2015 Small Grain Solutions

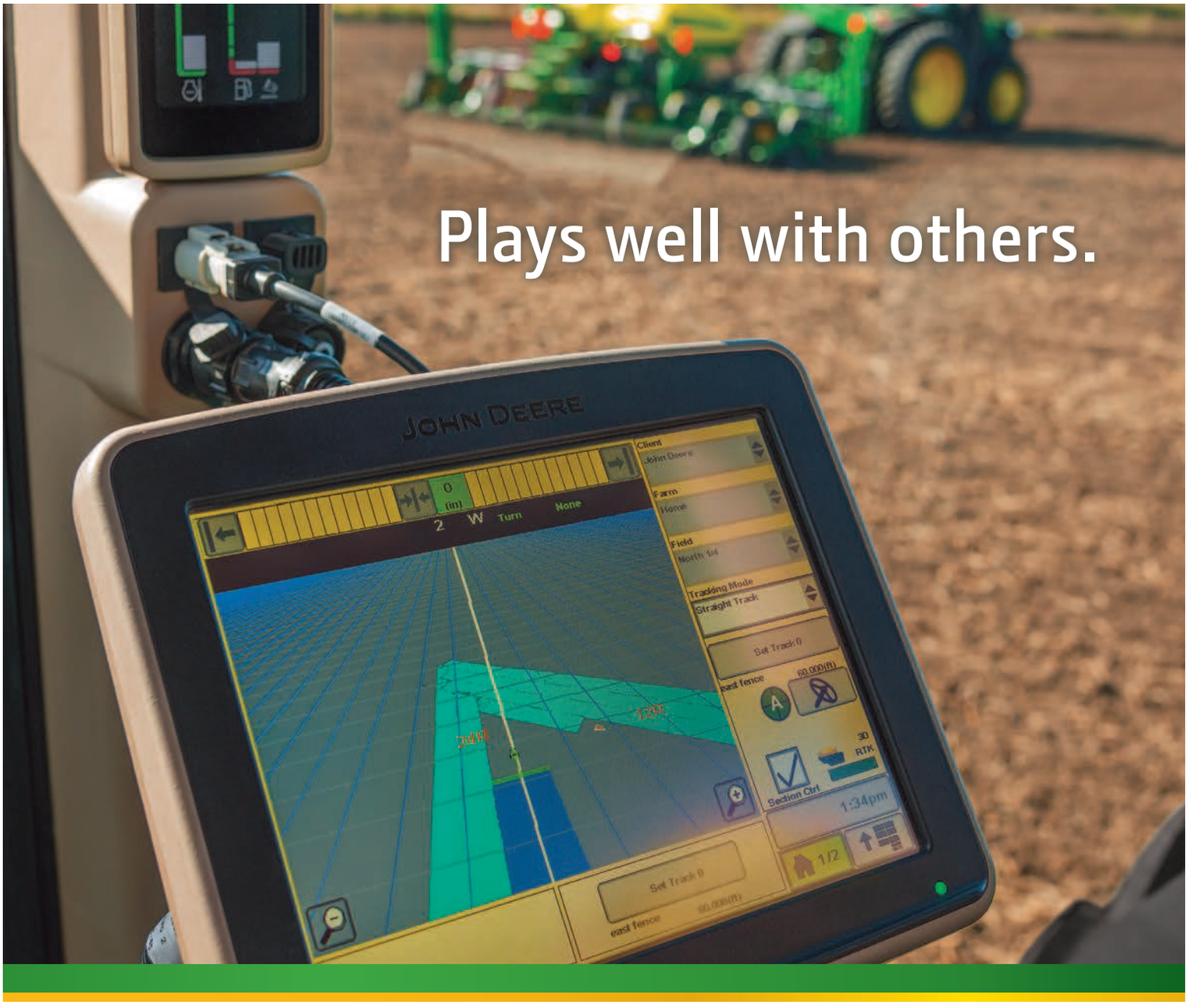
Twelfth Annual

High Plains Journal

MARCH 24-26, 2015

Salina, KS | Dodge City, KS | Enid, OK

John Deere



Get more efficient field coverage with multiple machines.

JOHN DEERE

John Deere Machine Sync already makes harvesting easier with automated communication and logistics for combines and grain carts. Now Machine Sync includes coverage map sharing and guidance line sharing to improve planting, seeding, spraying and nutrient application. This increases efficiency in the field, because two machines can work simultaneously with each operator having immediate access to coverage maps and guidance lines. Sharing coverage maps not only increases accuracy and coverage, but it works with John Deere Section Control to turn sections on and off based on another machine's coverage.

For more details about how you can put Machine Sync to work for you, ask your local John Deere dealer.
Nothing Runs Like a Deere.™

JohnDeere.com/MachineSync

The tour stopped along the way to Enid, Oklahoma, just outside of Alva, to look at a field of wheat being grazed March 25. Some farmers may be choosing to graze out their wheat, instead of pulling cattle off. (Journal photo by Jennifer M. Latzke.)

Small Grain Solutions 2015 PROGRAM

Technology has come a long way from John Deere's moldboard plow in 1837. Today's farmers are utilizing tools that no one envisioned even a few years ago. This year's Small Grain Solutions program touched on that type of technology.

In it's 12th year, the Small Grain program, sponsored by John Deere and *High Plains Journal,* focuses on helping farmers capitalize on the potential of their wheat crop. Our keynote speaker, Robert Blair, told producers about utilizing unmanned aerial vehicles and the role they can play in managing their farming acres. The technology is ever-evolving and could impact farming for years to come.

In addition, John Deere crop specialists toured wheat farms in Kansas and Oklahoma. They were able to share their findings on the potential for the 2015 crop.

Please enjoy this special coverage of the 2015 Small Grain Solution meetings.

Holly Martin

—Editor, High Plains Journal

Ladybugs (top) in wheat fields are a good sign. These beneficials tend to snack on wheat pests.

John Deere Solutions Specialists Jennifer Collins, (left) and Brian Ganske (kneeling) talk with John Deere salesman Darrell Base, (center) and farmer Alan Vogel, (right) in the middle of Vogel's wheat field just east of Dodge City. Ganske and Collins were checking the extent of the winterkill on the field.

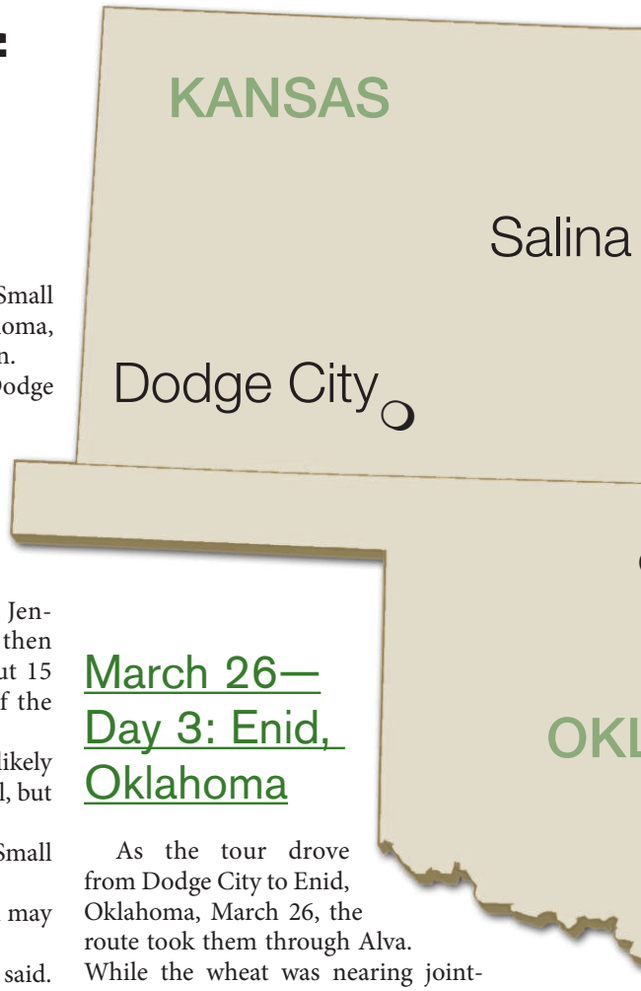
The first signs of some leaf rust (left) are appearing in this wheat field near Nash, Oklahoma, March 25. The farmer will likely consider a fungicide application if the area gets some rain in the next three weeks. (Journal photos by Jennifer M. Latzke.)

Rain needed for most of 2015 wheat crop

By Jennifer M. Latzke

Once again, drought and the need for rain led the conversations around the 2015 Small Grain Solutions crop tour. From Salina to Dodge City, Kansas, and down to Enid, Oklahoma, while probes showed variable rates of subsoil moisture, there is still a need for more rain.

The tour did some pre-event scouting March 16 near Salina, and March 20 near Dodge City. There were also stops near Salina March 24 and in the Enid area March 26.



March 24—Day 1: Salina, Kansas

The first stops on the 2015 Small Grain Solutions crop tour were around Lincoln and Bennington, Kansas.

In the Lincoln area March 16, John Deere Solutions Specialists Brian Ganske and Jennifer Collins looked at a field that had been failed wheat in the previous year and then replanted to wheat the first part of October. The field had been in no-till for about 15 years, and with just 0.6 inches of rain in January was starting to see the effects of the really dry winter.

Across the road, a farmer had elected to drill his wheat into corn stubble and will likely double crop the field into soybeans. The moisture probe was able to go 5 feet into the soil, but the area could still use a good rain, Ganske said.

Over by Bennington, Kansas, on March 24, Billy Gans and his son Jason showed the Small Grain tour their conventionally tilled wheat fields.

The Ganses typically plant their wheat the last full week of September. Their rotation may include a couple of years of soybeans, followed by wheat.

"We like to plant three or four varieties, and try to get some certified seed," Billy Gans said. This year the family tried Everest and Armour and both have done pretty well. They work with the local co-op to conduct soil testing and application of phosphorous and nitrogen to improve their fertility.

But, for the most part, Billy Gans explained, they raise wheat with a disc field cultivator and a mulch finisher, working the ground so that the wheat seed has a nice bed. In their area, with their black gumbo soils, they don't have to worry about blowing soils. And, they'll still burn their wheat stubble and use V-plows to work the ground.

March 25—Day 2: Dodge City, Kansas

The reports coming in from around the Dodge City area were that the wheat looked OK in spots but that a snap freeze event in November caught some fields.

In the Bloom, Kansas, area, farmers are looking to make the most of their valuable wheat crop inputs, especially considering the limited amounts of moisture they've been receiving. One farmer said that he's been sure to take soil samples to be sure that he's applying precisely what the field needs in the way of fertilizers, and not over- or under-applying.

The tour talked with Alan Vogel March 20 and looked at some of his fields in the Wright, Kansas, area.

The first field was a no-till summer fallow field that had been planted to wheat. Ganske and Collins found 3 feet of moisture there with the soil probe.

"I've been no-till for about 12 years and it's just a way for us to conserve any moisture we get on our dryland," Vogel said. His typical rotation is a wheat-sorghum-fallow rotation.

The tour spotted a few weeds in the field, but Vogel had sprayed recently and the mustard and kochia were responding well.

At another stop, Vogel showed that there had been some winterkill of wheat in the area. The field of TAM113 had been fairly tall in the fall, so he had turned out cattle onto it about Nov. 15. There was a snap freeze in November that hit a fair amount of the field, but the wheat looked like it might go on to make a crop.

March 26—Day 3: Enid, Oklahoma

As the tour drove from Dodge City to Enid, Oklahoma, March 26, the route took them through Alva. While the wheat was nearing jointing stage, it was clear there were at least a few farmers in the area who were leaving cattle out o wheat pasture and planning to graze out this year, Ga

Just south of Nash, Oklahoma, the tour talked wi who farm around Nash.

The first stop was at the Ayerses' winter canola fie of moisture since November, when the area typically canola in the field had suffered a bit of winterkill.

"In November we had that cold snap," Donnie sa and it did a lot of damage." What was left was startin insects in early March.

"We've grown canola for about eight years now, canola the last two weeks in September with a duckf single row opener next year when planting for better

Canola works for them, he explained, because wh in the past, it's usually too hot and dry to make any c

"We needed a good rotation out of our continuous Depending on the soils and the field, they will rotate e years. They do it to be able to change out their chem fields that they can't with the chemicals they can use

"We want the field to be as clean as we can be go clean up everything," Donnie said. In the past, mares

Granted, 2014 was a disaster of a year for canola w that wheat was hit just as hard, he said.

"Wheat was about 10 to 15 bushels per acre last y 40 bushels," he said. The area is hoping for a better cr

Across the road, the Ayers brothers showed their w planted Oct. 20 and hadn't been grazed. Ganske and

ew
tle out on
s year, Ganske said.
talked with Donnie and Chad Ayers, two brothers

canola field, which had received about 1.25 inches
typically gets about 5 to 6 inches, Donnie said. The
erkill.
Donnie said. "The canola was about 18 inches tall
as starting to bolt and the brothers had sprayed for

ears now," Donnie said. Typically they plant their
h a duckfoot opener. Donnie said they might try a
for better stands.
cause while the brothers have tried summer crops
ake any crop.
ontinuous wheat, and canola worked," Donnie said.
ll rotate every year with canola or rotate every three
heir chemical rotation to clean up feral rye in their
can use on wheat.
can be going into the field, so we use Roundup to
st, marestail has been an issue for the brothers.
canola with the ongoing drought, but people forget

acre last year, when this area averages maybe 30 to
better crop this year.
ed their wheat field of Ruby Lee. The field had been
anske and Collins remarked at how clean the field

USDA-NASS Crop Progress Reports

Kansas Crop Progress and Condition

For the week ending April 5, temperatures were 4 to 8 degrees above normal in the state. The southwest portion of the state remained dry, with the lack of soil moisture continuing to be a concern in many counties. Topsoil moisture was 20% very short, 37% short, 42% adequate and 1% surplus. Subsoil moisture rated 21% very short, 43% short, 36% adequate and no surplus.

Winter wheat rated 6% very poor, 17% poor, 44% fair, 30% good and 3% excellent. Winter wheat jointing was at 30%, ahead of the 15% it was last year, but near the 5-year average of 29%.

Oklahoma Crop Progress and Condition

For the week ending April 5, precipitation levels across the state were at less than 1 inch, with the Panhandle recording none to the Central district recording .85 inches. For the third consecutive week, the South Central, Southeast, and East Central districts recorded precipitation levels above their normal averages. The rest of the state averaged 85% or less of normal.

Winter wheat progress slowed in the Panhandle due to limited moisture, while cool temperatures and low winds improved the crop in areas of Central Oklahoma. Winter wheat jointing reached 68%, up 18 points from the previous year and up 1 point from normal. Canola conditions were rated 61% fair to good.

According to the most recent U.S. Drought Monitor, 37% of the state experienced conditions rated at extreme to exceptional, up 13% from the previous year. Conditions were most intense across the western half of the state.

Topsoil moisture conditions were rated mostly adequate to short, with subsoil moisture rated short to adequate.

was of weeds and insects. In fact, Ganske just found the beginnings of a smidge of leaf rust on a few wheat plants, and Donnie discussed with him the merits of applying a fungicide to the crop. Some farmers in the region might consider fungicides this year, Ganske said, especially if they scout and see early signs of rust on their wheat and they think they might get rain in the next three to four weeks.

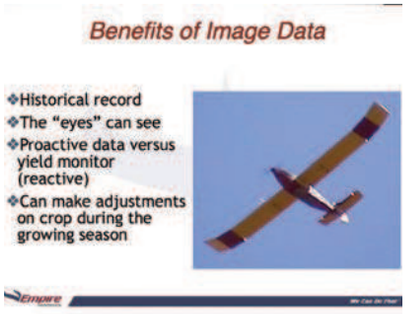
"We typically use a seed treatment for bug and disease issues," Donnie said.

For the most part, Ganske and Collins saw very little weed and insect pressures in the fields they scouted along the Small Grain Solutions Tour this year, which tells them farmers are making sure they are protecting what yields they have out there. With many relying on Mother Nature for moisture, making sure the crop has everything else it needs for success is one way farmers can ensure their wheat and canola fields have a shot at success.

Jennifer M. Latzke can be reached at 620-227-1807 or jlatzke@hpj.com.

Flying the Friendly Skies

By Doug Rich



Robert Blair was an early adapter of unmanned aerial vehicles to collect data about his farm. Blair was the keynote speaker at the Small Grain Solutions seminars. Getting a bird's eye view of your farm can be helpful in making management decisions. (Journal photo by Doug Rich.)

"This is a transformative technology," Robert Blair said. "I believe it will be as powerful as John Deere's plow, McCormick's reaper or Eli Whitney's cotton gin."

Blair, a fourth-generation farmer from central Idaho, was the featured speaker for the Small Grain Solutions seminar this year. The seminars, sponsored by *High Plains Journal* and John Deere, were held in Salina, Kansas; Dodge City, Kansas; and Enid, Oklahoma.

The technology Blair is talking about is the use of unmanned aerial vehicles. UAVs are aircraft without a pilot on board but are flown by an operator on the ground or flown autonomously based on a pre-programmed flight plan. They are also commonly referred to as drones or as unmanned aerial systems. The term UAV emphasizes the importance of the system beyond the aircraft itself and is the term Blair prefers.

Blair said UAVs offer higher resolution and lower cost images than satellites.

In 2006, Blair was using a Cessna airplane to gather infrared images of his farm, which he matched up with yield maps. He thought this was the missing link for gathering useful farm data. The problem was that it took two weeks to get the plane scheduled to fly over his farm and another two weeks to get the images.

That is when he saw an advertisement for a UAV and bought one so he could fly above his farm on his own schedule and have images that same day. He continues to use that technology

"We are looking at this technology for crop scouting to help us make informed decisions," Blair said. "There are some things we can't see walking the field on the ground; it is just too subtle but we can see them from the air."

Blair uses his UAV to take multiple images and stitches these together to make a composite. There are many ways to use this information. Blair has used the information to prove what is happening on his farm to environmentalists and government agencies.

"In 2009, we had a drought year," Blair said. "Wolves had been introduced and were pushing elk into our fields. On my 1,500-acre farm I had almost $50,000 of animal damage. That was almost 10 percent of my gross income that year, but because I had the images along with yield data I could prove that loss."

In 2011, he used images from his farm along with yield data to document losses caused by wet field conditions to the government.

"We have to think of UAVs as part of a whole package," Blair said. "If we don't use UAVs with existing technology, it is just a flying brick. We have to get the data into a form that can be used to benefit our operations."

There are some challenges to overcome before agriculture is able to start benefiting from UAVs. Blair said UAVs have a negative reputation because they have been used by the military, lack of public understanding about how UAVs can be used, safety being a concern, particularly as it applies to aerial applicators and communication interference when operating near towns. Blair lost one of his UAVs because the community was having a UAV race in town and he lost the radio link. Government regulations, specifically those written by the Federal Aviation Administration, top the list of challenges facing UAV use in agriculture.

"We are all familiar with the Environmental Protection Agency continually trying to increase its kingdom," Blair said. "The difference with the FAA is that it was given its kingdom from the beginning."

FAA rules pertaining to the use of UAVs in agriculture have changed frequently over the last two to three years. At one time operators had to have a private pilot's license and a class III medical clearance. The FAA issued a set of proposed new rules on Feb. 15 that will make it a little easier to operate a UAV for non-recreational operations.

Under the proposed rule an operator would have to be at least 17 years of age, pass an aeronautical knowledge test and obtain

an FAA UAV operator certificate, and to maintain this certificate the operator would have to pass the FAA knowledge tests every 24 months.

The proposed rule would require an operator to maintain visual line of sight. The rule allows, but does not require the operator to work with a visual observer to maintain constant visual contact with the aircraft. The proposed rule limits flights to 500 feet altitude and cannot fly faster than 100 mile per hour.

The current unmanned aircraft rules remain in place until the FAA implements a final rule.

Blair formed a company called Empire Unmanned, which was the first company in the country to get an exemption for agricultural use of a UAV. He said there are currently over 680 applications seeking an exemption in the pipeline waiting for approval.

Even with an exemption Blair still needs to have a Certificate of Authorization. The COA approves operations in a geographic region.

"We can only fly in Class G airspace under our exemption and not within 5 nautical miles of an airport," Blair said. "The FAA has not decided yet if the definition of airport includes private airports. If they are included then we basically cannot fly anywhere in the United States."

What does agriculture need to get the most out of UAS technology?

"We need a seat at the table, we need to educate Congress on the benefits of this technology, we need to embrace the technology better as an industry, we need to protect the integrity of our data, we need to be able to fly at 1,000 feet altitude beyond line of sight restrictions to cover acres and we need better partnerships with industry partners," Blair said.

"We need to grow and be efficient at the same time," Blair said. "Technology can help us get there."

Blair grows wheat, barley, peas, lentils, chickpeas, alfalfa and cows on 1,500 dryland acres in central Idaho. His journey with precision agriculture began in 2003 using PDA for simple mapping. That evolved into all different types of equipment, including a UAV in 2006. Blair's use, vision and advocacy of these technologies helped him become the Precision Ag Institutes' 2009 International Farmer of the Year.

Doug Rich can be reached at 785-749-5304 or richhpj@aol.com.

Day 1: Salina, Kansas

Left, John Deere Solutions Specialist Jennifer Collins looks at developing wheat in a field near Bennington, Kansas, March 24. Middle, winter wheat peeks through corn stubble in this field near Lincoln, Kansas, March 16. This field will probably be double-cropped into soybeans, but with 5 inches of subsoil moisture, the area will need more rain to make a wheat crop. Right, a wet morning resulted in a little bit of relief for some wheat fields near Bennington, Kansas.

Day 2: Dodge City, Kansas

Far left, John Deere Solutions Specialist Brian Ganske talks to growers about the status of the wheat crop. Second from left, Brian Ganske checks wheat for root development. Most fields across the tour were right on track but could use rain. Second from right, Brian Ganske and Collins found very few greenbugs. This lone bug was spotted in a field east of Dodge City, Kansas. Right, this field near Wright, Kansas, had just been sprayed before a light rain fell. Keeping fields clean of weeds is more important than ever when you are trying to make the most of your crop.

Day 3: Enid, Oklahoma

Left, this field of winter canola near Nash, Oklahoma, was planted using a duckfoot opener, but the farmer is considering trying a single row opener in the future to help stand establishment. Middle, tour participants look at a field of wheat near Nash, Oklahoma. Right, Ganske looks at some winterkill damage in winter canola in this field just outside of Nash, Oklahoma.

We didn't follow the trend, we paved the way.

The 8R/8RT Series Tractors run hard and lean

Rather than take a one-size-fits-all approach to meet the EPA's Final Tier 4 emission requirements, we tailored the technology to fit the machine to help reduce your operating costs and increase productivity. The result? The 8R/8RT Series Tractors deliver up to 370 engine hp* and outperform even in tough conditions, without lag, and without compromise. We didn't stop there either. Features like the Group 49 tires which offer a longer footprint with more surface contact and less soil compaction, and the LED lighting option that delivers 40% more coverage utilizing 45% less amperage. Better still, the 8R/8RT tractors feature the CommandView™ III cab. Roomy and quiet, the cab offers unbeatable visibility and a totally redesigned CommandARM™ with a 10-inch CommandCenter™ Display. Take the 8R/8RT Series Tractors for a run. Visit your John Deere dealer today. **Nothing Runs Like A Deere™.**

*Rated engine hp (ISO) per 97/68/EC.

JOHN DEERE

JohnDeere.com/Tractors