

Logan Ag News

November 2015

NH₃ Application Safety

One of the most dangerous farm activities is the application of anhydrous ammonia. An estimated 80% of reported accidents result from improper procedure, lack of knowledge or training, and failure to follow proper safety precautions.

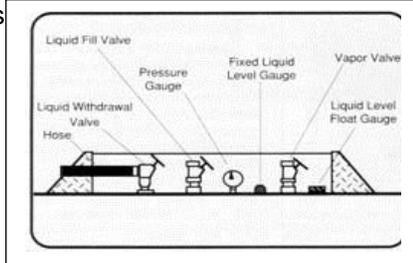


Diagram of NH₃ nurse tank valves

What is anhydrous ammonia, and why it is risky to handle? It is made up of 1 part nitrogen and 3 parts hydrogen (NH₃). It is compressed into and stored in a liquid state. As outside temperature increases, the temperature of the liquid in the nurse tank increases and the liquid expands, causing tank pressures to increase. At 60° F, tank pressure is 93 psi; at 100° F, tank pressure is nearly 200 psi. When this pressure is released, the liquid quickly converts to gas.

The word “anhydrous” means “without water”. Thus, when ammonia comes in contact with any moisture, the water and ammonia combine. When injected into the soil, liquid ammonia converts to gas and is absorbed in the soil moisture. If it comes into contact with your skin, eyes, or mucous membranes such as nasal cavities and lungs (all containing moisture), ammonia causes immediate dehydration and severe burns.

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LOCATIONS

- * Griggsville, IL (217) 833-2375; 1-800-LOGAN AG
- * Pittsburg, OH (937) 692-5181 (JACK BAKER)
- * Paris, MO (573) 406-8579 (DEAN OSBORN)

www.LOGANAG.com



Straight Talk About N-Serve

More than 35 years ago, Logan Ag President Edward Logan began recommending N-Serve® nitrogen stabilizer. Field trials consistently proved corn yield increase and harvest moisture decrease in spring and fall anhydrous ammonia applications. Today’s “hot button” water quality issues (nitrates in water supply) provide another consideration for use of N-Serve.

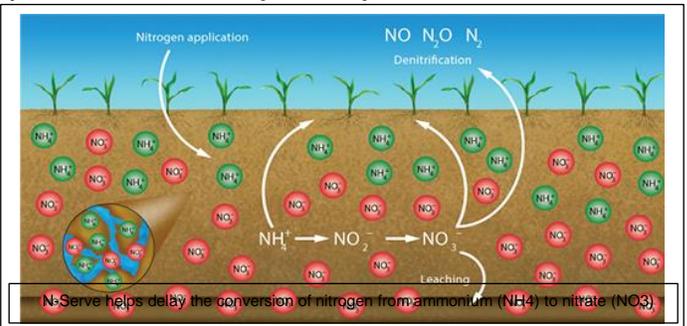
Logan, one of the first Certified Crop Advisers in the U.S., has served as panelist for N-Serve on Beck Ag conference calls with growers in IL, IA, MO, NE, and OH for several years. Some of the Q&A directed to Logan from these discussions with growers is outlined below.

Q: Tell us about the reasons you recommend N-Serve with anhydrous ammonia?

A: “N-Serve helps maintain nitrogen in the ammonium form as long as possible for optimum yield. The majority (2/3) of N loss occurs in the spring. It does not occur in the fall as many believe. Both fall and spring N applications must be protected.”

Q: What benefits of using N-Serve do your customers most appreciate?

A: “I think the obvious benefit is an average 5-7% yield increase. Beyond that, however, is harvest moisture decrease. Not many discuss the benefit of reduced harvest moisture, but because N-Serve helps keep nitrogen in the ammonium form for a longer period of time we consistently realize 1% drier corn at harvest. The corn plant can uptake both nitrate and ammonium nitrogen, but nitrate N must be converted to ammonium N in the plant before it can be utilized. This conversion process requires the plant to expend energy that would otherwise be used in normal plant functions, and delays maturity.”



Q: How do you recommend N-Serve to your customers?

A: “When we encounter a new client who has no experience with N-Serve, we discuss the nitrogen cycle and availability of nitrogen to the plant. I sometimes use a football analogy.

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Anhydrous ammonia boils at -28°. When liquid ammonia strikes skin, it immediately freezes (burns) the tissue.

Anyone handling, transporting, or applying anhydrous ammonia must be aware of the inherent dangers of the product and utilize all common safety procedures.

Protection for eyes and skin is paramount.

- ✓ ***Wear tight fitting unvented goggles***
- ✓ ***Wear unlined rubber gloves***
- ✓ ***Wear long-sleeved shirt or jacket***
- ✓ ***Have access to fresh water at all times***

Fresh water is the immediate first aid for victims of ammonia exposure. All nurse tanks have 5 gallon containers of water mounted on the side of the tank. It is highly recommended that applicators have an additional container of water available in the tractor. Flushing exposed skin or eyes with water helps neutralize the effects of the ammonia. Carefully remove contaminated clothing (it may be frozen to skin) as soon as possible. Do not apply salves, creams, or ointments to "burned" areas of skin. Seek medical attention immediately.

For those involved in transportation of wagons, additional precautions are necessary.

- ✓ ***Use hitch pins provided with the wagon. If missing, make certain the pin used is adequate size for the wagon (3/4" or larger recommended)***
- ✓ ***Always use a safety clip with the hitch pin. This is important even when pulling a wagon behind the tractor in the field***
- ✓ ***Hook up safety chains when pulling wagons with trucks or tractors***
- ✓ ***Follow speed limit. Anhydrous wagons have SMV decals. Speed limits typically range from 25-30 MPH***
- ✓ ***Do not move wagons after dark without additional lighting on the wagon***

During the application process, be certain to use the personal protection equipment outlined above when hooking hoses to the tool bar. Know the purpose of the valves and gauges in the diagram shown on page 1. Do not handle hoses by the valve wheel. Be certain to completely bleed valves before disconnecting hoses. Take time to think before acting, and consider the consequences of any misstep.

New Products For 2016

Two new products are available for corn producers in 2016. **Armezon® Pro** from BASF contains the active ingredients found in Armezon and Outlook® herbicides, and is to be used in post-emergence applications to provide knock-down and residual control of broadleaf weeds and grasses. It's wide application window (emergence – V8), crop safety, low use rate (16-20 oz), and excellent waterhemp control make this product a good alternative in either 1 or 2 pass systems.

Aztec® HC is a new highly concentrated formulation of Aztec insecticide. Aztec HC, available in SmartBox® or bags, provides control of corn rootworm and secondary pests at a new lower rate of 1.63 LB per acre in 30" rows. It replaces Aztec 4.67G SmartBox and Aztec 2.1G bags. Compared to Aztec 4.67G SmartBox, Aztec HC covers twice as many acres with every SmartBox.

Armezon and Outlook are trademarks of BASF. Aztec and SmartBox are trademarks of AMVAC Chemical Corporation.

PPO Herbicide Resistance Issues Mount

Farmers are finding more fields with weeds, especially waterhemp and Palmer amaranth, that are resistant to PPO herbicides such as Cobra®, Flexstar®, and Ultra Blazer®. Resistance to these herbicides, long viewed as the last alternative to glyphosate in both Roundup Ready® and non-GMO soybeans, places a greater emphasis on full use rates of pre- and post-emergence herbicides to control troublesome weeds.

Logan Ag first discovered PPO resistant waterhemp west of Griggsville approximately 10 years ago. Since that time, populations throughout IL and MO flourished. Reports in 2015 confirmed resistant weeds in Arkansas and Tennessee. Kevin Bradley, weed scientist at the University of Missouri, reports "waterhemp populations with PPO resistance in Illinois are greater than 50%", and he believes resistance in Missouri is approaching 50%. Resistant populations of weeds are often spread by combines moving from field-to-field. Larry Steckel, weed specialist at the University of Tennessee, also believes the resistant gene may be spread through pollen transfer from male to female weeds.

There are plenty of fields where full-rate use of labeled pre-emerge herbicides followed by post-emerge applications of glyphosate plus PPO herbicides will adequately control weeds. However, if you experienced weed control issues in 2015 or in previous years when fields have been planted to soybeans, specific actions are recommended.

1. Rotate to corn. Several herbicides can be used pre- and post-emerge in corn to control PPO resistant weeds to help reduce seed production.
2. Use "full-rate" pre-emerge herbicides (products containing Valor®, Authority®, and/or Zidua® are recommended), followed by "layered" post-emerge application of residual herbicide such as Outlook®, Warrant®, or Parallel™.
3. Utilize new technologies such as Roundup Ready 2 Xtend™ (if available) or LibertyLink® soybeans, and follow recommended herbicide programs that include pre-emerge and post-emerge applications.
4. Consult your Logan Ag crop specialist for specific recommendations.

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PPO resistance will continue its rapid spread throughout the Midwest. Resistant weed species and the ongoing battle to control them require considerable planning, possible use of different soybean technologies, and herbicide programs with multiple modes of action.

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Final Comments

Edward L. Logan, Logan Ag President

Logan Ag is geared up and ready for NH₃ application

season from both the Griggsville and Perry facilities. Remember to delay application until after soil temperature at the 4" level is 55° or less, and use N-Serve in every tank. Logan Ag has plenty of tanks to keep our customers



well supplied. Custom application is available. Schedule your acres now. We strongly recommend fall application of ammonia where feasible to avoid supply and equipment issues next spring. We saw the bottleneck that lack of fall product movement causes in the spring of 2015.

The **Mobile Update** program from Logan Ag sends pertinent messages to growers four times each month with advice on diseases, weed pressure, application timing, and much more. To receive messages on your mobile phone, **text Logan to 91217 and be in the know on the go!**

Logan Ag's redesigned web site is online now at www.loganag.com. View the web site for product information and labels, sales contacts, weather forecasts, market updates, and more. Past issues of "Logan Ag News" can be found under the News & Markets tab at the top of the home page.

For those interested in contracting diesel fuel for 2016 and beyond, contact Petroleum Sales Manager **Jordon Schaver** in the Griggsville office. Contracts are available for spring and fall volumes to be delivered as needed.

We've been pleasantly surprised by soybean yields in 2015. Beans treated with fungicide, insecticide, and inoculation survived saturated soil conditions early and yielded very well. Corn, however, has been somewhat disappointing for many. Fungicide application at tassel boosted yield dramatically with some reporting 30 bushel per acre or more increase. Tiled ground paid big dividends, especially in relatively flat fields. Many feel they recovered as much as 50% of the tiling expense this year alone. Reviewing yield on the Logan Ag farm, flat black dirt with pattern tile was about 50-75 bushels per acre below year-ago yields. We've heard reports of untilled flat fields where final yield dropped to 75 bushels per acre or lower. Slopes where water could drain provided excellent corn yields with some reporting "best-ever" yields. I can't help but think and hope that price recovery for corn will reward those with storage capability. Watch markets closely, consult market advisers, and sell price spikes.

Consider **nitrogen** as the **quarterback** of your football team, and think of **N-Serve** as your **offensive line**. You would not send your quarterback into the game without his offensive line, and you should never apply nitrogen without some protection. N-Serve protects nitrogen against leaching and denitrification, keeping it available for uptake by the corn plant when it is most needed. Beyond that, however, it's the right thing to do. As an industry, we must support the 4 R's of plant nutrition – apply the **right fertilizer source at the right rate at the right time and in the right place**. Poorly managed nutrient applications can decrease profitability and increase nutrient loss, potentially degrading water and air quality." N-Serve is a trademark of Dow AgroSciences.

2016 Soybean Seed Selection

There are several important considerations when selecting soybean varieties for the next growing season. A review of these factors with your Logan Ag seed specialist will help get you on the right track to successful soybean yields next year.

- Compare yield performance from 2015 in various maturity groups and varieties from your own farm and area/regional plots
- Know your soil types and review adaptability of varieties on various soils. One variety typically does not fit all soil types
- Spread your risk with various maturities to defend against weather extremes and ease harvesting schedule
- Select varieties to match row width. 15" or drilled beans require more upright plant types as opposed to 30" rows where bushy plant types work best
- Know your inherent disease and insect pressure, and treat soybean seed accordingly with fungicide and insecticide. Treatment is available to fight soybean cyst nematode and Sudden Death Syndrome, as well as Phytophthora root rot and Rhizoctonia. There is no recovery from early season disease pressure. Seed treatment often prevents replant, and protects your yield potential. Inoculation, applied with the seed treatment, can increase yield as much as 2 bushels per acre

In central Illinois and east-central Missouri, Logan Ag recommends late group 3 and early group 4 maturity. Order 2016 soybean now for best selection and price.

Meet The Logan Ag Team

Edward Logan-President, **Betty Logan**-Vice President, **Josh Schaver**-Secretary/Agronomy Sales Manager, **Troy Kennedy**-Plant Manager, **Carla Finson**-Office Manager, **Mandy Bonds**, **Peggy Stanley**, **Laura Wainman**, **Jordon Schaver**-Petroleum Sales Manager, **Mike Sargent**, **Jamie Pennock**-Shop Manager, **Jeff Butler**-Precision Ag Coordinator/Crop Specialist, **Court White**-Crop Specialist, **Dave Bryant**-Crop Specialist, **Drew Kennedy**, **Dylan Baughman**, **John Kelley**, **Tracey Martin**, **Mark McGlauchen**, **Ed King**, **Kenny Manson**, **Don Toepke**, **Mitchell Main**, **Levi King**, **Randy Niffen**, **Troy Smith**, **Trevor Zumwalt**, **Kent Turnbull**, **Harold Loyd**, **Becky Birch**, **Tammy Schaver**-Credit Manager/C-Store Supervisor, **Dean Osborn**-Paris, MO Warehouse Manager, **Jack Baker**-Pittsburg, OH Warehouse.
We appreciate your business! Let us know how and when we may serve you!

