



# Management Solutions

Agronomic Solutions, LLC

Spring 2018 Issue



## Introducing

### Brittney Miller-Patrick



In January Agronomic Solutions hired a new “Manure Lady”, Brittney Miller-Patrick, and a “Manure Man”, Cody Collyer.

**Brittney**, with her husband Klint and step-daughter Jordan, lives in Albion. A 2006 graduate of West Noble, she earned her Associates Degree from Black Hawk East in Equine Science in 2008 and her Bachelors of Science in Animal Science at Purdue in 2015.

She spends her summers volunteering with the LaGrange County 4-H Horse & Pony Club. She particularly enjoys riding horses, crafting and spending time with her family.

Brittney will primarily be in charge of compliance issues for IDEM permitted farms and our IDEM Compliance Program. In time she will be taking on other areas of responsibility.

**Cody**, a junior at Westview High School, comes to us through the CO FACS program at school. He attends school in the morning and works in our office afternoons and on days when there is no school. As a member of FFA he participates in Small Engines contests, Soil Judging, Poultry Judging, Landscaping Design, and the Envirothon (competition testing students on five core subjects- aquatic ecology, forestry, soils and land use, wildlife- with a fifth annually-changing sub-topic focusing on relevant environmental issues).

Cody enjoys anything outdoors, especially hunting, fishing, and working on his truck. He is a member of Eden Worship Center Youth Group and the EWC sound team.

His responsibilities in our office include mapping, averaging soil samples, organizing information and putting together binders.



**Cody Collyer**

This is a seasonal publication produced by Agronomic Solutions, LLC for the confined feeding operators. Issues and information addressed in the newsletter will be geared towards animal feeding operation owners and managers. Hopefully you will find its contents useful in your operations. (260) 593-2092

### Spring To Do Checklist ...

Spring is a busy time of year with a lot of work to get done. Here is a quick reminder to make sure everything gets done.

- Get us updated soil samples
- Clean out and inspect manure storages
- Collect manure samples for analysis
- Calibrate manure spreaders
- Spread manure/fertilizer at agronomic rates
- Update manure spreading & operating records
- Complete spring tillage or terminate cover crops
- Inspect / calibrate planter and drill
- Accurately & carefully plant your crops
- Scout fields for emergence
- Replant only if necessary

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## Value of Manure - Customer Averages ...

The charts below show the average manure value per acre.

### Current Fertilizer Prices—March 13, 2018

28% Semi- prepay	560# N / ton	\$230 / ton	\$0.411 / # N
18-46-0	1040# P <sub>2</sub> O <sub>5</sub> / ton	\$493 / ton	\$0.474 / # P <sub>2</sub> O <sub>5</sub>
0-0-60 Semi	1200# K <sub>2</sub> O / ton	\$341 / ton	\$0.284 / # K <sub>2</sub> O

Swine Grower Pit			Dairy Lagoon		
N	32.2	\$13.23	N	7.4	\$3.04
P	20.5	\$9.72	P	6.2	\$2.94
K	26.3	\$10.81	K	12.2	\$3.46
	Per 1000 gal	<b>\$33.76</b>		Per 1000 gal	<b>\$9.44</b>

4000 gal / A = \$135.04 / acre

12,000 gal / A = \$113.28 / acre

Calf – Manure Pack			Duck—Liquid		
N	7.3	\$3.00	N	26.9	\$11.06
P	10.4	\$4.93	P	25.0	\$11.85
K	13.3	\$3.78	K	24.5	\$6.96
	Per ton	<b>\$11.71</b>		Per 1000 gal	<b>\$29.87</b>

15 ton / A = \$175.65 / acre

5,000 gal / A = \$149.35 / acre

Broilers (Layers) - Litter			
N	34.1 (34.1)	\$14.02	(\$14.02)
P	60.8 (85.6)	\$28.82	(\$40.57)
K	60.3 (60.3)	\$17.13	(\$17.13)
	Per ton	<b>\$59.97</b>	<b>(\$71.72)</b>

3.0 ton / A = \$179.91 (\$215.16) / acre

...now worth an  
average of  
\$161.40 / acre

## Application of Livestock Manure Improves Soil Health ...

Reprinted from *Manure Manager*, March 12, 2018

By Dr. Jeff Schoenau—Univ. of Saskatchewan

Long term trials conducted in Saskatchewan have shown the application of livestock manure fertilizer typically improves the health of the soil.

The University of Saskatchewan has been conducting long term livestock manure application trials, in some cases on plots that have been studied for over 20 years, looking at the implications of using livestock manure at various rates with different application methods throughout Saskatchewan's major soil climatic zones.

Dr. Jeff Schoenau, a professor with the University of Saskatchewan and the Saskatchewan Ministry of Agriculture research chair in soil nutrient management, says the organic matter in manure, especially in solid manures, can directly benefit things like soil structure, water retention and so on.

"I think in terms of effect on the soil, especially with the solid manures where we're adding a fair bit of organic matter to the soil, we certainly see some beneficial effects show up there in terms of increased organic matter content, increased carbon storage. We see some positive benefits as well in water relations, things like infiltration," said Dr. Schoenau.

"We also need to be aware that manures also contain salts and so, particularly some manure that may be fairly high in for example sodium, we do need to keep an eye on the salt and sodium content of the soil where there's been repeated application of manure to soils where the drainage is poor. Generally what we've found is that the salts that are added as manure in soils that are well drained really don't create any kinds of issues. But we want to keep an eye on that in soils that aren't very well drained because those manures are adding some salts, for example sodium salts."

Dr. Schoenau says, when manure is applied at a rate that is in balance with what the crop needs and takes out over time, we have no issues in terms of spill over into the environment. He says that balance is very important, putting in what you're taking out over time.

## CERCLA Update

### Court keeps delaying the start of reporting air emissions

*The Schroeder Ag Law Blog—excerpt*

By Brianna Schroeder / January 22, 2018

On January 19, 2018, the EPA requested another 90-day delay to the federal air emissions reporting requirement under CERCLA. After an earlier 90-day delay, the mandate requiring certain livestock producers to report air emissions was set to go into effect on January 22, 2018. The Court granted the EPA's request to delay the mandate until May 1, 2018.

**Based on this delay, farm groups are recommending that their members should not report any air emissions yet.**

*A Press release dated February 9, 2018*

the National Pork Producers Council recently asked Congress for a legislative fix to a federal emergency response law that now requires farmers to report emissions from the natural breakdown of manure to the U.S. Coast Guard.

Testifying on behalf of NPPC, Dr. Howard Hill, a veterinarian and pork producer from Cambridge, Iowa, and past president of NPPC, told members of the Senate Committee on Environment and Public Works that livestock producers and the EPA never believed routine agricultural emissions from manure constituted the type of emergency or crisis the law was intended to address. He said that the ruling would force "tens of thousands of livestock farmers to figure out how to estimate and report their emissions."

He pointed out that while the pork industry is prepared to comply with CERCLA, and EPA, the U.S. Coast Guard—which takes the emissions reports—and state and local emergency response authorities have said they don't want or need the information, which could interfere with their legitimate emergency functions.

**BOTTOM LINE: There is a possibility that we may never have to report! Wait and see!**

## Strategies for Managing Corn Nitrogen ...

Nitrogen is often the most limiting nutrient in producing crops. Often farmers tend to over apply this nutrient. Due to an increase in its cost, concerns about environmental pollution and demands for mandatory nutrient management planning, farmers should have a comprehensive knowledge of N management strategies and develop a detailed management plan for optimal nitrogen use.

Nitrate (NO<sub>3</sub><sup>-</sup>) is the common form of nitrogen in soil and the form which plants can assimilate into energy. Since NO<sub>3</sub><sup>-</sup> is a negatively charged ion, it will not be held by soil particles, which are also negatively charged. Therefore, N can easily leach as rainwater flows through the soil. In sandy soils, N leaching occurs even more rapidly. This is because of the soil's structure, which has low water holding capacity. Deep channels developed by water flow patterns and fauna in the soils allow for faster leaching of soluble N in water. N is also readily leached through the process of decomposition of organic matter. Due to the increased availability of air in sandy soils, microbes quickly degrade plant residues, releasing N into the soil. If not utilized properly, the N released will be leached before being useful to the next crop planted.

### **Any N management strategy must include:**

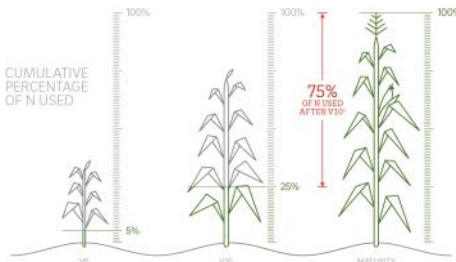
1. Predicted yield goal
2. Application timing
3. Potential sources of available N such as manure, crops residues, and N contribution from previous legume crop
4. Crops rotation
5. Cover crop
6. Soil properties

### **How much N does corn require?**

Soil mineral N content is very sensitive to environmental factors including rainfall and temperature. Therefore, testing the soil before or at the planting time cannot predict how much N will be available when crop enters its rapid growth stage. Through some studies it is strongly recommended that on manured fields little or no nitrogen starter be applied. A Pre-sidedress Soil Nitrate Test (PSNT) should be used to determine if organic sources of N in the soil such as manure and crop residues are adequate to meet the needs of the crop. In general, there is potential to reduce N rates by 20% if farmers sidedress rather than apply N at planting.

### **When to apply?**

The goal of a good N management program is to have maximum nitrate in the soil when plants are rapidly growing and minimum residual nitrate in the soil at harvest. The young corn plants produce little amount of dry matter and pick up only small amounts of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O. Because corn plants start growing rapidly in mid June, delaying N fertilizer application until plants reach 12 inches tall (6-8 weeks after planting) can significantly reduce N leaching and reduce cost of purchased fertilizer. When corn is planted into a field high in residual N because of previous manure or legume crops, often no yield advantage can be found by fertilizing the crop at planting.



## Address Conflict Head-On ...

Conflict and business often go hand in hand, but when business partners are parents, siblings or children—as is often the case in farming—discord needs to be addressed immediately. Conversations about daily tasks, the future of the farm and everything in between can be a challenge, but everyone is responsible to communicate..

Talk as soon as possible after the problem arises. When you delay talking about the problem, anger and frustrations build and then it gets attached to other issues.

To create the best opportunity for a constructive discussion about conflict with your family or team, you must find the right time and location to talk. Set a specific time to talk at a neutral location, not while everyone is on the run.

Planning the right time and location gives everybody a chance to back away from the issue for a minute, get themselves under control, think about what they want to say. We are never at our best when we're highly stressed, angry or emotional.

**Conversations must be with others and not about others, so include all family members who are involved with the operation.** Don't underestimate the power of someone left out of the conversation. It's far better for everyone involved to be together rather than someone left out.

Agree on ground rules. Your goals should be to:

- Define the problem.
- Discuss the underlying cause.
- Brainstorm possible solutions.
- Select the best option.

Each one of these steps should be done together as a group, not with one or two people.

Truly listen to what each person says during the meeting. Pause for a moment and say, 'Let me tell you what I think I heard.' Allow them to verify that is what they meant to say without interrupting. LISTEN!

Conflict can damage relationships. If you can't begin the conversation without the fear of hurting or angering someone, bring in an impartial third party (ie: a pastor, or other professional) to help.

### **How to Avoid Conflict**

Conflict can often be avoided by addressing the following matters:

- *Are there clear boundaries between business relationships and family relationships?*
- *Are conversations framed as "parent and child" rather than "owner and owner" or "employee and employer"?*
- *Is there lack of agreement on how the business should be run?*
- *Are roles and responsibilities clarified?*
- *Are there promises and expectations that are assumed and not expressed?*
- *Are conversations among family members about people rather than with people?*
- *Are misunderstandings avoided instead of clarified at the time they occur?*

# AGRONOMIC SOLUTIONS, LLC

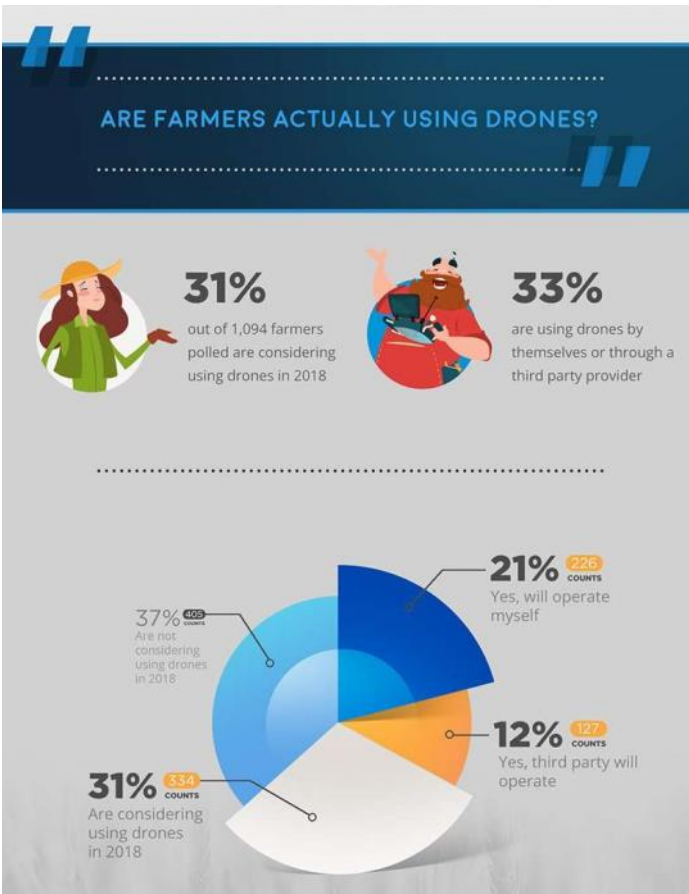
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## How are drones being used for agriculture? ...

- Mapping and Surveying - Drones can help farms understand plant health and create detailed GPS maps of the field area.
- Crop Dusting and Spraying - Crop spraying drones can carry large liquid storage reservoirs; can be operated more safely; and at a fraction of the cost of crop dusting.
- Irrigation Management - Thermal drones give farmers a better way to understand their fields through frequent inspection!
- Livestock Monitoring - Drones give farmers a new way to keep an eye on their livestock at all times.



## The other side of the coin—Eyes in the Sky ...

Drones are a great new tool for the farmer, but also a tool being used against the farmer. Drones are being used by activist groups and counties looking for ways to stop or slow down new or expanding farming operations, especially when manure is involved. They are looking for anyone who is not completely compliant in their procedures.

**BE ALERT! STAY INFORMED!** Do everything you can to follow proper procedures in your farming practices.