



Weekly Spring
Newsletter

April 20, 2018

CaroVail

Locations

Auburn

55 Columbus St Auburn, NY 13021
800-492-4929
315-253-7379

Bernardston

472 Northfield Road
Bernardston, MA 01337
413-648-9900

Niverville

831 Route 28 Niverville, NY 12130
800-852-8012
518-784-9166

Oriskany Falls

8341 US State Rt 20
Oriskany Falls, NY 13425
888-991-9292
315-841-3201

Salem

4134 State Rt 22 Salem, NY 12865
800-390-1930
518-854-9446

Tri Valley Crop Center

337 State Hwy 162
Sprakers, NY 12166
800-800-4289
518-673-5336

Miller Spraying

8624 State Route 26
Lowville, NY 13367
315-376-6509



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Happy Earth Day!

Sunday April 22, 2018 – **Earth Day!** Earth Day has been held annually in April since 1970 and is celebrated in more than 193 different countries. Earth Day began by U.S. Senator Gaylord Nelson after the 1969 oil spill in California. On April 22, 1970, twenty-two million Americans rallied for a healthy, sustainable environment. Today, over one billion people celebrate Earth Day.

It is no surprise that agriculture often takes the fall for many of the soil, water, and air quality concerns of the public, but what are agricultural retailers doing to reduce our environmental impact? **The 4R Nutrient Stewardship Program** – that’s what!

Growers are already doing their part by implementing BMPs, nutrient management plans, no till, cover cropping, IPM, and so much more.

By becoming members of the **4R Nutrient Steward Program**, we can decrease environmental impact, increase productivity, preserve biodiversity, and address environmental impacts at the farm level and throughout society.

The program promotes proper plant nutrition and soil protection through the correct use of crop nutrients.

The 4R’s – the right source, the right rate, the right time, and the right place

Through the **4R Nutrient Stewardship Program**, preserving natural ecosystems can be achieved. *We are stewards of the Earth.*



RIGHT SOURCE

Matches fertilizer type to crop needs.



RIGHT RATE

Matches amount of fertilizer type crop needs.



RIGHT TIME

Makes nutrients available when crops needs them.



RIGHT PLACE

Keep nutrients where crops can use them.

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Sulfur

The same year that Earth Day began, the Clean Air Act came into effect. The impact the Clean Air Act had on air pollution was enormous; with decreases in air pollutants – specifically, the sulfur dioxide emissions from coal burning facilities. This led to a decrease in acid rain, which in turn, decreased the amount of atmospheric sulfur available for plant uptake.

Sulfur has become the fourth major plant nutrient for crop production. Sulfur (S) in the plant increases nitrogen (N) efficiency, increases protein in forage and grain, boosts yield, helps develop enzymes and vitamins, promotes N fixation in legumes, aids in seed production, controls nitrate build up in plants, and is necessary in the formation process of chlorophyll. There is a strong relationship between Nitrogen and Sulfur in the plant ratios – varying between N/S 15/1 - 7/1. When fertilizing with N, the addition of S will increase N Use Efficiency. The addition of S to N fertility has an environmental effect of reducing nitrate leaching potential.

The soil organic matter contains the largest amount of the soils S. For this S to be converted to the plant available Sulfate (SO₄), bacterial oxidation must occur. The sulfate form is soluble, moves through the soil with the soil water, and is readily leached under high rainfall events. Soil texture will affect S opportunity. Sandy soils present the biggest challenge maintaining high organic matter (OM) levels and their high leaching potential.

The intensification of agriculture with improved crop varieties pushing higher yield potentials, improved air quality, low sulfur fuels, and sulfur free plant protection materials have increased the need for the addition of sulfur in crop production. Increasing organic materials in the soil by using animal wastes and cover crops will help stabilize soil S. Along with the addition of S through the growing season, paying close attention to high protein crops and crops using large amounts of N is important in sulfur management.

Measuring S in crop production systems is challenging. Testing for OM levels through soil testing, knowledge of cropping systems, and tissue analysis will provide some of the best indicators. Forage samples may also give some insight into S use by the crops by observing % protein and S containing amino acids. The soil test for S without additional information may be misleading depending on time of year the sample is taken and the soil temperature.

Again, it is best to look at other soil and crop needs before choosing a source, but S can be added to fertility programs with several products. Crop type, soil information, and yield goals should be used to determine crop needs and sources.

Ammonium Sulfate will supply readily available S along with N

K-Mag or SPM will provide S, Potassium (K), and Magnesium (Mg)

Ammonium Thiosulfate (ATS) with UAN liquids

Gypsum, which is Calcium Sulfate, will provide Calcium if needed

MgSo₄, or Epsom Salt, can provide Mg and be used as a foliar

Sulfate of Potash can provide a low salt source of K along with S

Spreader Calibration

Uniform and accurate application of fertilizer is essential, so it is extremely important that we calibrate our spreaders. This allows us to carry out any necessary adjustments or improvements to our equipment.

Here we have pan testing, which provides a spread pattern evaluation. It allows the operator to make adjustments that will improve the uniformity of the spread pattern. By pan testing, we are able to determine the type of spread pattern, the effective swath width, and the rate of application. This insures we provide a uniform and accurate fertilizer spread pattern for each application.



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Weekly Weather Report

	Approx. Weekly Rainfall (in)	Avg. Expected High Temp Next Week (F)	Avg. Expected Low Temp Next Week (F)	GDD (Base 50) since Jan 1	GDD (Base 50) since Mar 1	GDD (Base 50) since Apr 1	GDD (Base 50) since May 1
Auburn	.64	55	43	5.5	0	0	-
Bernardston	.79	59	38	18.1	6.9	6.9	-
Lowville	1.72	53	37	2.6	0	0	-
Niverville	1.07	58	40	22.7	5.7	5.7	-
Oriskany Falls	1.78	52	37	13.8	1.6	1.6	-
Salem	1.07	57	39	24	3.5	3.5	-
TVCC	1.12	57	39	9.7	4.0	4.0	-