

Basin Buzz

Winter 2017

Join us!

**FARMER LUNCHEON
& ROUNDTABLE
FEBRUARY 2
10:30 - 3:30**

Liberty Hall
800 Eisenhower Drive • Kimberly

**RSVP FOR FREE LUNCH BY
JANUARY 30**
(920) 680-6484
meyersm@uwgb.edu

FOX WATERSHED FARMER ROUNDTABLE

Inspiring Action • Improving Farms • Restoring the Bay

Join the **2nd Annual Farmer Round table** meeting including lunch, guest speakers, and discussions about conservation practices to improve soil health, water quality, and your bottom line.

This event is free and open to all farmers!

- Update on Demonstration Farm manure and cover crop trials and more
- Q&A session with a farmer panel from the Fox Watershed
- Small group discussions amongst farmers and conservation professionals



ALLIANCE FOR
GREAT LAKES



SIGN UP NOW!

2017 FUNDS & ASSISTANCE

Interested in streambanks, waterways, cover crops, interseeding, buffers, nutrient management planning or other conservation practices?

Contact your local County Land Conservation Department or NRCS office today!

Unique, flexible cost-sharing opportunities are available in 2017 for those who own or operate land located within either the Plum Creek or Kankapot Creek watershed (see map in the center of this newsletter). Funding opportunities include:

- Cover Crops
- Harvestable Buffers
- Grassed Waterways
- Streambank Restorations & more...

For questions or more information, please contact Jeremy Freund at (920)574-6965 or jeremy.freund@outagamie.org

Contact your Land Conservation Department or local NRCS office to determine if funding is available for your project.

Brown County LWCD: (920) 391-4621
Calumet County LWCD: (920) 849-1442
Outagamie County LCD: (920) 832-5073
Winnebago County LWCD: (920) 232-1950
Outagamie County NRCS: (920) 733-1575
Brown County NRCS: (920) 884-9210
Winnebago County NRCS: (920) 424-0329
Calumet County NRCS: (920) 849-1444

Riparian buffers reduce erosion and protect from runoff

Innovative Equipment being built and used at VanWychen Farms

*Necessity may be the mother of invention,
but saving time and money can also be a strong incentive.*

Nick VanWychen, of VanWychen Farms near DePere, says there are plenty of both to be saved with a new approach he's pioneering in their cornfields.



“Basically, I took three or four different machines and put together one machine to do what I needed it to do.”

-Nick VanWychen

He and his father, George, plant cover crops between rows of corn to add nutrients to the soil and help hold the soil in place. But hiring help each year to make two separate passes across the fields — first to seed the cover crop, and then fertilize the corn — were adding up.

“Why don't we combine it and do it all at the same time?” Nick recalls thinking. “This was just a way to try to do it all at one time and cut the time down.”

Mechanically inclined and a tinkerer by nature, he crafted a machine that would do both by affixing a rolling Lilliston cultivator for seeding on the back of his tractor, and an applicator in front for spraying fertilizer.

“Basically I took three or four different machines and put together one machine to do what I needed it to do,” he says.

Nick fashioned the machine above out of several different machines. The cultivators are mounted in front and the seed is blown in front of those and the fertilizer is placed

He and his father ran into problems in some fields where the soil was too hard and the machine failed to agitate the soil enough. In others,

it was too aggressive — throwing dirt and knocking over cornstalks. Next season he plans to tweak the invention to make it operate more consistently.

Still, it worked. And the savings was significant: \$6,000 to \$10,500 in saved tillage costs for 1,000 to 1,500 acres.

Despite the success, Nick cautions that it may not work for everyone. “There are a zillion different configurations or options you can try. You’ve got to figure out what works for you.”

Nick, 27, helped out on the farm throughout his youth, and became a partner with his father about six years ago. VanWychen Farms has been planting cover crops to improve soil health for about 15 years, and is one of four demonstration farms in the Fox River Watershed Phosphorus Reduction Initiative.

The benefits of using cover crops and other measures to improve soil health are “tremendous,” says Nick, and the new machine is just another step toward furthering that investment.

Article written by: Susan Campbell,
Alliance for the Great Lakes



The field pictured above is one the VanWychen’s harvested this fall. The



Have you designed innovative equipment to increase efficiency or decrease costs?

We’d love to hear about it

Email Chad@fwwa.org or call (920)915-5767 to be featured in an upcoming issue of the Basin Buzz



Nick VanWychen

Great things are happening in the Lower Fox River

NO-TILL PLANTING



See what's happening with Closing wheels and learn more about how to try them on the following pages.



NO-TILL PLANTING



Dawn Biologic's ZRX roller attachment.

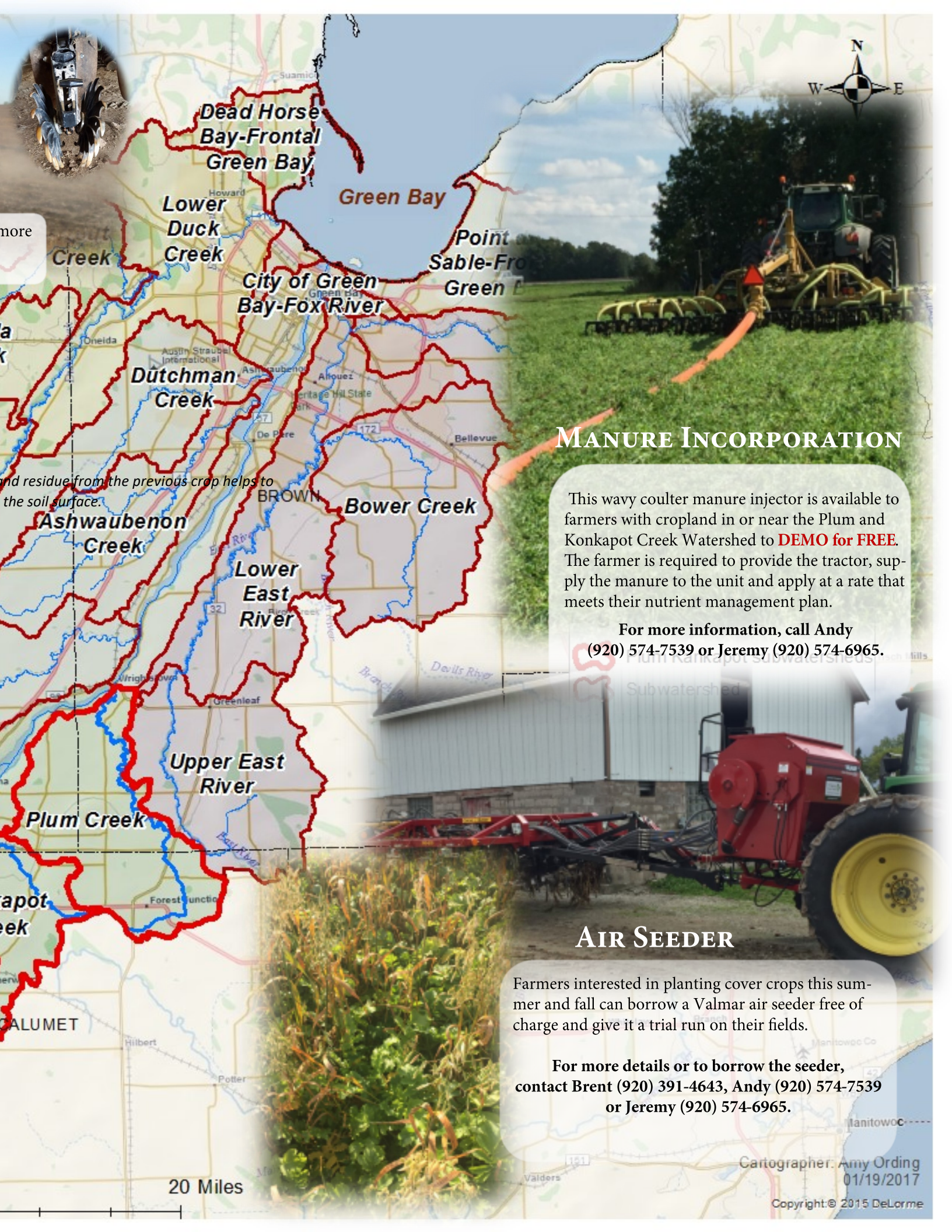


A new planter attachment to the no-till arena is Dawn Biologic's ZRX rollers. Initially developed by a no-till farmer, the ZRX rollers attach to the front of planter and are designed to roll down large over wintering cover crops while creating a zone for the planter to place a row of seed. The rolled cover crop creates a thick mulch layer which acts as a soil armor, protecting the soil from direct sunlight and the impact of rain. With the cover crops roots system intact and a thick armor, the susceptibility of soil erosion and nutrient loss are drastically reduced. An additional benefit of the large cover crop is the decrease in weed germination and the biomass will decay into soil organic matter, an important piece for soil health and sustainability.

Outagamie County has purchased rollers for producers in the watershed to try. Due to grant restrictions, the roller attachment is currently available only to producers in the Plum and Konkapot Creek Watersheds but will be available to see through demonstration days in the future.

For more information, call Andy (920) 574-7539 or Jeremy (920) 574-6965.





more

and residue from the previous crop helps to the soil surface.

MANURE INCORPORATION

This wavy coultter manure injector is available to farmers with cropland in or near the Plum and Konkapot Creek Watershed to **DEMO for FREE**. The farmer is required to provide the tractor, supply the manure to the unit and apply at a rate that meets their nutrient management plan.

For more information, call Andy (920) 574-7539 or Jeremy (920) 574-6965.

AIR SEEDER

Farmers interested in planting cover crops this summer and fall can borrow a Valmar air seeder free of charge and give it a trial run on their fields.

For more details or to borrow the seeder, contact Brent (920) 391-4643, Andy (920) 574-7539 or Jeremy (920) 574-6965.

20 Miles

Cartographer: Amy Ording
01/19/2017

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DEMONSTRATION FARM NETWORK: MEASURING THE EFFECT OF CLOSING WHEELS IN A NO-TILL SYSTEM

Why the study?

As year three of the Lower Fox Demonstration Farms Network comes to a close, we reflect on the extraordinary steps our local producers have accomplished and the lessons we have learned along the way. With increasing fuel prices, scarcity of labor, and competitive market prices, many producers are exploring opportunities to increase their return on investment and improve their bottom line. Implementing no-till practices is one way to address rising costs. It has the potential to reduce financial and labor inputs, while simultaneously improving soil health. The Demo Farms Network is working with producers to understand the benefits of cover crops with minimal or no soil disturbance farming and its feasibility in northeast Wisconsin.

During the 2016 season, Brent Petersen, the Demo Farms project manager from the Brown County Land and Water Conservation Department, recognized that closing the seed-vee was a consistent challenge for no-till producers. Many producers have found that rather than closing the seed-vee and providing the necessary layer of loose soil above the seed (Figure 1), their closing wheels leave defined furrows (Figures 2 and 3).

According to Petersen, properly closing the seed-vee is essential for good soil-to-seed contact. By failing to do so, the seed is vulnerable to dry conditions, which can negatively affect germination and/or root development. During the growing season, seeds are one of the most expensive input; therefore, it is vitally important that we provide the seed its greatest chance to succeed.

The Study

To address this issue in the Lower Fox River Basin, Petersen teamed up with Dave VandeHey and his son Derek from New Horizons Dairy to test 13 different combinations of closing wheels. Despite being one of the newest members of the Demo Farms Network, the VandeHeys have been no-tilling portions of their land for more than a decade. Their experience and willingness to try new equipment was crucial to the success of the study.

The objective of this study was to determine which closing wheel performed best in a no-till, heavy soil system. As its name implies, the closing wheel functions as the planter's final contact with the seed. It is responsible for ensuring that the seed receives the proper soil-to-seed contact. Therefore, determining performance levels is of great importance for producers in the Lower Fox River Basin.

Thirteen different closing wheels or combinations of wheels were attached and placed side-by-side on VandeHey's planter. No-till planting followed a winter rye cover crop, which was harvested in late May 2016. Planting took place in early June at a rate of 36,000 plant population (pp) per acre. Petersen took stand counts at seven different locations on July 5, 2016 and calculated the plant populations for each of the thirteen closing wheel combinations (Table 1).

Results

It is recognized that the New Horizon study represents only one growing season; therefore, the results may not represent the full potential, or lack thereof, for any one piece of equip-

ment.

However,

the study

does provide

insight into which

closing wheels pro-

vide a larger probability

for success and it reinforces

the importance of clos-



Figure 1: Field was planted with Dawn Curvtine closing wheels. Note the loose soil covering the seed furrow (Dawn Curvtine results: 34,000 pp).



Figure 2: Field was planted using Extapa closing wheels. Note the defined seed furrow (Extapa results: 32,571 pp).



Figure 3: Field was planted using a Martin + Smooth seed closing combination. Note the defined seed furrow (Martin + Smooth results: 33,857 pp).

ing the seed-vee.

The rows planted with two Dawn Curvetine closing wheels out-performed (34,000 pp/ac.) the other twelve wheels or combinations of wheels. Note that closing wheel combinations that consisted of only one Dawn Curvetine performed below the least significant difference (LSD); therefore, their results were considered less than acceptable (Table 1).

As demonstrated in Figure 1, the two Dawn Curvetine closing wheels covered the seed furrow with a sufficient layer of loose soil, which is believed to have contributed to the equipment's successful plant population in the New Horizon Dairy study. Closing the seed-vee with loose soil improves the seeds probability for successful germination and root establishment, even in poor environmental conditions such as extreme heat. Additionally, it was found that the Dawn Curvetine performed best in heavy and wet soils, suggesting that it may be the most effective closing wheel available.

While both the Martin + Smooth and the Yetter 2 Disk + Wheel performed at a high level (33,857 pp/ac.), it is difficult to determine whether these results would be consistent in other fields under different circumstances or if the New Horizon's study was an exception. As seen in Figure 3, the Martin + Smooth closing wheel left a defined seed furrow, which under poor weather conditions may leave the seed vulnerable and result in a low plant population.

After seeing the results on their land, Dave VandeHey said that they are looking to use different closing wheels for the 2017 planting season. While they have not settled on a specific model yet, he states that through this study they have "found other options that work better in wet conditions." While they try to avoid planting into wet soil, having more versatile equipment is important for producers in this region of the state.

Interested in Testing it for Yourself?

Dawn Curvetine: For those interested in renting equipment, Brown County Land and Water Conservation will have Dawn Curvetine closing wheels available on a first come, first serve basis. Please contact Brent Petersen for additional information.

- Brent Petersen, Demonstration Farm Project Manager, CCA, (920) 391-4643

Pro-Stitch: Brown County and Outagamie County have Pro-Stitch closing wheels available for rental in the Plum and Kankapot Watersheds. Please contact either Nick Peltier or Andrew Kiefer for additional information.

- Nick Peltier, Brown County Land and Water Conservation, Agronomist, CCA, (920) 391-4633
- Andrew Kiefer, Outagamie County Land Conservation, Agronomist/Conservation Planner, (920) 832-5044

Closer	Plant Population (pp):
1. Dawn Curvetine*	34,000 pp
2. Martin + Smooth	33,857 pp
3. Yetter 2 Disk + Wheel	33,857 pp
4. Yetter Spike + Smooth	33,285 pp
5. Pro-Stitch*	33,142 pp
6. Posi (Schlagel Mfg.)	33,142 pp
7. Posi + Yetter Spike	33,142 pp
8. Martin + Cast Iron	32,857 pp
9. Extapa's	32,571 pp
10. Yetter Spikes	32,000 pp
11. Yetter Spike + Dawn Curvtine**	30,428 pp
12. Dawn Curvtine + Posi**	29,000 pp
13. Yetter + Pro-Stich**	28,285 pp

Table 1: Closing wheel results in descending order of plant population estimates. Plant population estimates taken on July 5, 2016 from seven different locations in the 23-acre field. Of the 13 closing wheels or combinations of wheels, 10 had significant results.

* Available for rental

** Combination of closers produced less than acceptable plant populations. Values were below the least significant difference (LSD) of 30,770 plants/acre.



No till planting on Greg Nettekoven's farm




PO Box 1861
Appleton, WI 54911

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Outagamie County LCD: (920) 832-5073
Winnebago County LWCD: (920) 232-1950

UPCOMING EVENTS

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- Demonstration Farm Farmer Luncheon & Runoff Roundtable, January 27—FREE Event, all farmers welcome!
 - Watershed Celebration - March 1 - Green Lake 4:30-8:00
 - To receive email updates on field days and more, sign up online www.fwwa.org/buzz

For more information on topics in this newsletter or to Sign up online to receive regular updates via email visit: www.fwwa.org/buzz

INSIDE THE BUZZ

- Farmer Roundtable Invitation
- 2017 Funds and Assistance
- Innovative Equipment at VanWychen Farms
- Great things are happening in the Lower Fox River Watershed!
- Demonstration Farm Network: Measuring the Effect of Closing Wheels in a No-Till System

Find more information on upcoming events online www.fwwa.org/Buzz