn	Corn
Row Width	15"	15"	7.5"	7.5"	30"
Tillage Type	No-Till	No-Till	No-Till	No-Till	No-Till
Variety	Pioneer 31T77R	Pioneer 34A13X	Asgrow AG30X6	Pioneer P31T77R	Asgrow AG38X8
Seeding Date	4/23/19	5/25/2019	5/17/2018	5/21/2019	5/27/2019
Seeding Rate	150,000	140,000	180,000	170,000	140,000
Final Stand	132,422	116,741	160,300	160,080	139,200
Seed Treatment	Pioneer Premium	Pioneer Premium	None	Pioneer Premium	
Inoculation	Pre	Pre	Dry	Pre	Dry
Fungicide	Priaxor	Top Guard	Bravo 2x	Miravis	Miravis
Insecticides	Province	Silencer	Warrior	Lambda T2	None
Pre-Herbicide	Prowl, Canopy, 24D, Durango	Canopy	None	None	Zidua Pro
Post-Herbicide	Durango	Roundup Cadet	Roundup Engenia	Roundup Synchrony Abundant Edge	Roundup
Date of Harvest	9/24/2019	10/18/2019	10/4/2019	10/21/2019	11/11/19
Yield	111.62	91.31	87.58	64.31	83.87
Moisture %	11.55	13.1	12.0	16.1	14.11
Ave Pod Count	47	68	42	38	55
Harvest Loss	0.58 bu/a	0.37 bu/a	0.26 bu/a	1.00 bu/a	0.62 bu/a
pH	7.0	6.5	6.9		6.5
P	Optimum	Optimum	Optimum		Optimum
K	Optimum	Optimum	Optimum		Optimum
Biostimulant	No	No	No	No	Yes
Foliar Fertilizer	No	Yes	Yes	No	Brandt Smart Quatro
Cover Crop	Yes, Wheat	Yes, rye	Yes, rye	No	No



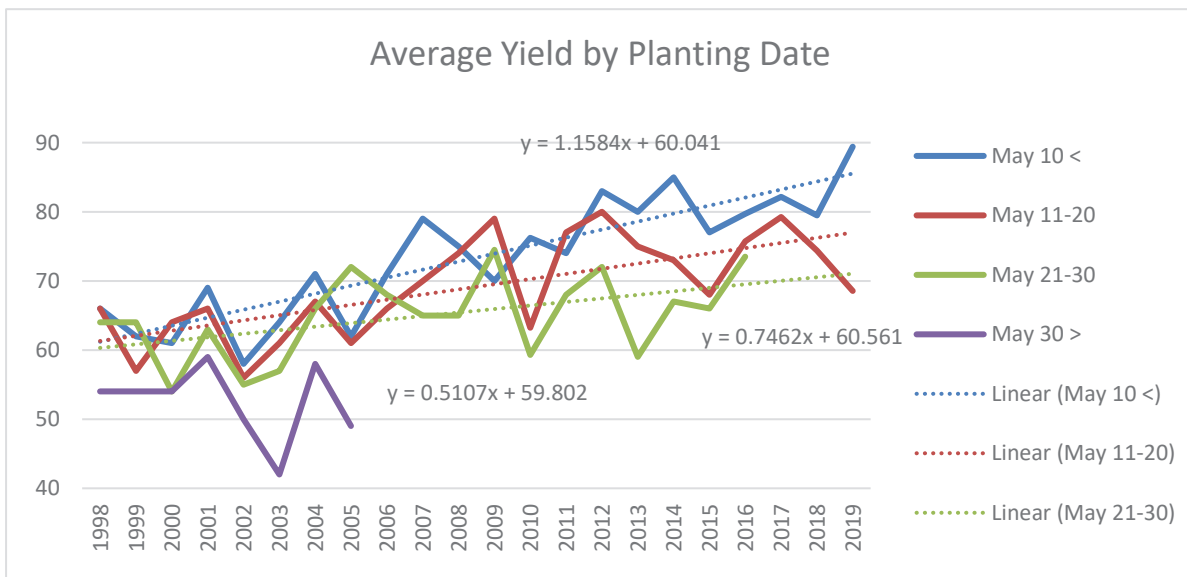
Conclusion: Over a 27-year period, the mean of all entries went up by 1 bushel per year. Over the same period the winning yield went up by nearly 1.5 bushels per year.



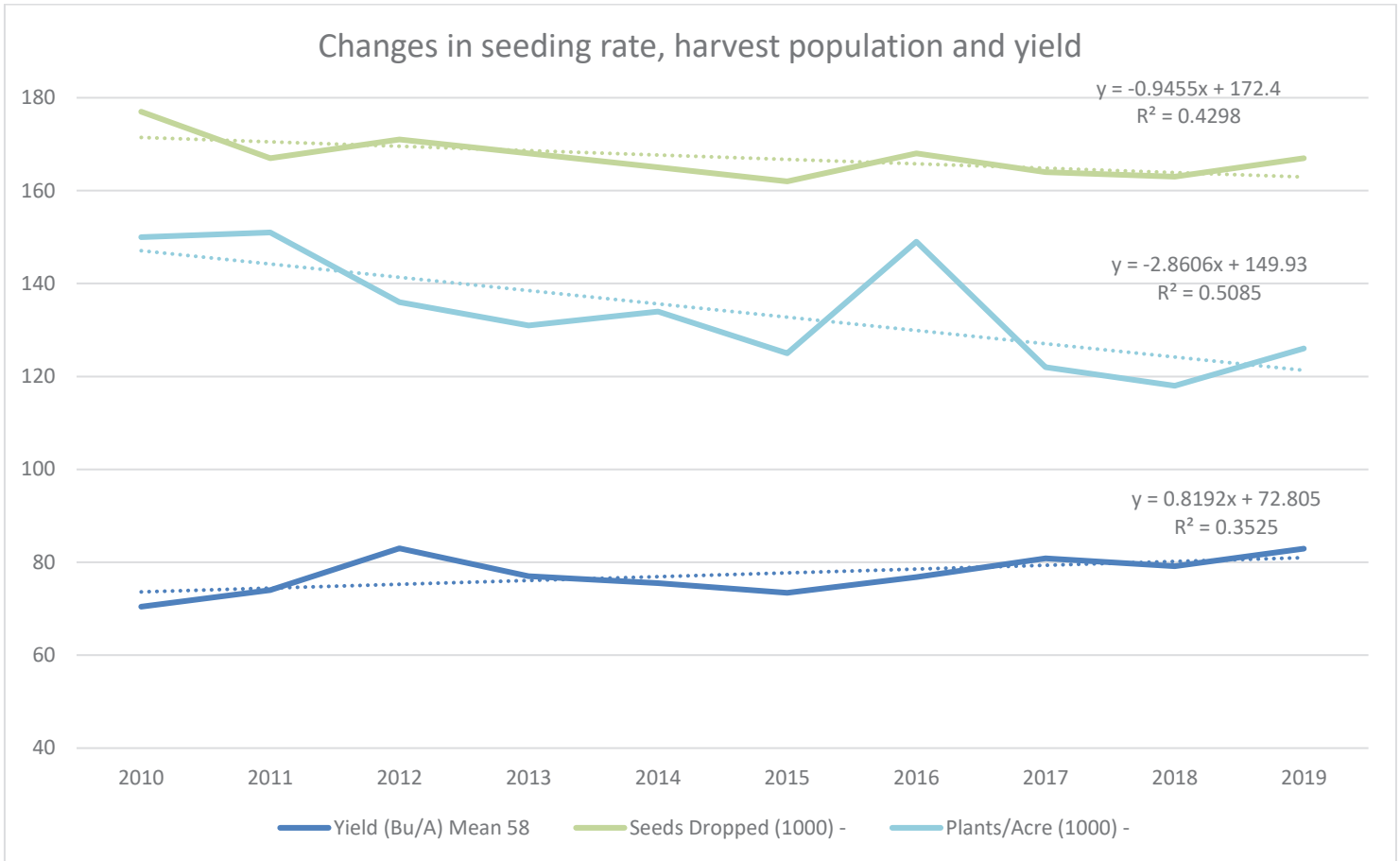
Since 1993 the Pennsylvania average soybean yield has increased about ½ bushel per year



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 25% 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.



Conclusion: Over a 10-year period, there has been a decrease in seeding rate by approximately 9,500 seeds per acre and a decrease in the harvest population by approximately 28,000 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

