

# Ag Retailers Continue Growth in Products and Services to Keep Phosphorus on Cropland: 2016 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, improving water quality. The effort expanded to the Great Lakes Basin (GLB) in 2015.

Our 2016 season survey represents our fifth year working with Sandusky ag retailers, and our second year for the entire GLB. The survey is critically important to learn and communicate ag retailers' voluntary efforts to help solve water quality problems within the Basin – without additional regulations.

Ag retailers continue to make tremendous progress, increasing sales of cover crops, variable rate application, soil sampling and other services, contributing to cleaner water for drinking, recreation and commerce, and improving profitability for agribusinesses and farmers.

## Survey highlights

- Sixty-two ag retail locations participated this year, reporting on 2016 product and service sales.
- Variable rate technology (VRT) P applications jumped 19% to 70% of the acreage serviced by participating Sandusky River Watershed ag retailers. In 2011, VRT was implemented on only 17% of the acreage serviced by these retailers.
- In the Sandusky, the average acres of cover crop sales increased from 10% to 22% of total acres serviced, and acres in rotational soil sampling programs increased from 59% to 79%.
- Great Lakes Basin-wide (GLB), VRT increased from 24% to 39% of acres serviced by our participating 62 ag retail locations.
- The most common specialized P applications reported in our survey were subsurface pre-plant P and foliar P feeding, with just over 8.4% and 7.1% of all surveyed acres receiving these applications, respectively.
- Based on estimates from publications by experts, these product and service sales represent more than 4.5 million lbs. of P retained for the crop, and kept out of waterways.

## Promoting products and services



In 2016, with support from the Great Lakes Restoration Initiative, we spearheaded a program for ag retailers to offer free VRT acres to farmers in specific watersheds who had not yet tried VRT. A total of 20,000 acres were made available, with 10,000 acres remaining to be allotted by 2019. Ag retailers interested in participating in this program are invited to contact Mark Adelsperger at [mark@partnershipfarm.org](mailto:mark@partnershipfarm.org).

Our free *Phosphorus Loss Reduction Handbook for Agronomists* is available for free download at <http://partnershipfarm.org/agronomist-handbook/>, along with new fact sheets on foliar feeding and soil sampling.

Free P loss wallet cards with helpful tips for agronomists and farmers continue to be available. More than 7,000 were distributed in 2016. Visit <http://partnershipfarm.org/p-loss-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.


[nutrientstewardship.com](http://nutrientstewardship.com) | [partnershipfarm.org](http://partnershipfarm.org)

**4R Nutrient Stewardship for Green Crops and Blue Lakes**

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




*Ag retailers driving stewardship and sustainability*



**PHOSPHORUS LOSS REDUCTION  
HANDBOOK FOR AGRONOMISTS**

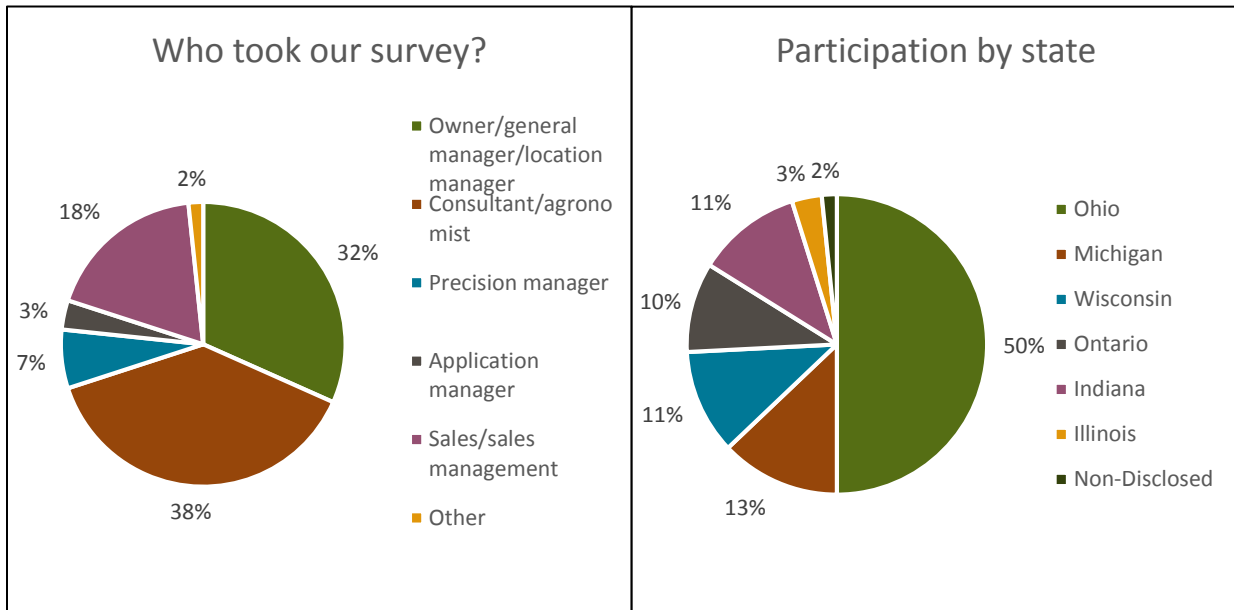
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August 2015





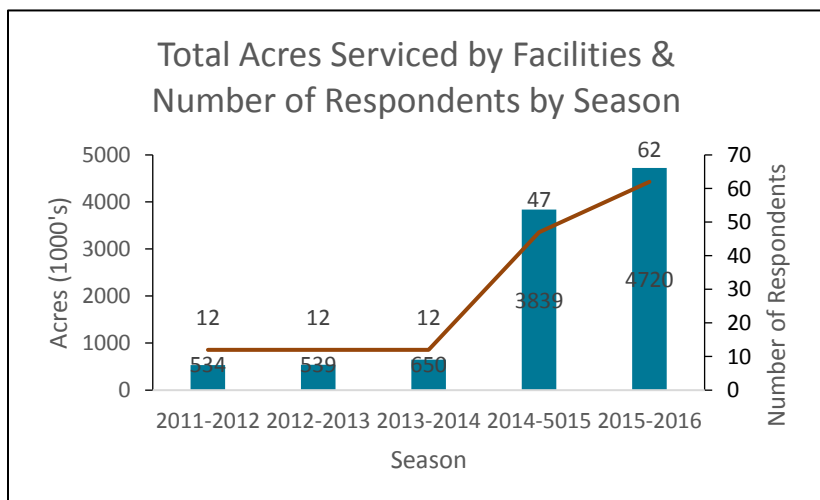
## Survey results overview

Sixty-two ag retail locations participated, located in Ohio, Michigan, Wisconsin, Ontario, Indiana and Illinois. Slightly more than one-third (38%) were completed by consultants/agronomists, followed by owner/general manager/location managers at 32% (below left). The participant numbers are a positive indicator that water quality is a priority for lead staff at ag retail locations. Half of the program participants were located in Ohio, the state where the survey was initiated in 2011 in the Sandusky River Watershed (below right).



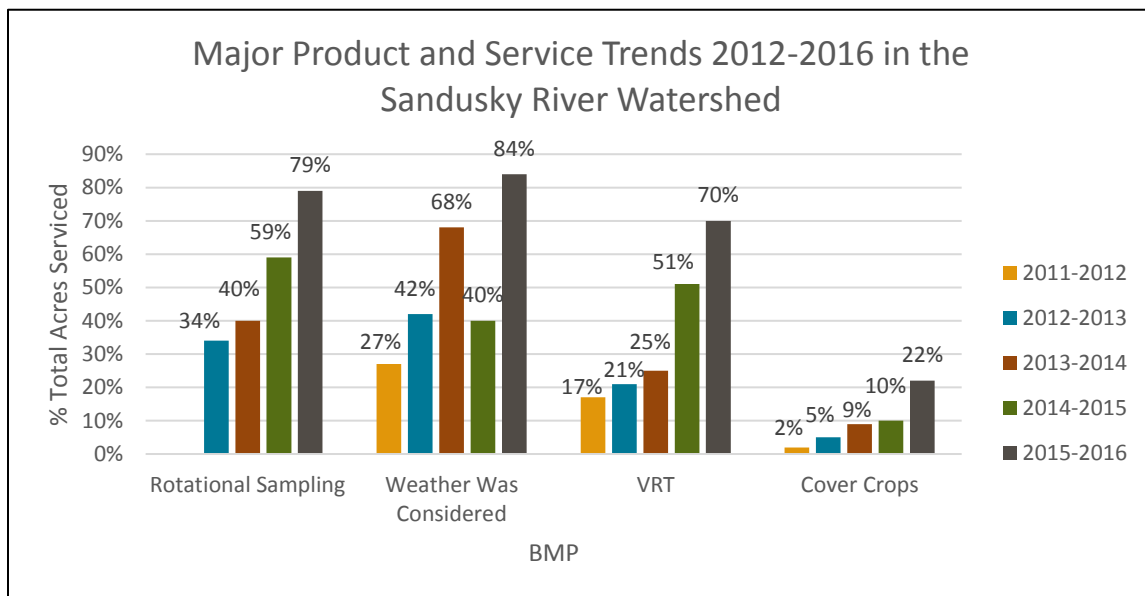
The total number of ag retailers and acres in the program increased in 2016 (chart below). The average number of acres serviced per retailer surveyed was 76,122 (table below).

	<b>Acres</b>
Sum	4,719,543
Average	76,122
Maximum	450,000
Minimum	300



## Sandusky River Watershed sales trends

This past year represents our fifth year surveying twelve ag retailers in the Sandusky River Watershed. Our 2016 results show continued increases in sales of major products and services which can reduce P losses. Of all acres serviced by responding retailers, rotational sampling (acres reported sampled at least every four years) increased 20% percent from 2015 to 2016. Acres reported for VRT also increased by 19% this past year.

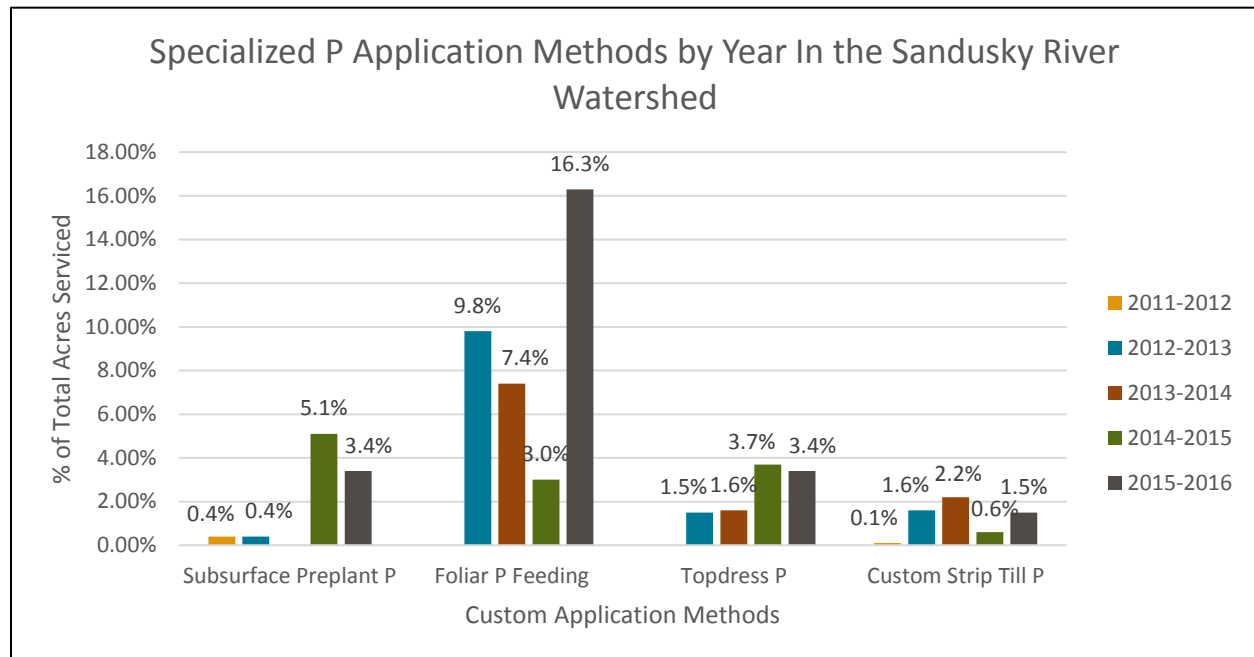


Acres reported with any type of cover crops have doubled from 10% reported in 2015 to 22% in 2016. The number of reported acres where weather was considered before fertilizer application surpassed 2013-2014 levels by 16% after dropping by 28% in 2014-2015.

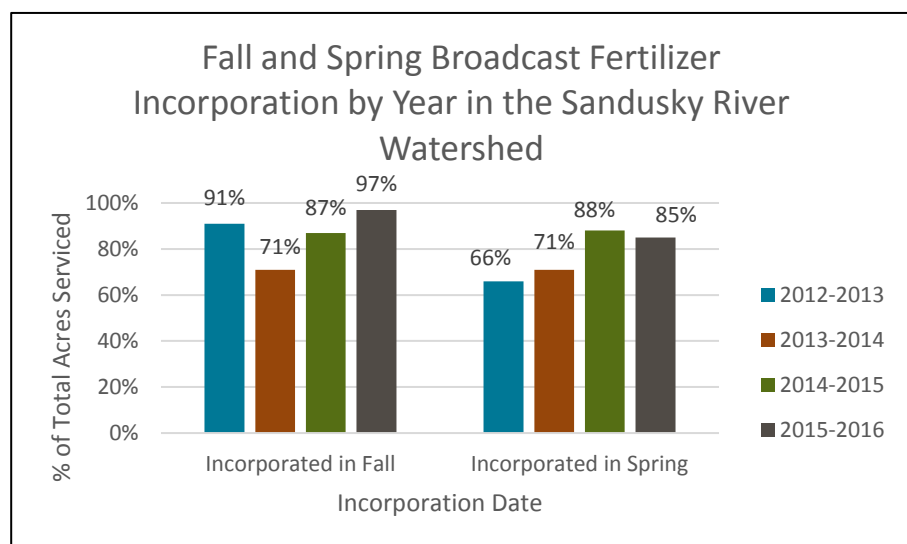
**What do these sales increases mean in terms of reducing the amount of P that leaves cropland and enters waterways?** Our review of published studies provides some insights: cover crops reduced P losses by an average of 0.63 lbs. per acre, VRT by 0.59 lbs. and rotational soil sampling 0.53 lbs. per acre when coupled with applying at Extension-recommended rates. Using these very rough estimates, ag retailers who responded to our survey reduced P losses by over one million lbs. from VRT sales alone!

## Sandusky results – continued

Many Sandusky ag retailers offer specialized application methods as reported here. Foliar P feeding and subsurface preplant P were the most common, with 16.3% and 3.4% usage across all reported acres, respectively. Foliar P feeding increased 13.3% from 2015 to 2016, while subsurface preplant P and topdress P declined. Custom strip till P rebounded to 2013 levels.



Light incorporation (2-3") of broadcast P applications can reduce P losses. In 2016, a reported 97% of fall broadcast application acres were incorporated as were 85% of spring broadcast acres, a 10% increase in fall and 3% decrease in spring compared to 2015. Data were not collected on incorporation in 2012.



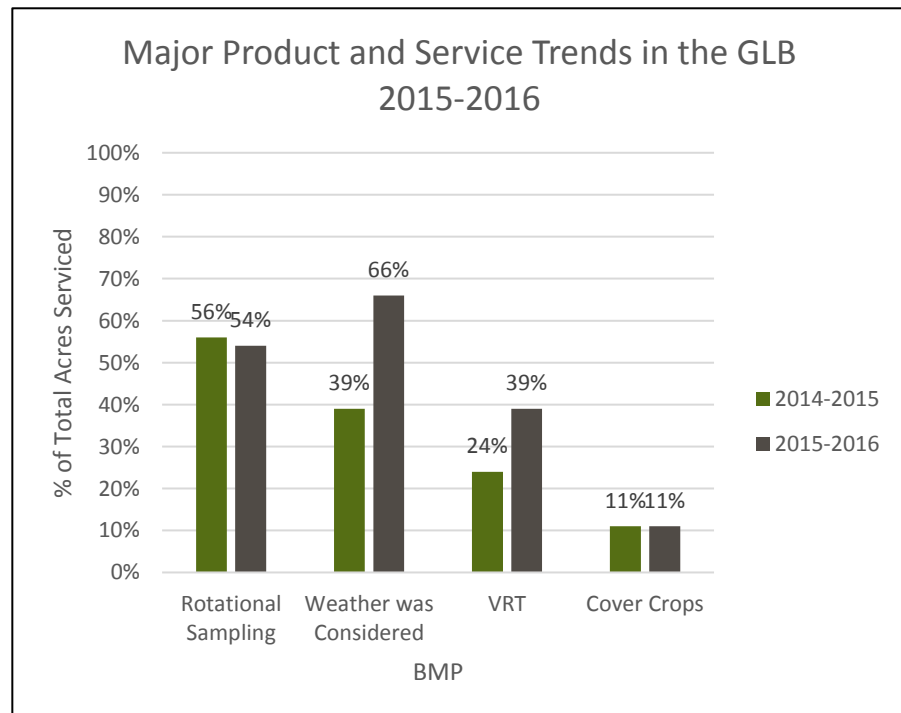


## Great Lakes Basin results

A majority of responding ag retailers reported making a profit on the products and services in the table below. The most profitable were soil testing, foliar feeding and VRT P application, with 65%, 64% and 61% of those surveyed reporting a profit, respectively.

Profitability 2014-2015	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	%	Count	%	Count	%	Count	%	Count	%	
Cover crops	0	0.0	12	26.1	23	50.0	8	17.4	3	6.5	46
Soil testing	3	6.5	8	17.4	30	65.2	2	4.4	3	6.5	46
VRT P application	0	0.0	7	15.2	28	60.9	1	2.2	10	21.7	46
Sidedress P	0	0.0	1	2.2	1	2.2	3	6.7	40	88.9	45
Topdress P	0	0.0	3	6.7	12	26.7	5	11.1	25	55.6	45
Foliar feeding	0	0.0	5	11.1	29	64.4	1	2.2	10	22.2	45
Gypsum application	0	0.0	9	19.6	15	32.6	5	10.9	17	37.0	46

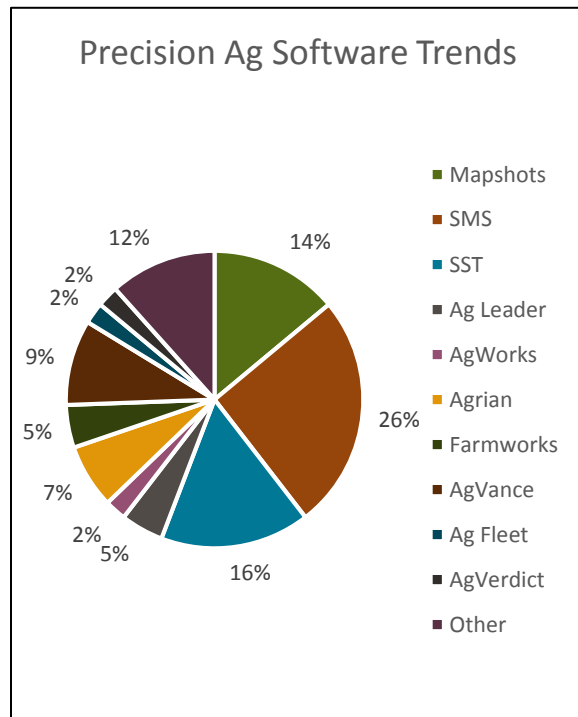
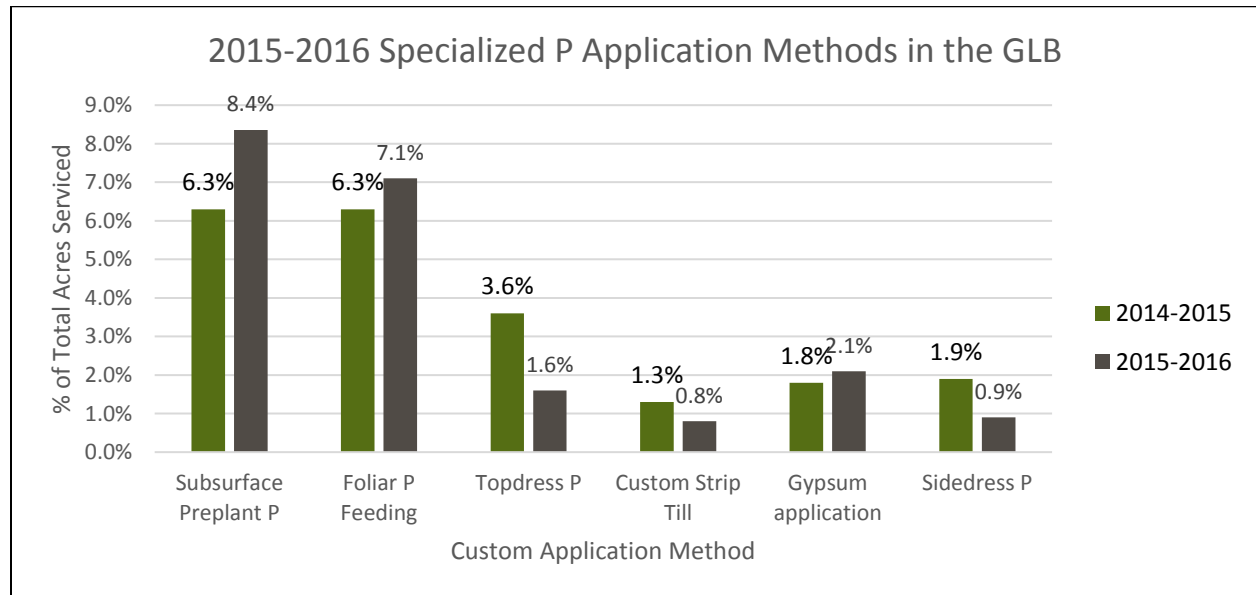
GLB-wide, weather was considered before fertilizer application on the greatest proportion (66%) of acres serviced. This percentage represents a 27% increase from last year. Rotational sampling decreased slightly for a total of 54% of reported acres. Additionally, 39% of the total acres surveyed utilized VRT, and cover crops were planted on 11% of acres.



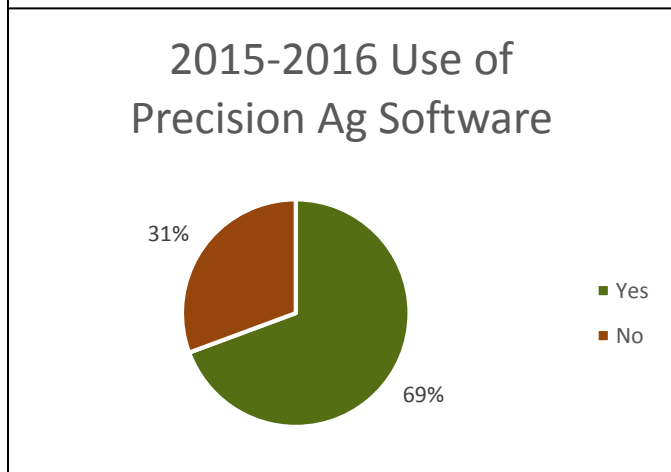


## Great Lakes Basin results - continued

The most common specialized P applications reported in our survey were subsurface pre-plant and foliar feeding, with just over 8.4% and 7.1% of all surveyed acres receiving these applications, respectively. Both of these methods have increased between 2015 and 2016. Gypsum, topdress P, sidedress P and custom strip-till were used on less than 2.5% of acres serviced.



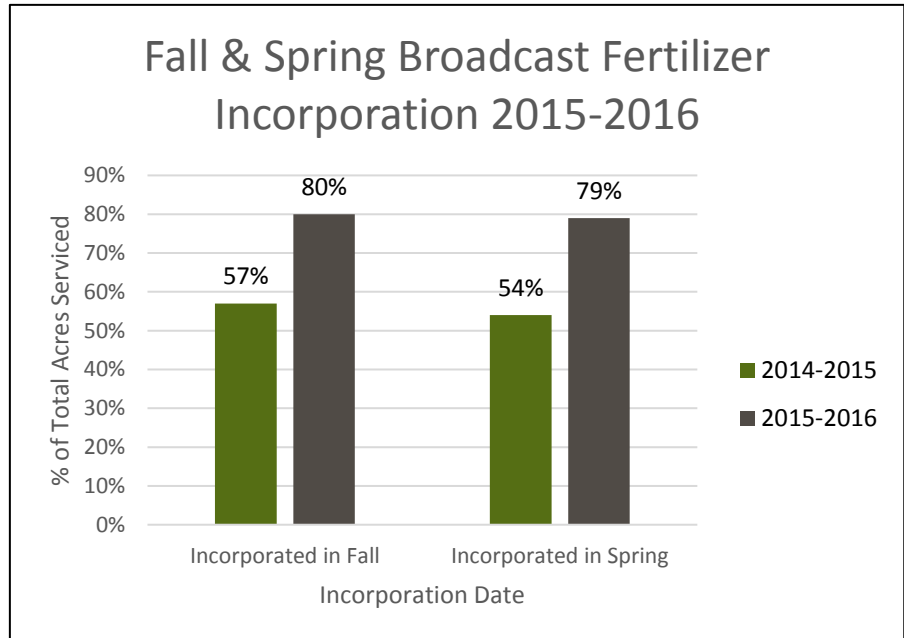
Over 2/3 of those surveyed use precision ag software (below right). The top three precision ag software reported in use were SMS with 28%, SST with 15% and Mapshots with 13% (left). These were the same top three programs reported last year.





## Great Lakes Basin results - continued

Fall and spring broadcast applications of P were incorporated on 4/5 of the acres serviced by participating ag retailers this year, an increase from last year. Incorporation can reduce P losses, especially dissolved reactive P, which is immediately available to aquatic algae. Light incorporation is preferred vs. tillage, which can increase risk of sediment and particulate P losses.



Of the ag retailers surveyed across the Great Lakes Basin, 62% listed unique products/services that benefit water quality. Some of those products and services are listed below.

<b>Other Unique Products/Services that Benefit Water Quality</b>	
Nutrient Management Planning	Fulvic and Humic Acids
4R Nutrient Stewardship Program	Aerial Cover Crop application/imaging
Foliar N, P, K and other micros	Plant Tissue Testing
Nitrogen Stabilizers	Nitrogen Watch
Buffer Strips	Agrotain





## Many thanks to our participating ag retailers!

AG PLUS	Churubusco, IN
Ag Pro Farm Service LLC	Corunna, MI
AGRIS Cooperative	Chatham, ON
Brickner Farm service LLC	Fostoria, OH
Central Ohio Farmers Co-op	Marion, OH
Ceres Solution	Rensselaer, IN
Ceres Solutions Templeton	Templeton, IN
Ceres Solutions West Point	West Point, In
Conserv FS Waterman	Waterman, IL
Country Visions Co-op	Chilton, WI
Country Visions Cooperative Chilton	Chilton, WI
Crop Production Services	Upper Sandusky, OH
Crop Production Services Attica	Attica, OH
Crop Production Services Chalmers	Chalmers, IN
Crop Production Services Linwood	Linwood, MI
Crop Production Services Saline	Saline, MI
Davis Farms	Delaware, OH
Diversified Agri Services	McCutchenville, OH
Embrun Coop	Embrum, ON
Etchen Lawn and Landscape LLC	Hicksville, OH
Gaerte Ag Service LLC	Defiance, OH
Green Field Ag LLC	Gibsonburg, OH
Gypsoil	Sturgeon Bay, WI
Halt Riven Farm	Caledonia, IL
Heritage Cooperative Sycamore	Sycamore, OH
Heritage Cooperative Upper Sandusky	Upper Sandusky, OH
Huron Bay Co Operative	Teeswater, ON
Jerseyland Dairy	Sturgeon Bay, WI
Kucera Consulting	Alvinston, ON
Legacy Farmers Coop	Arlington, OH
Legacy Farmers Coop Arcadia	Arcadia, OH
Legacy Farmers Coop Arlington	Arlington, OH
Lima Elevator Co. Inc.	Howe, IN
Lucknow Co-operative	Lucknow, ON
Mercer Landmark Ohio City	Ohio City, OH
Michigan Agricultural Commodities	Middleton, MI



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United Cooperative Pulaski  
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