



Matt Hempel, Engineer with John Deere



Matt Hempel, oldest son of Jerry and Barb Hempel, spoke about his job at John Deere in Ankeny, where he and his wife, Laura and two children live. Matt received his Mechanical Engineering Degree from Iowa State and has worked at John Deere for eleven years on the nozzles for self-propelled sprayers which are used to kill

bugs and weeds.

A few years ago a nozzle was developed with a computer chip in it that can measure the spray out the front or the rear, can rotate, and has an LED light on the bottom so you can see the pattern and how wide the spray is. A solenoid makes sure you spray at the right pressure no matter how fast you are going. There are pulses so the pressure is always consistent and the pattern is perfect. This can eliminate the problem of spray hitting grandma's garden. Each nozzle costs \$300 each. There can be 72 to over 100 nozzles on one sprayer. The sprayer itself can cost \$400,000-\$500,000.



L-R: New chip nozzle, control, regular type nozzle

There are 50 employees working at one time on nozzles in different processes. The first eight years of Matt's job at John Deere were in design, picking the right material that chemicals wouldn't destroy. Now his job is developing test groups to make sure the nozzles will take ten years of abuse. At least half of the employees are working on the software for the nozzles.

Matt talked about the new concept of See & Spray. Previously, the whole field was sprayed. Now being developed are cameras detecting what is a weed versa a crop and also the technology so the spray only goes on the weed.

To do this, researchers walked row by row and took pictures of every possible weed from 1/4 " and taller so that software can then be developed to distinguish a difference. At a sprayer speed of 12 mph, there are cameras within the nozzle, which takes the pictures and in a fraction of a second decides to spray or not. Also, the cameras on this sprayer can be turned off and you spray the original way. See & Spray could reduce the amount of chemicals used by 30-50%.

Also discussed were pricing issues, screens in the nozzle tips to filter pebbles, using more than one tank, autonomous equipment, and the future role of the operator/farmer.



In addition to this interesting topic, Matt drives an electric pickup – a Rivian. He said it costs similar to an F-150. In addition, he got \$8000 in rebates. He can go 300

miles on a charge. It has 800 horsepower. At night he charges at home on 220 v.

At Walmart it costs \$35 for a full charge. At home it can cost \$15 to get 300 miles. He can't charge up at a Tesla charger, but Matt said that's coming. The pickup warms up faster than a gas vehicle. He rarely has to push the brake. The Rivian has four motors, one for each wheel. In two years there will be two motors driving all four wheels. He can drive in different modes, but is in 4WD most of the time. If you are still plugged in and want to back up, it won't let that happen. There is no starter/stop button. Get in and it goes. The phone is his key. As a backup he has a card in his billfold similar to a hotel key. The EV locks itself, and there is no noise.

Matt stated he has had the pickup for 3 months and is happy with it.



The possibility of a battery fire was discussed and he said a

smoke detector in the garage would be a good idea.

**Next week's speaker will be:
Justus Brammer, Brian Hadfield**

**Rise & Shine Car Wash
8-9 AM Sat. Treynor Community Building**

Meeting Minutes

Jordan Campbell called the meeting to order. Present were 18 members member. Guests were Jerry, Barb, and Matt Hempel

Dale led the Pledge of Allegiance and Jordan Campbell gave the opening prayer.

Jokes were shared by Dale Willenborg and Steve Chambers.

50/50 was won by Dee Guttau. Kathy Luedke's name was drawn for the **attendance drawing** but it went unclaimed.

Birthdays/Anniversaries:

We celebrated John and Carol Klein's 47th wedding anniversary.

Jordan stated that today Tina Turner turned 82.

Bragging Rights: (\$ are used for youth activities)

- Judy Guttau donated to brag on Iowa State University Men's Basketball beating #1 No. Carolina.
- Bill Vorthmann donated for Thanksgiving.
- Jerry Hempel contributed because Nebraska beat Iowa in the football game Friday.
- Dale Willenborg donated because he caught 50 mice in the barn and corn crib this year.
- Gary Guttau told about tracking a mouse opening in his house. He also asked a question about who had heard of bag balm.

Auction Items: None

Football Pool: Kevin Underwood won!

Business:

- Helpers with Can Kennel sorting for the Treynor Dance Team were Gary Funkhouser,

Gary Guttau, Chad Guttau, Dale Willenborg, John Klein, Ken Graham, Jordan Campbell.

- The cheerleaders have the Can Kennel next time.
- There will be a board meeting after the meeting next week.
- John Klein reported he received a document for the can kennel's liability coverage until May 1, 2023 for the club. Application will need to be made for after that.
- Bill Vorthmann reported the flags weren't taken out when stated the last time as the pipes were frozen. Bill was eventually able to get them out.
- Gary Guttau reported that dues are due from three members yet.
- Contributions were requested this week also for Shop with the Sheriff.

Community:

- Jr. Treynor Women are sponsoring the Community Christmas event starting at 4:30 tomorrow, Nov. 27 at the Community Building. Jordan Campbell reported that lots of people come to this event.

The meeting was closed with reciting of the Optimist Creed.

HUMOR



Calendar

Events

- Nov 27 Treynor Christmas event at Treynor Comm Building – 4:30 – 7:30 PM.
Nov 29 Giving Tuesday

Birthdays

- Dec 16 Kevin Underwood
Dec 23 Chuck Nielsen

Anniversaries

- Dec 27 Gary & Dee Guttau

Programs

Dec	Linda Danker (First 2 Saturdays) Mick Guttau (Third Saturday)	Dec 10	Tyler Juranek, massage therapist at Unleashed Release. He will talk about his service dog and give massage updates.
Jan	No meetings Dec. 24, 31. Mick and Judy Guttau	Dec 17	Norm Collins, Treynor Days update
		Dec 24	No meeting
		Dec 31	No meeting
		Jan 7	Mike Jerke, CEO Southwest Iowa Renewable Energy (SiRE)

Speakers

Dec 3 Ride and Shine Car Wash owners
(Brian Hadfield and Justus Brammer)

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Dues/Donations/Flag Money: Mail to Optimist Club of Treynor, PO Box 354, Treynor, IA 51575