

New York Ag Retailer Sales of Products and Services that Keep Phosphorus and Nitrogen on Cropland: 2017 Survey Results

In 2011, with support from the Great Lakes Protection Fund, the Partnership for Ag Resource Management (PARM) initiated a project with Sandusky River Watershed ag retailers to identify, promote and track products and services that reduce phosphorus (P) losses from cropland to improve water quality. The effort expanded to the Great Lakes Basin (GLB) in 2015.

This is the first year issuing a survey specific to ag retail operations in New York. The information gathered helps us learn where we have opportunities to increase sales of products and services – like precision ag – and the positive impacts they provide. The survey is critically important to learn about and communicate New York ag retailers' voluntary efforts to help solve water quality problems within the GLB – without additional regulations.

Survey highlights

- Nine ag retail locations representing 405,000 acres in the State of New York participated this year, reporting on 2017 product and service sales.
- New York ag retailers outperformed GLB states in customer adoption of: weather consideration before fertilizer application and cover crops.
- The most common specialized P applications reported in the survey were topdress P and P loss inhibitors. The most common specialized N application methods were N loss inhibitors and topdress N.
- The primary barrier to customer adoption of precision ag was a lack of assurance in precision ag data. This directly corresponds with the second highest dealer barrier of communicating and presenting the benefits of precision ag services to their customers.
- A majority of responding New York ag retailers reported making a profit or breaking even on the products and services they offered.
- Based on estimates from publications in scientific journals and Sandusky River watershed water quality monitoring data, product and service sales in: cover crops, soil testing, VRT, light incorporation of fertilizer, N loss inhibitors, subsurface preplant, strip-till and split N application, represent more than 274,000 pounds of P and 4 million pounds of N retained for the crop, and kept out of waterways in New York.



Promoting products and services

Our *Phosphorus Loss Reduction Handbook for Agronomists* is available for free download at <http://partnershipfarm.org/agronomist-handbook/>, along with new fact sheets on nitrogen use efficiency and enhanced efficiency fertilizers.

Free P-loss wallet cards with helpful tips for agronomists and farmers continue to be available. More than 25,000 cards have been distributed to date. Visit <http://partnershipfarm.org/ploss-reduction-wallet-card/> to place your order.

Phosphorus (P) loss from any field is possible. Fields with any of the following conditions may be at higher risk. Your special attention can help prevent P losses.

- ▶ Soil test levels are above maintenance.
- ▶ Areas with high surface runoff potential:
 - Poorly or imperfectly drained soils.
 - Sloping fields.
 - Fields with less than 30% crop residue cover on soil surface.





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4R Nutrient Stewardship for Green Crops and Blue Lakes



Do	<ul style="list-style-type: none"> ▶ Inject or band phosphorus (P). ▶ Lightly incorporate (2-3") P applications; ag retailers can notify customer when applications are made. ▶ Follow recommendations for setbacks. ▶ Broadcast P for one crop year at a time only. ▶ Soil test at least every three years. ▶ Apply at University recommendations. ▶ Plant cover crops. ▶ Consider variable rate application. ▶ Consider reduced tillage: no till, strip till. 	
Don't	<ul style="list-style-type: none"> ▶ Broadcast without light incorporation. ▶ Broadcast application before heavy rain. 	

Ag retailers driving stewardship and sustainability



**PHOSPHORUS LOSS REDUCTION
 HANDBOOK FOR AGRONOMISTS**

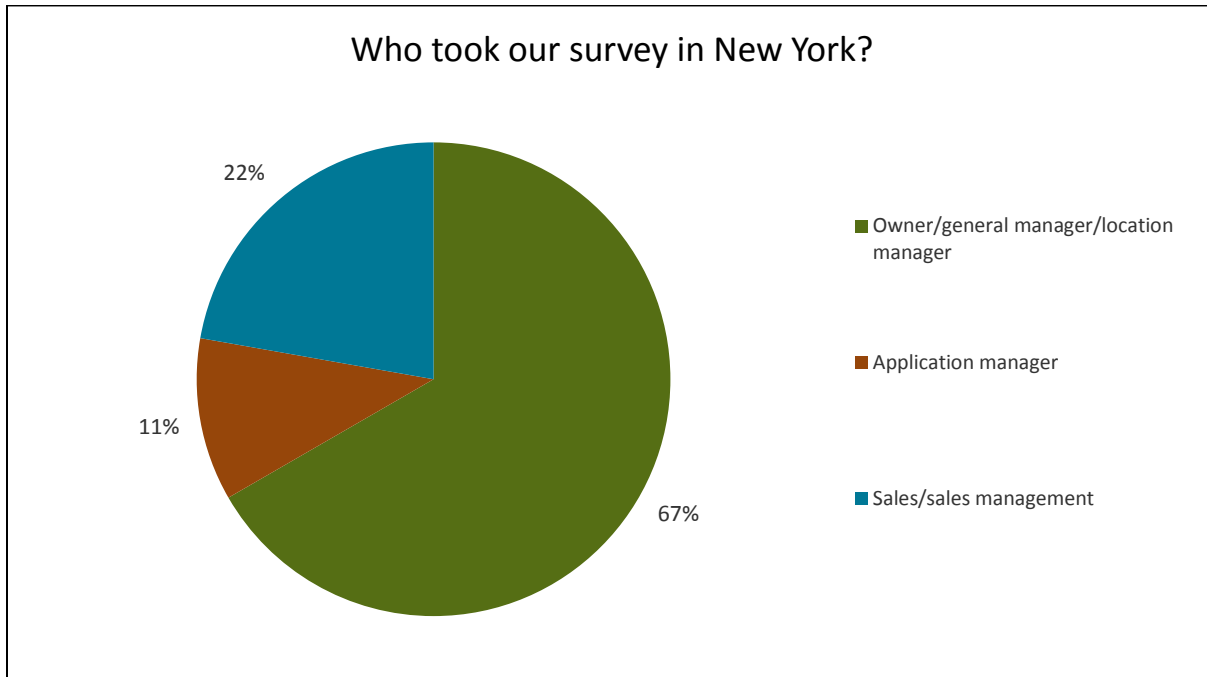
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www.partnershipfarm.org

Survey results overview

Nine ag retail locations participated in the inaugural year of our New York survey. Two-thirds (67%) of respondents hold owner/general manager/location manager positions, followed by sales/sales management at 22%. The participant numbers are a positive indicator that water quality is a priority for ag retailer leadership at participating locations.

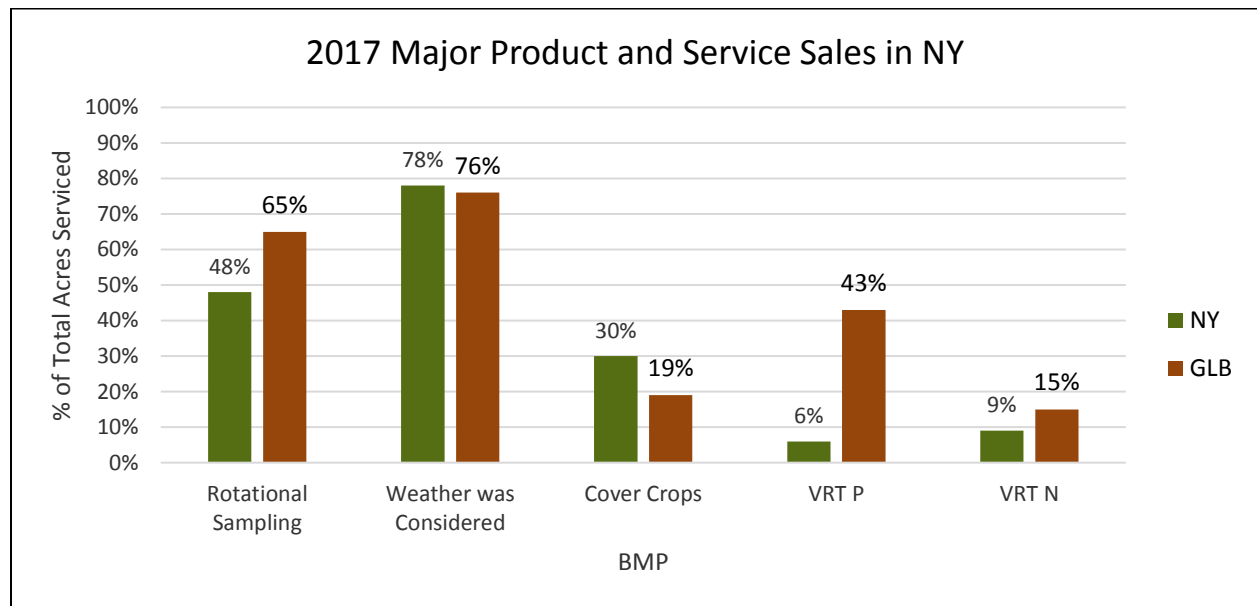


Survey participants represent over 400,000 acres of New York cropland, approximately 9.34% of total cropland.

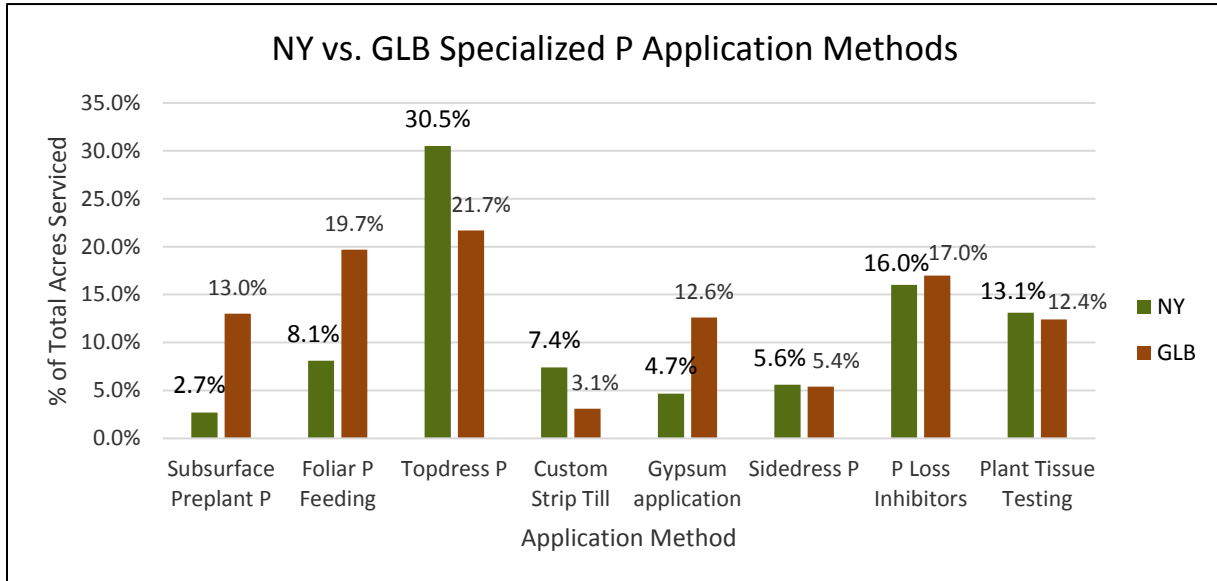
NY Descriptive Statistics	
Sum	405,000
Average	45,000
Maximum	100,000
Minimum	10,000

New York sales trends

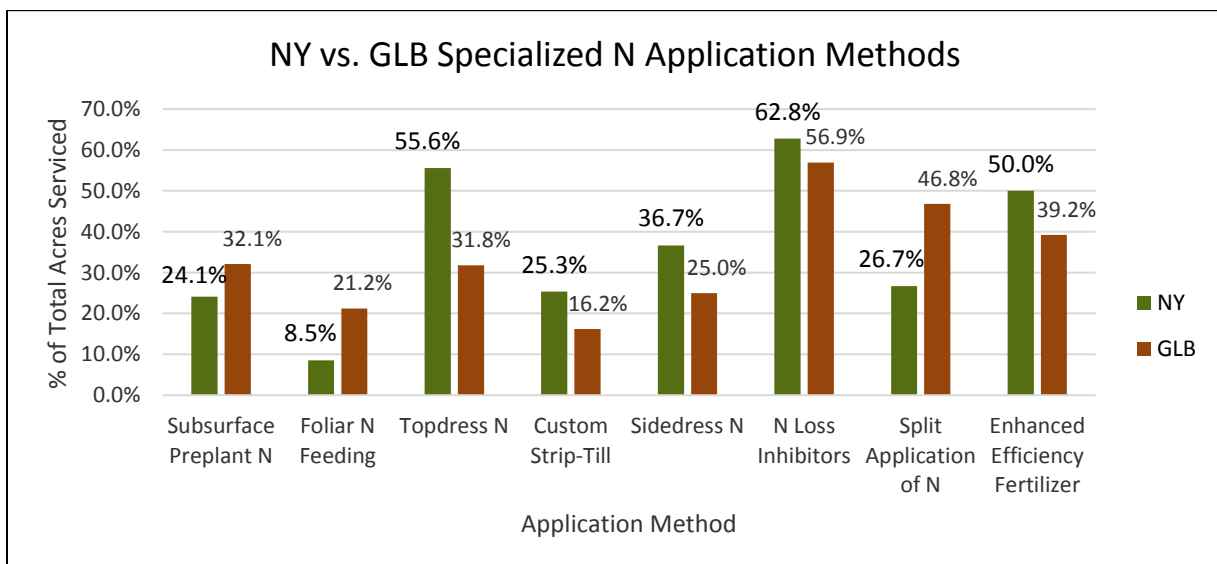
For the past three years, ag retailers in the Great Lakes Basin (GLB) have increased their sales of beneficial products and services due to water quality pressures. New York ag retailers have outperformed those states (Ohio, Minnesota, Michigan, Wisconsin, Indiana, Illinois and Ontario, Canada) in certain categories, including customer adoption of: 1. weather consideration before fertilizer application, to prevent the majority of applied fertilizers from draining into surface waters, and 2. cover crops which increase nutrient retention, water holding capacity and infiltration and overall soil health.



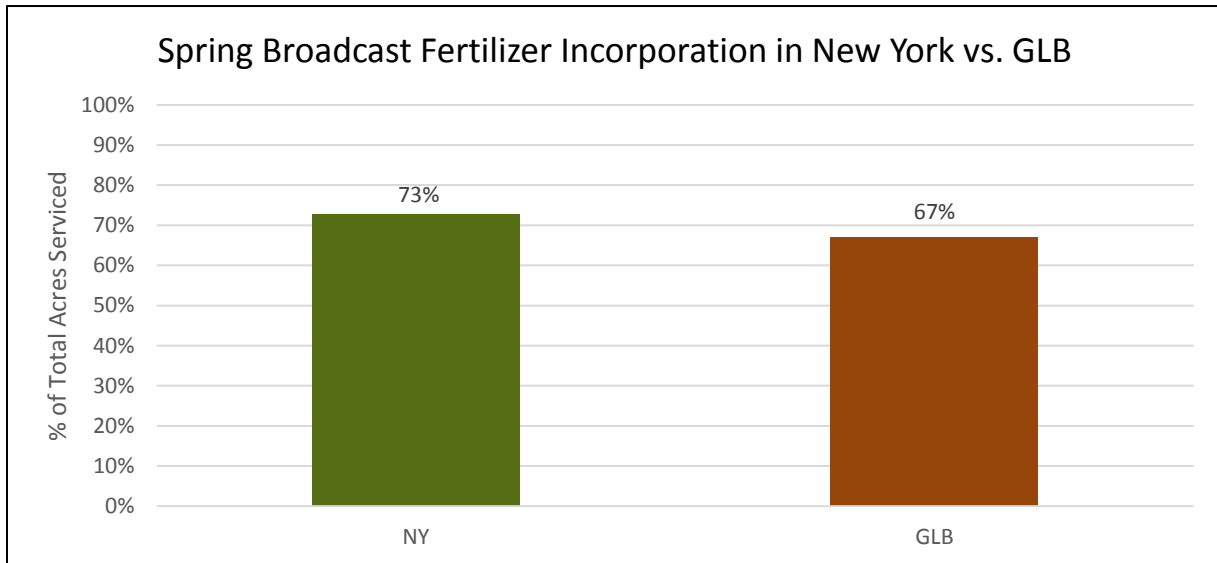
New York specialized application sales trends



Many New York retailers offer specialized application methods as reported here. Topdress, P loss inhibitors and plant tissue testing were the most common, with 30.5%, 16% and 13.1% usage across all reported acres, respectively. Those practices are all above or near rates seen in the GLB. The most common specialized N applications reported in our survey were N loss inhibitors, topdress N and enhanced efficiency fertilizers, with 62.8%, 55.6%, and 50% of all surveyed acres receiving these applications, respectively. All specialized N application had higher rates of adoption than their complimentary P application methods.



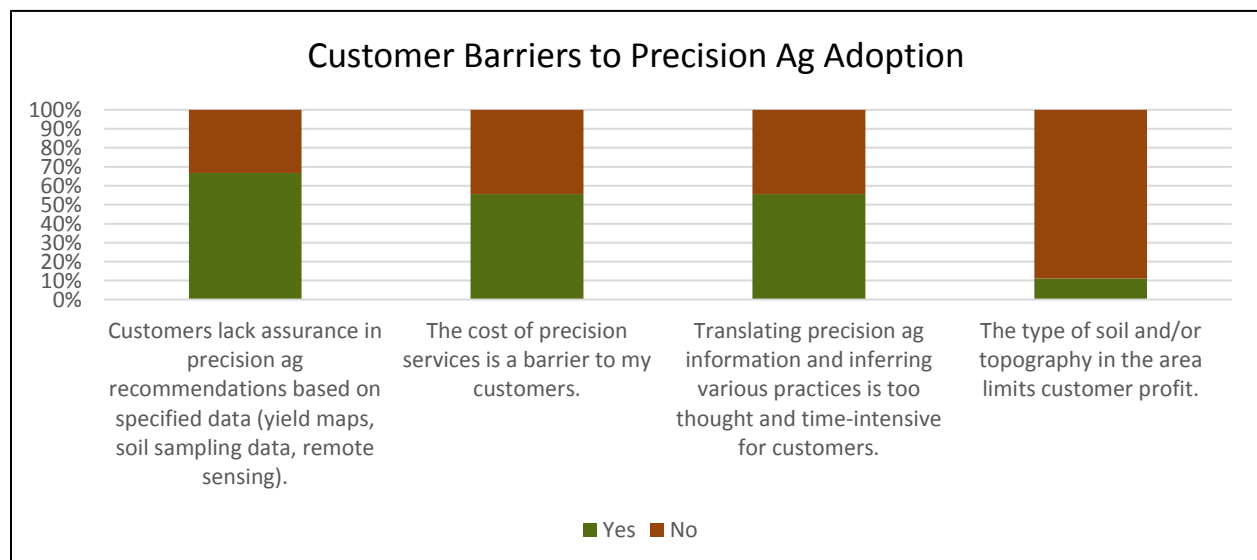
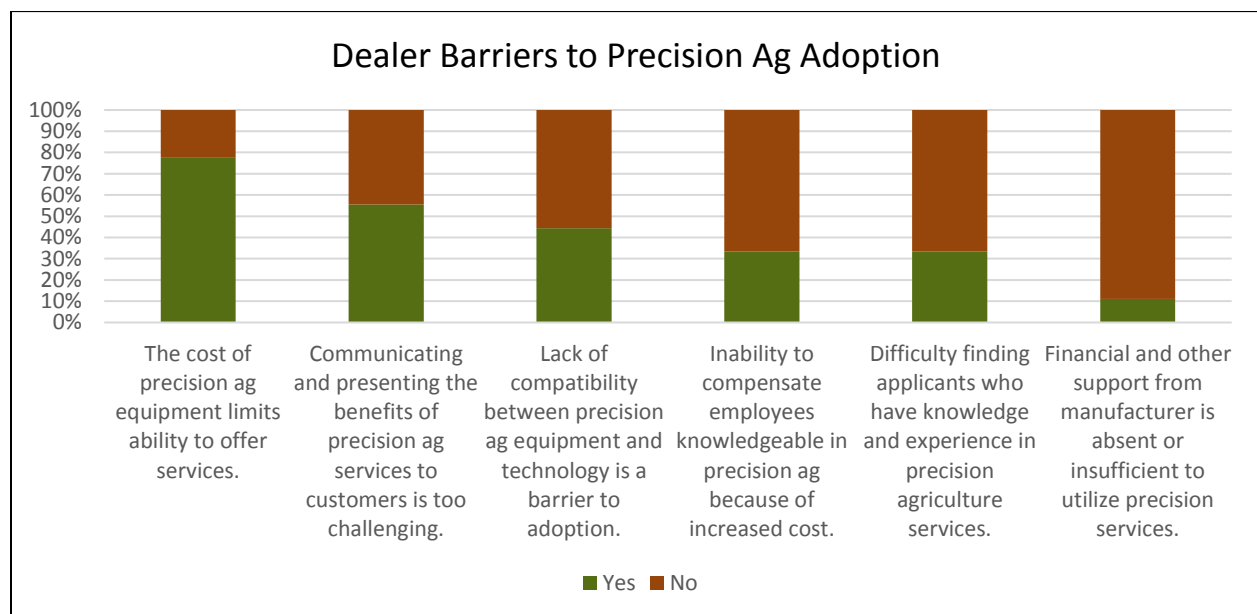
Fertilizer incorporation trends



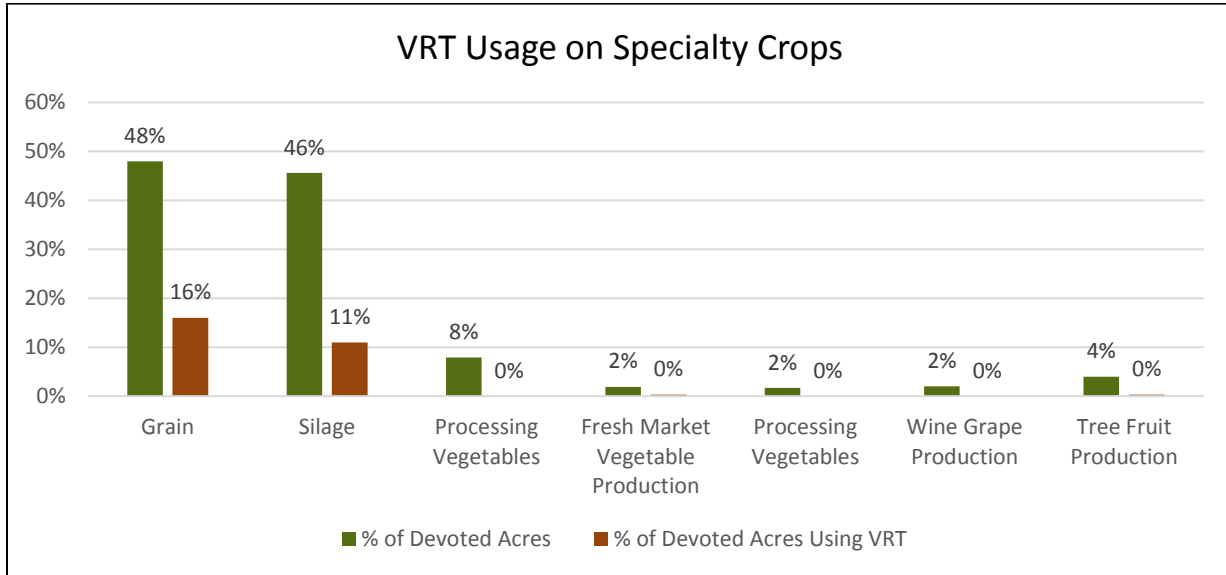
Spring broadcast applications of P were incorporated on 73% of acres serviced by participating New York ag retailers. New York surpassed the GLB for incorporation of spring broadcast fertilizer in 2017. Incorporation of broadcast fertilizer can reduce P losses, especially dissolved reactive P, which is the most bioavailable form of P that increases algal bloom growth. Light incorporation is preferred compared to tillage, which can increase risk of sediment and particulate P losses. Due to an error in the GLB 2017 survey, incorporation of fall broadcast fertilizer data is not included.

Barriers to adoption of precision ag

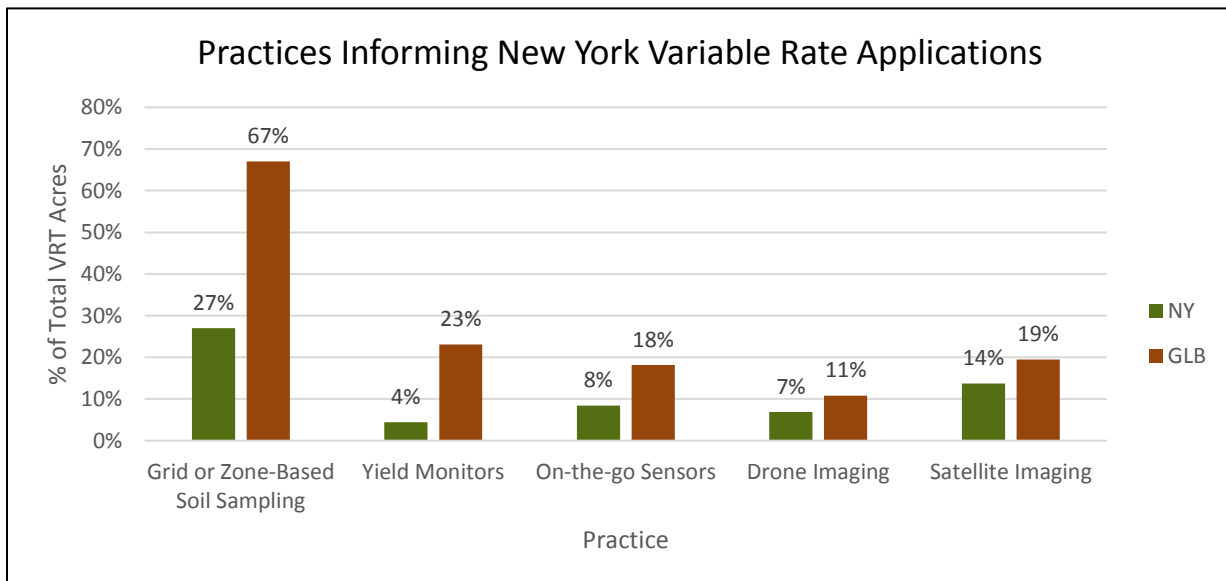
The primary barrier to customer adoption of precision ag was a lack of assurance in precision ag data. This directly corresponds with the second highest dealer barrier of communicating and presenting the benefits of precision ag services to their customers. PARM's goal is to provide the necessary information needed by both parties to ease implementation of precision ag and to better understand the market and economic benefits of adopting the practice. We are also seeking out cost-share opportunities to overcome the primary dealer barrier of high-cost equipment.



VRT practices in New York



Grain and silage were the primary specialty crops grown in the New York in 2017. These were the only specialty crops that received VRT applications. Less than 20% of devoted acres of grain or silage utilized VRT, leaving much room for improvement in these crops.



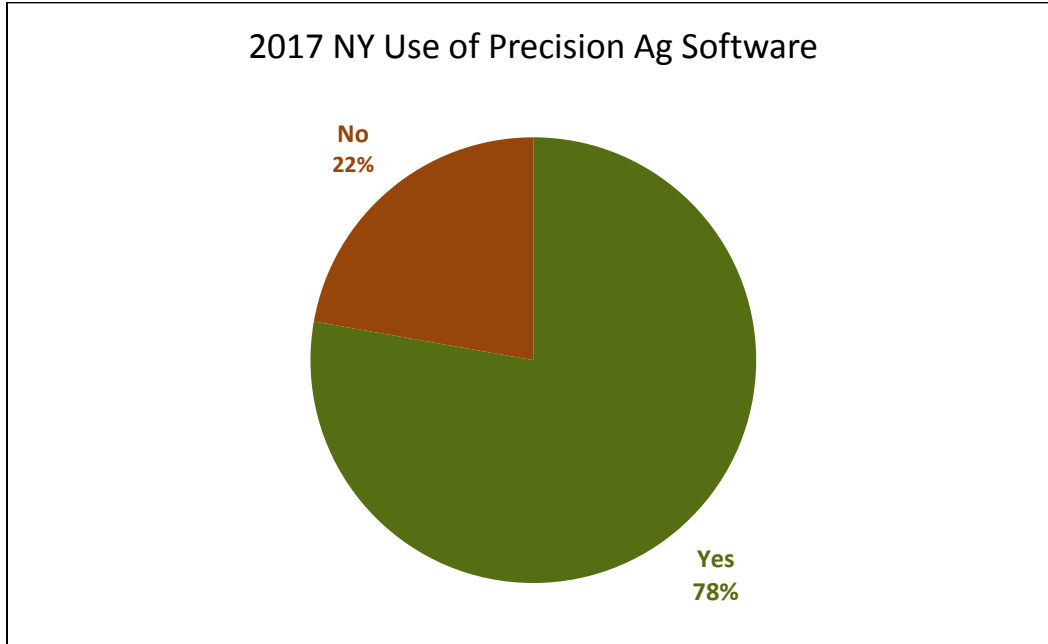
New York ag retailers and overall GLB retailers are using precision ag technology on serviced acres. VRT is a process that relies on several practices to determine nutrient application rates at geo-specific locations.

Profitability of products and services

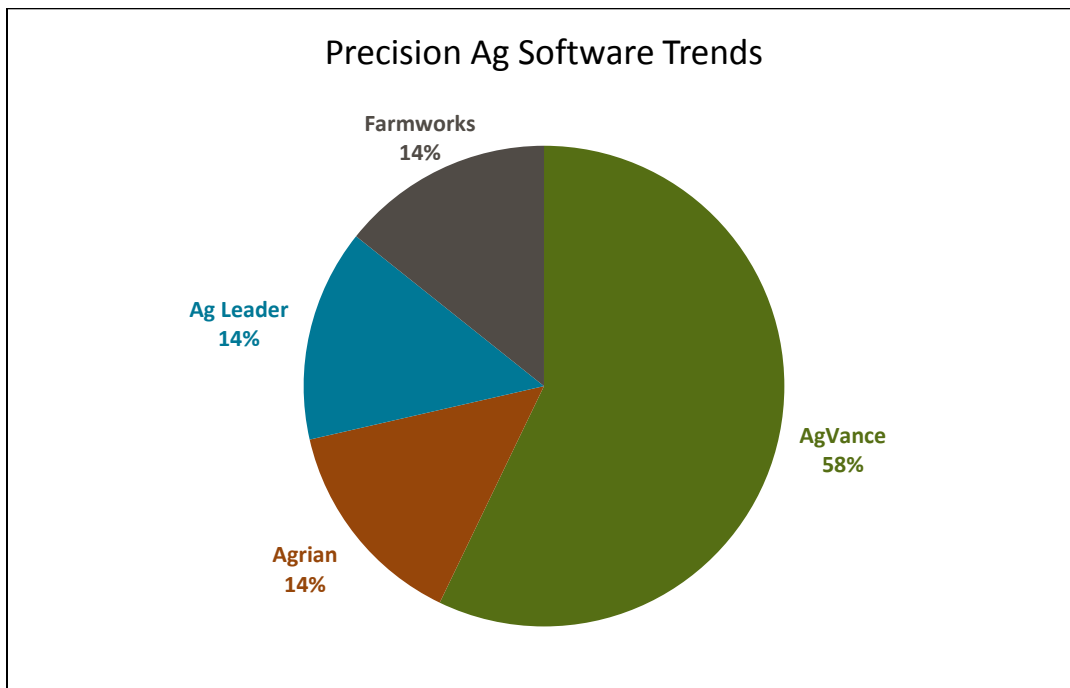
A majority of responding New York ag retailers reported making a profit or breaking even from the below products and services offered. The most profitable were the custom applications of subsurface preplant, topdress, and sidedress with 80%, 77.8% and 77.8% of those surveyed reporting a profit, respectively.

NY Profitability of BMPs 2017	I am not breaking even		I am breaking even		I am making a profit		I do not know		I do not offer this service		Total
	Count	% offering	Count	% offering	Count	% offering	Count	% offering	Count	% of total	
Cover Crops	0	0.0	5	62.5	3	37.5	0	0.0	1	11.1	9
Rotational soil sampling	1	12.5	1	12.5	1	12.5	5	62.5	1	11.1	9
VRT single nutrient application (N or P)	0	0.0	3	60.0	2	40.0	0	0.0	2	28.6	7
Subsurface preplant	0	0.0	1	20.0	4	80.0	0	0.0	3	37.5	8
Topdress	0	0.0	2	22.2	7	77.8	0	0.0	0	0.0	9
Sidedress	0	0.0	2	22.2	7	77.8	0	0.0	0	0.0	9
Foliar feeding	1	14.3	2	28.6	4	57.1	0	0.0	1	12.5	8
Gypsum application	1	20.0	1	20.0	3	60.0	0	0.0	2	28.6	7
Custom strip-till	1	50.0	0	0.0	0	0.0	1	50.0	5	71.4	7
Yield monitor with GPS	0	0.0	0	0.0	1	33.3	2	66.7	5	62.5	8
Yield monitor without GPS	0	0.0	0	0.0	0	0.0	3	100.0	5	62.5	8
VRT single nutrient application (N or P)	0	0.0	3	37.5	3	37.5	2	25.0	1	11.1	9
UAV or drones	1	20.0	1	20.0	0	0.0	3	60.0	3	37.5	8
Satellite/aerial imagery	1	16.7	1	16.7	0	0.0	4	66.7	2	25.0	8
Grid or zone sampling	2	28.6	1	14.3	2	28.6	2	28.6	2	22.2	9

Precision ag software



Of the total surveyed, 78% reported using precision ag software. The most widely reported precision ag software in use was AgVance at 58%. This differs from the GLB where SST is the most widely used precision ag software and AgVance is used by only 10% of respondents.





Many thanks to our participating ag retailers!

Ag Plus, Inc.	Churubusco, IN
Ag Pro Farm Service LLC	Corunna, MI
Ashland Crop Service Inc	Ashland, OH
Berkey Farm Center	Berkey, OH
Brickner Farm Service	Fostoria, OH
Carolina Eastern Crocker, LLC	Stafford, NY
Carolina Eastern Vail	Oriskany Falls, NY
Centerra Co-op	Sullivan, OH
Centerra Co-op	Andover, OH
Centra Sota Cooperative	Watkins, MN
Central Ohio Farmers Co-op	Marion, OH
Ceres Solutions	Clay City, IN
Ceres Solutions	West Point, IN
Conserv FS	Waterman, IL
Crop Production Services	Eaton, OH
Crop Production Services	Attica, OH
Crop Production Services	Dunkirk, OH
Crop Production Services	Marion, NY
Crop Production Services	Dixon, IL
Crop Production Services	Saline, MI
Crop Production Services	Chalmers, IN
Crop Production Services	Linwood, MI
Crop Production Services	Upper Sandusky, OH
Crop Production Services	Cohocton, NY
The DeLong Company, Inc.	Clinton, WI
Diversified Agri-Services Inc.	McCutchenville, OH
Gaerte Ag Service LLC	Defiance, OH
Georgetown Ag	Georgetown, OH
GROWMARK FS, LLC	Knowlesville, NY
GROWMARK FS, LLC	Gainesville, NY
GROWMARK FS, LLC	Caledonia, NY
GROWMARK FS, LLC	Kennedy, NY
Helena Chemical Company	Fowler, IN
Helena Chemical Company	Continental, OH
Heritage Cooperative	Upper Sandusky, OH
Heritage Cooperative	Sycamore, OH
Huron Bay Cooperative	Teeswater, ON
JENNINGS GOMER EQUITY	Gomer, OH



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Legacy Farmers Cooperative	Arlington, OH
Legacy Farmers Cooperative	Arcadia, OH
Lima Elevator Company Inc.	Howe, IN
Luckey Farmers, Inc.	Woodville, OH
Luckey Farmers, Inc.	Bradner, OH
Lucknow District Co-Operative, Inc.	Lucknow, ON
Lyon County Farm Service J.V.	Ghent, MN
Mercer Landmark	Ohio City, OH
Michigan Agricultural Commodities	Middleton, MI
Midwestern BioAg	Milledgeville, IL
Mid-wood, Inc. / Bascom Agronomy	Tiffin, OH
OHIGRO Inc.	Waldo, OH
Prattville Fertilizer and Grain	Pittsford, MI
Precision Ag Services Inc.	Wauseon, OH
Rio Creek Feed Mill	Algoma, WI
Rudd Spray Service	Watertown, NY
S&S Jerseyland Dairy	Sturgeon Bay, WI
Silver Creek Supply	Kenton, OH
Stratford Agri Analysis	Stratford, ON
Sunrise Cooperative	Attica, OH
Sunrise Cooperative	Fremont, OH
Sunrise Cooperative	Crestline, OH
Tarter Feed & Fertilizer	Canton, IL
The Andersons	Gibsonburg, OH
The Andersons	Fostoria, OH
The Andersons	Waterloo, IN
United Cooperative	Pulaski, WI
United Cooperative	Shawano, WI
United Cooperative	Coleman, WI
Wilbur-Ellis	Edmore, MI

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