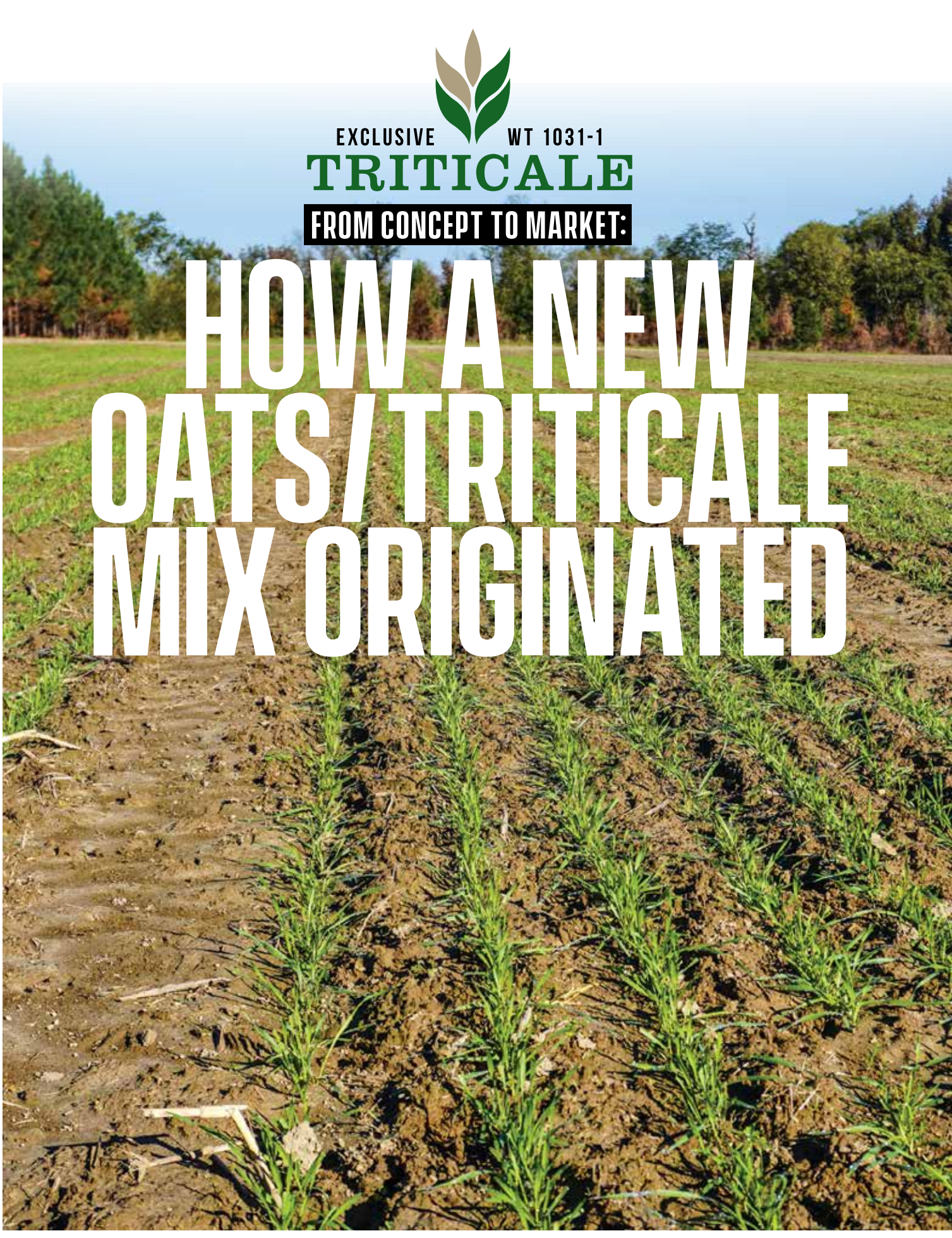
EXCLUSIVE WT 1031-1

TRITICALE

FROM CONCEPT TO MARKET:

HOW A NEW OATS/TRITICALE MIX ORIGINATED



Years of rigorous development and testing highlights Whitetail Institute's unique relationship with top plant biologists and universities. ■ ***By Whitetail Institute Staff***

Folks who plant Whitetail Institute products expect to see a lush, green crop emerge soon after planting. What they might not see is the broad scientific study and partnerships that went into developing that product.

Starting in 2025, Whitetail Oats Plus will feature a specially developed line of triticale: WT1031-1 Triticale. The bottom line for food plotters is the new mix improves palatability and winter hardiness. But moreover, the research and development of the product showcases Whitetail Institute's partnerships with leading universities and plant breeders.

BEGINNINGS. RESEARCH. DEVELOPMENT

For more than 20 years, Steve Leath, a Ph.D. in plant pathology and breeding, and a former USDA scientist and former professor at North Carolina State University, has worked with Paul Murphy, a retired professor of crop and soil sciences at N.C. State, with 50 years of experience in breeding oats and small grains. Among their collaborations, Leath and Murphy worked on breeding small grains including oats primarily for farmers, focusing on lines with high sugar content for palatability and winter hardiness. That research also included several lines of triticale.

Murphy said he's been breeding triticale for more than 20 years and developed a line that was highly palatable. Triticale is a cross between wheat and rye and grows slowly, making the sugar and proteins concentrated in the plant for longer periods. However, it did not make sense to market it to farmers, as triticale is still in less demand as a grain crop than other small grains. As a result, Murphy and Leath began looking at the food plot market because of triticale's great traits, such as winter hardiness, nutrition and palatablity. Of course, they first needed proof that deer would prefer their triticale.

Grains developed at N.C. State also were enrolled in a study at Louisiana State University that examines deer preferences for plant consumption. More than 300 lines of grain are enrolled in this study at various sites, making it the largest study of its kind ever conducted. During the study, researchers plant lines in 60- to 70-foot test areas parallel to each other. Lines are randomized in order and fenced off as they grow. When the plants reach an appropriate growth stage, researchers remove the fences, and deer are turned loose on the test plots and allowed to graze freely. Researchers then determine deer preference for various lines by observation and measuring plant growth after deer are removed from the test areas. And deer in the study showed a preference for the lines developed at N.C. State.

Murphy said it's important to note that deer feeding preference studies included sites in various geographies, such as the North Carolina piedmont region along with colder mountain climates. Sites included sandy, clay and other soil types, and the plants thrived in all.

"This is important, as growing conditions and soil types vary, and you want a plant that's highly adaptable and tolerant of different conditions," he said. "We found this triticale line to be very adaptable and forgiving."

Moreover, the triticale exhibited excellent winter hardiness.

"Judging how deer prefer them is pretty easy and scientific," Leath said. "It's just a matter of measuring. The cold tolerance is more a matter of observation and noting freezing damage or stress on the plants. We were very pleased with the condition of the plots after temperatures below 5 degrees set in."

Perhaps most important is the food value of the oats/triticale combination.

"We shipped samples to Wisconsin, where they did a dairy forage quality analysis that measures nutrition quality," Leath said. "The test is for a number of traits including total digestible nutrients, protein levels and basically measures the nutrition quality for a ruminant. We were very pleased to see our numbers come back very high."

AN ADVANTAGE FOR GROWERS

Years of research and testing have boiled down to a product that will serve food plotters well.

"Given adequate soil moisture, the plots should come up within 10 days," Murphy said. "I'd plant two to three weeks before the archery season and expect healthy and attractive plots well beyond the close of season in most areas. It's important to note that the testing we do is not conducted on an island. Breeders from other states share information and cooperate, so the testing we've done is being repeated in other areas across the country. We're confident hunters and managers will have a lot of success with this combination. This new triticale is akin to a beauty pageant winner from a contest that's been going on for over 15 years."

Leath agreed, saying the oats/triticale mix is a result of years of experiments, plant breeding expertise and experience, and a fine sense for noting special plant characteristics.

"Paul Murphy has looked over hundreds of thousands of lines since 1984 and has a special talent for recognizing the best varieties among the entrants," he said. "This is a giant numbers game that's 50 percent science and 50 percent just using your eye and your experience to choose the award winner. And this is it. The forage is excellent for deer, and in my experience, there's nothing simpler and easier for the food plotter than small grains."

■ Deer in a Louisiana State University study showed a consumption preference for triticale lines developed at North Carolina State.