

Save the date!

MNCAA annual meeting is scheduled for Feb. 21, Hutchinson, Minn.

The MN Custom Applicators Association (MNCAA) will host the 2019 CAWT Training Seminar and hold its 26th Annual Meeting in Hutchinson, MN at the Days Inn on Thursday, Feb. 21, 2019 at 8 a.m.

MNCAA membership is made up exclusively of manure handlers, licensed by the MN Dept. of Ag. To maintain our license certification, applicators must attend continued education training. Our association organizes this particular meeting each year.

Since there will be so many applicators in the same place at the same time, MNCAA is pleased to offer this special invitation to include vendors of this industry, turning this meeting into a unique Trade Show date. The agenda for this CAWT Training Seminar, has been specifically structured to allow time before, during and after the meeting for the two groups to get together. Additionally, vendors will be allowed to be the first in line for our Noon lunch, allowing them the best opportunity to be first getting back to their Trade Show Booths. In the past, this Trade Show has proven to be a great opportunity for our industry-leading-members and their employees to meet and learn more about products companies are currently offering.

Two new board positions will be appointed at the annual meeting. If interested, please email David Peterson.

Manure Storage Gases 101: What you need to know to survive while pumping out

By David Widman, Widman Ag, LLC

Just how dangerous are these gases created from the breakdown of manure while in storage? Well, the first thing is that they can be life threatening to both humans and livestock. When manure solids and liquids are confined to a storage facility, the decomposition of the manure begins and from this various gases are created. Usually this is an anaerobic (no oxygen) digestion process and is bacterial dominated. The main gases released are Hydrogen Sulfide, Methane, Carbon Monoxide, and Ammonia. The main threat with these four gases is that they are all combustible and toxic. The following chart lists the physical properties and exposure limits:

Manure Gas	Physical Properties				Exposure Limits ACGIH	
	Odor Threshold	Vapor Density Air = 1.0	LEL	Auto Ignition Temp	IDLH	Exposure Limit - 8 hr. TWA
H ₂ S - Hydrogen Sulfide	.008 to .1 ppm	1.18	4%	500 F	100 ppm	1 ppm
Methane	odorless	0.55	5%	999 F	5000 ppm	Oxygen 19.5% at all times
Carbon Monoxide	odorless	0.97	12%	1125 F	1200 ppm	25 ppm
Ammonia	less than 5 ppm	0.6	15%	1204 F	300 ppm	25 ppm

LEL - lower explosion limit
IDLH - Immediate Danger to Life & Health
TWA - time weighted average for 8 hours
Exposure limits from American Conference of Governmental Industrial Hygienists - ACGIH

As you can see in the IDLH (Immediate Danger to Life & Health) column, Hydrogen Sulfide is the gas that is the most dangerous because of the low amount it takes to affect your health. H₂S at 1,000+ ppm is nearly instant death for humans while levels starting at 200+ ppm will cause death in swine. Hydrogen Sulfide health effects are eyes, nose, throat, and lung irritation with coughing, and severe shortness of breath (pulmonary edema), nausea, dizziness, headache, and unconsciousness when inhaled. These same health conditions are also for Methane, Carbon Monoxide, and Ammonia gas inhalation. If you experience any of these conditions, get away as fast as you can from the source and seek medical attention if necessary.

Also Hydrogen Sulfide is the most flammable of these gases as it only takes 4% of H₂S in the atmosphere and a temperature of 500 degrees Fahrenheit to ignite into a fire. This is lower than Methane, Carbon Monoxide, and Ammonia. However if all these gases are present, and the Hydrogen Sulfide is ignited, then the other gases can become fuel for the fire and increase the fire temperature very quickly.

In summary manure gases are very dangerous and will be present in manure storage facilities. Use a gas meter to protect yourself when pumping so you know the levels of these gases. Best to use caution when pumping and agitating at the start until manure gases have had the chance to release from the manure. Make sure all workers know the warning signs of manure gas exposure – headache, nausea, dizziness, etc. so they understand to get medical help right away. Having a well-trained crew that understands the dangers is the best way to keep everyone safe.

Sources of information:

Minnesota Department of Health
New Jersey Department of Health
D & G Custom Services
Widman Ag, LLC

Send us your ideas!

We are always accepting topic ideas for the annual training session in February. Please email your ideas. To become a member of the MNCAA contact David Peterson, dpete@hutchtel.net. Or call 651-295-2612. Visit our new website at www.mncaamanure.com