

2020 FARM AND GARDEN

Parkland's Precision Ag keeps students on the cutting edge

By Tony Hooker

Agriculture has changed exponentially over the past two decades, and Jenni Fridgen, the Program Director for the Agriculture program at Parkland College, has been on the vanguard of that change.

She recently took a few minutes from her hectic schedule to discuss her programs as well as the Ag industry in general.

What's new in Parkland's Ag department?

From the precision Ag side, we have a couple of things going on. We have a high school dual credit course for students, called AGB 110. What we've done is ask our industry partners to help out monetarily so that we can offset some of the costs. It's an online, one credit hour course. It's really generating interest in Parkland's AG programs. Many of the students say that the didn't even know they could do such work with us. The course is designed to be seamless for high school students. It's designed to give them the basics of agriculture today on the technology side. We've got the most comprehensive precision Ag degree there is in the state. We're number two in the nation for precision Ag, and we're very proud of that. We have a new applicator degree. It's the only one in the nation. Many of our industry partners are willing to pay for students to come here. We also have partnerships with industry folks for our precision Ag degree as well. What that means is they come here, they seek the degree while working for a company and when they graduate, the company reimburses them for their tuition, and they have a full-time job. The company just asks that they work for them for two or three years, just as a commitment. That's a win-win. The student comes out of college debt free and has a full-time job, guaranteed, and the company has a well-trained employee.

In our area, I've noticed that many of the applicator operators are nearing retirement age.

Funny you should mention that. We've had industry partners who have told us that they have 50-year old operators who are ready to get out of the machines, ready to retire. One of our partners said that in the next two years, they will lose close to 40 percent of their work force from retirements alone and they're not prepared for that loss. So now, they're starting to invest in the students, get them trained and in two years they'll be ready about the same time they start seeing those first waves of retirement.

We've gone to the industry folks, United Prairie, Helena, Growmark, some of the major Ag retailers, like Ehler Brothers and Nutrien and said, "help us find the students", and they're going out and helping us get them. They're saying, "I want to offer you a job in two years, but you've got to go to school first", and students are realizing that there are good job opportunities out there, and that Ag is a viable career option.



When did you start in the Ag industry?

Well, I got my master's in Agronomy, and I worked in the retail industry until I started here at Parkland. I've been able to stay in touch with the industry which, for any trades we have here, you have to have industry involvement, not only for advisory council, but involvement in the program directly. When we call them and say we need a product, we need a drone, we need equipment and boom, they send it, that's them literally investing in us.

Did you grow up around here?

I'm originally from Cape Girardeau, MO. My husband and I moved here for his job around 15 years ago.

Did you come from a farm background?

Yes, my grandpa farmed. I came from a farm background. I didn't originally want to do farming. I wanted to do soil chemistry, actually, so I got a bachelor's in chemistry. I minored in soil science, and I thought I should go on and get my Master's, so I got my Master's in Agronomy from Mississippi State and studies cotton. I had a teaching assistantship to pay for my master's, and that's when I fell in love with teaching. I went out to the industry for ten years before I came here.

You've seen a lot of changes in the industry?

Just in the past 15 years, absolutely.

How far can technology take us? Are we getting close to the end of how far Ag technology can advance?

The truth is, the technology is changing so fast that it's hard to keep up with it. The industry can keep up, but the services struggle to utilize what's available. It changes so fast that we're changing our curriculum each semester. If you don't update it, after one year you're out of date, and that's something that we take pride in. Each semester, when students walk out the door, what they've seen in class is what they'll see in the industry. That's why we push to do projects with Sony. We push to do projects with Helena, helping repair equipment, helping repair planters so our students get that hands-on experience.

And GPS is now pervasive in all aspects of the industry?

It's essential. It's the fundamental of precision ag.

It's been around for years, because of the military, and then in the 90's is when they had the first yield monitor, so if you think about it's only been about 20 years since we've had a yield monitor.

Can you explain what that is?

In a combine, we go through a field harvesting, and you know your yields either by taking it to the elevator and they tell you how many bushels you have or by putting it in a bin. You know how big your field is so you can figure bushels per acre. The yield monitor measures yield instantly as we're going across the field. We know where yields might be 100 bushels or 300 bushels, so we can see what's the difference between the two areas. How do we determine why this is 100 bushels instead of 300, and we go out and take soil or tissue samples. We go out and map variability and we look at weather patterns. We look at topography and all kinds of stuff to see how we can improve those areas. If we can't raise it, we have to figure out how to manage it differently. Maybe we just keep pushing the better areas and don't put as many inputs there because the yield isn't going to be there. A yield monitor allows us to capture the data instantaneously as we harvest.

That measures the distance you travel & the number of bushels you've harvested?

In the machine, you've got a monitor and its mapping it. In our world, red is low, and green is high, so if you see red spots, you need to see what's happening. Maybe it's water. Maybe it's tiling. I've had growers ask me to tell them how many acres are less than X bushels, and then they take it to the landlord and justify putting tile in. I don't think you can even buy a combine any more without a yield monitor. It's like trying to buy a car without an air conditioner! <laughs>

Would you recommend Ag for someone who is interested in technology, computers and things like that?

Absolutely! What I like about Ag is not only that it's diverse, but it's diverse throughout the year. For me, when it gets to be August, and it's hot, it's time to work inside for a while. Then in the winter, when it gets to be about March, we start getting antsy and it's time to get

that I had 4 messages that his clutch was slipping in your tractor. From a technician's point of view, you can come out to the field to work on a machine before the grower even knows there's an issue because it's all computerized.

Of course, all this technology comes with a price. I'm sure that a 2020 combine is going to be a little more than my grandpa's 1972 Gleaner, right?

It does. Technology comes with a price, but the bushels have also increased so much. If a grower has the technology and doesn't use it, that's when they've wasted the money. It's like with the car. Why would I pay for air conditioning if I never used it and always rolled down the windows? If you have it, you have to use it or else there is no value to it. That's what we're teaching our students as they go out to start their careers. Some growers say they don't have time to mess with it, and they should because they're paying for it. Precision Ag should be something they've already budgeted for.

What's next for Precision Ag?

For us, it's really about trying to stay caught up with the industry. We can't possibly do it. We always attend the Info Ag Conference every summer to learn what's the latest and greatest. That's where we formed out partnership with Sony.

How about in the indus-

try itself? What's the future look like there?

I think Data Analysis, growers using the data is going to be the next big thing. You've got to be able to figure out how to manage your fields to keep pushing bushels. If you're trying to push bushels and you don't know if it's a good return on your investment, then your data is no good. You're not using it for the right reasons. You have to know where your ROI is and where you need to put your dollars. We've got the technology out there. We've got the high-speed planters. With the way the weather is, our planting window can get pretty small. With more high-speed planters out there, we can do more planting in less time. If the weather patterns continue the way they have been, that's somewhere that will start pushing, because right now, that's something that growers don't want to pay for. If their window shrinks, they'll have to figure something out. I see the telematics, transporting data back to their agronomer, back to their home office as being a key. Not every farmer has that. For me the future is in more farmers using the technology that's already here.

Do you think that pilotless tractors will be a thing in the future?

CNH has the first auton-

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