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# NATIONAL CORN YIELD CONTEST<sup>®</sup>



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# NEW CONTEST CATEGORY TARGETS NITROGEN MANAGEMENT

*NCGA pilot class aims to reward top yields using 180 pounds per acre of total nitrogen.*

If high inputs for high corn yields aren't your jam, maybe the new pilot category in the NCGA National Corn Yield Contest can help you join the band in 2023.

To kick off its 58th year of the prestigious bin-buster contest, NCGA will reward member growers for creativity in nitrogen management and other inputs to

The yield contest is watched closely by growers and the industry to learn the genetic yield potential of hybrids and different agronomic practices in their area, given the annual weather and input management variables.

“Learning the potential of hybrids in a variety of growing conditions will always be a central component of the contest,” says Tom Haag, NCGA President. “But now is a great time to also expand the contest to understand that potential while also managing with limited nitrogen inputs—which will help us meet our sustainability goals.”

## Pilot Year Fine-Tuning

To develop initial category guidelines, NCGA yield contest manager Linda Lambur enlisted conservation-minded crop consultant and Illinois farmer Jim Isermann. NCGA also is limiting the pilot year to the first 100 growers who sign up for the nitrogen efficiency category from these nine states: Nebraska, Iowa, Illinois, Indiana, Ohio,

Wisconsin, Michigan, Kansas and Missouri.

Isermann worked with a group of NCGA farmer leaders to firm up category rules. “Our pilot year goals are to keep requirements simple, allow all forms of nitrogen along with cover crops, and use

*Crop consultant and farmer Jim Isermann says adding a nitrogen efficiency category will encourage more growers to enter the national yield contest.*



achieve top yields. Growers decide what nitrogen forms to use and when to apply, while keeping total pounds of nitrogen applied to 180 or less. NCGA will work with winners to verify nutrient amounts and applications.



Jim Isermann



a benchmark maximum of 180 pounds per acre,” he says. Lessons learned during the 2023 contest will help NCGA tweak the rules for future years. See current guidelines in “Basic Rules for Nitrogen Management Class.”

With nitrogen costs soaring and water quality issues driving more regulations, corn growers continue experimenting with practices that reduce inputs to optimize economics and environmental stewardship. “This nitrogen management category will showcase farmer creativity to grow the most bushels with 180 pounds or less,” Isermann says.

### Align Nitrogen Applied

According to a six-year Precision Conservation Management ([precisionconservation.org](http://precisionconservation.org)) data study of farmers, nitrogen application rates greater than Maximum Return to Nitrogen (MRTN) are never more profitable for corn production on high soil productivity ratings soils even when higher nitrogen results in additional yield.

Farmer data from this USDA- and Illinois checkoff-funded report, “The Business Case for Conservation,” shows



Lowell Neitzel

that corn grown on high Soil Productivity Rating fields was most profitable when the total nitrogen application rate was in the MRTN range of 160 to 195 pounds. And the report showed that cover crops are vital in reducing nutrient losses and greenhouse gas emissions.

“This category will open up the yield contest to many more farmers, particularly in the conservation world, who didn’t see a realistic fit for their operation,” Isermann adds. “With a nitrogen

*Kansas farmer Lowell Neitzel says a nitrogen efficiency category will help him and other farmers fine-tune their fertilizer programs to optimize returns.*

limit, growers I’ve talked to believe they now have a chance to win and learn from others.”

### Engage More Growers

Lowell Neitzel farms near Lawrence, Kansas, and worked with Isermann to develop rules for the pilot program. He believes a managed nitrogen category will grow the contest and NCGA membership.

“This will be a great learning opportunity for conservation-minded corn growers who seek greater economic and input efficiency. I strive every year to be more efficient, to cut costs and not lose yield, so this category fits the way I farm,” he says.

Neitzel stresses this contest will be a good benchmark as he experiments every crop season. “It will allow a comparison between the limited nitrogen plot and our normal practices. And if the plot shows better yields at lower costs, we can expand the practice to more acres,” he adds. ▶





## Nitrogen Rates: Yields, Returns, and Environmental Assessments, Corn, High SPR, 2015–2020

### Encourage Creative Nitrogen Management

Another NCGA farmer member working with Isermann, Dan Nerud from Dorchester, Nebraska, envisions this new category launching nitrogen use creativity—to the benefit of all farmers.

“I’ve got two sons who will soon take over the farm, and I’ve become a believer in their great ideas like seeding and fertilizer rate changes, using technology beyond my capabilities,” Nerud says. “This nitrogen management category could spur the creativity of young farmers to try different row spacings, populations, cover crops, maybe two or even six nitrogen applications. And when all farmers see results from this national contest, it will spur more innovation to drive sustainability and environmental improvements.”



CORN, HIGH SPR, N RATE, LBS. PER ACRE	AVG YIELD 2015-2020 (bushels/acre)	OPERATOR & LAND RETURN, 2015-2020	WATER QUALITY INDEX (1 = worst, 10 = best)	GHG EMISSIONS (metric tons CO <sub>2</sub> e/a)
Less than 150	202	\$241	6.10	-0.08
151-175	214	\$272	6.15	0.17
176-200	217	\$270	5.74	0.14
201-225	218	\$255	5.51	0.17
Greater than 225	227	\$252	5.30	0.46

*University-recommended maximum return to nitrogen application rate (MRTN) of 150-200 lbs./A is the most profitable strategy. Yet, 65% of farmers in the Precision Conservation Management study apply rates above the MRTN.*

Neitzel agrees with Nerud because he also faced rejection from trying new things as a younger farmer. “I see this limited nitrogen category bringing in new farmers to shoot for top yields with an interesting added challenge,” he says.

Bryan Biegler, a Lake Wilson, Minnesota, farmer on the committee, believes this category will prove how precise N management can drive higher profits with environmental benefits. “I think showing farmers how the winners of this new category use nitrogen creatively, along with other practices, could spur change of the adage of more nitrogen is always better,” he says.

### New Challenge For Previous Winners

All three farmers hope the nitrogen management category will also entice the multiple-year top-yield winners and others to enter the category. “I know these guys are very creative with experimentation on their contest farms, so it would be cool for them to jump into this competition,” Neitzel says. “Then I might have a chance to beat them!”

Isermann and NCGA expect to learn a lot from the 2023 pilot year because the committee sees



considerable potential as the category expands in the future. “The tricky part is creating a level playing field across geographies, soil types and other variables, so we don’t discourage farmers from entering,” Isermann says. “We also want farmers thinking how their soil can provide nitrogen to their corn crops, through practices such as cover crops and improving soil health. Through this contest we can find innovative ways to reduce applied nitrogen, and see the environmental and economic benefits that come with it.”

That’s a jam that should be music to every corn grower. So, join the band quickly, before the 100 entry slots are gone. ■



For all contest details, see [NCGA.com](http://NCGA.com) and click on the NCCY tab.

## BASIC RULES FOR NITROGEN MANAGEMENT CLASS

During the 2023 pilot year, the NCGA National Corn Yield Contest Nitrogen Management class is open to 100 total farmers who sign up from the following states: Nebraska, Iowa, Illinois, Indiana, Ohio, Wisconsin, Michigan, Kansas and Missouri.

Farmers must limit total nitrogen from non-field sources to 180 lbs./acre of actual nitrogen applied following the 2022 harvest and before the 2023 harvest.

Nitrogen sources include (but are not limited to): Synthetically produced nitrogen sources such as anhydrous ammonia, UAN, DAP, MAP, and AMS, as well as manure or compost sources, municipal solids and industrial by-products.

Any non-conventional fertilizers such as manures, composts, by-products and biologicals will require an approved lab nutrient test report or a product label as proof of readily available nitrogen counted towards the 180 lbs./acre total.

For variable-rate applications, the maximum rate (not the average rate) cannot exceed the 180 lbs./acre total rate on the submitted competition acres.

Yield evaluation is based on a 10-acre sample, just like other contest categories.

For 2023, the nitrogen management class will be separate from the existing contest classes. Any farmer already participating in a current corn yield class can submit a portion of the field (minimum of 10 acres) for the nitrogen class, or a separate field can be submitted. Application maps for all nitrogen applications that include rate and coverage must be submitted. The 10 acres for the nitrogen management class must be clearly marked, and appropriate buffer zones used.

### Previous crop rules:

The previous year's crop must be corn, soybeans, wheat or double-crop wheat/soybeans. Harvested forage crops seeded after the acceptable cash crops are also allowed.

Cover crops after any crop are allowed, even as a companion to the previous or current competition crop.

To avoid stacking nitrogen from the previous year:  
**Corn:** Less than 300 lbs. of total nitrogen applied in the prior corn crop year (less than 200 lbs. of that can be applied after planting, and no nitrogen can be applied after VT).

**Soybeans:** Less than 100 lbs./acre total nitrogen applied to previous soybean crop (less than 30 lbs./acre applied after planting).

**Wheat:** Less than 200 lbs./acre total nitrogen applied to the previous wheat crop. If a harvestable crop was seeded after wheat harvest, such as double crop beans or forages, the total additional nitrogen applied must be less than 50 lbs.



### Reports to submit with yield entry:

All inputs, including fertilizer, pesticides, biological amendments, seed variety and biological traits, as well as tillage, cultural practices and the previous crop, must be recorded and submitted to NCGA with the contest application.

For manure, compost or biological product applications that are not variable-rate, a coverage and nitrogen rate map (PDF) is required.

If using variable-rate application of nitrogen products, submit a coverage and rate map (PDF).

### Recorded data to keep on file (for winning entry audits):

Keep as-applied geospatial application maps of all nitrogen-containing products with rate and coverage.

Maintain cash receipts and other documents to verify recorded and submitted numbers.

Keep nutrient analysis for all manures and composts and product labels for any biological or foliar feed products applied.