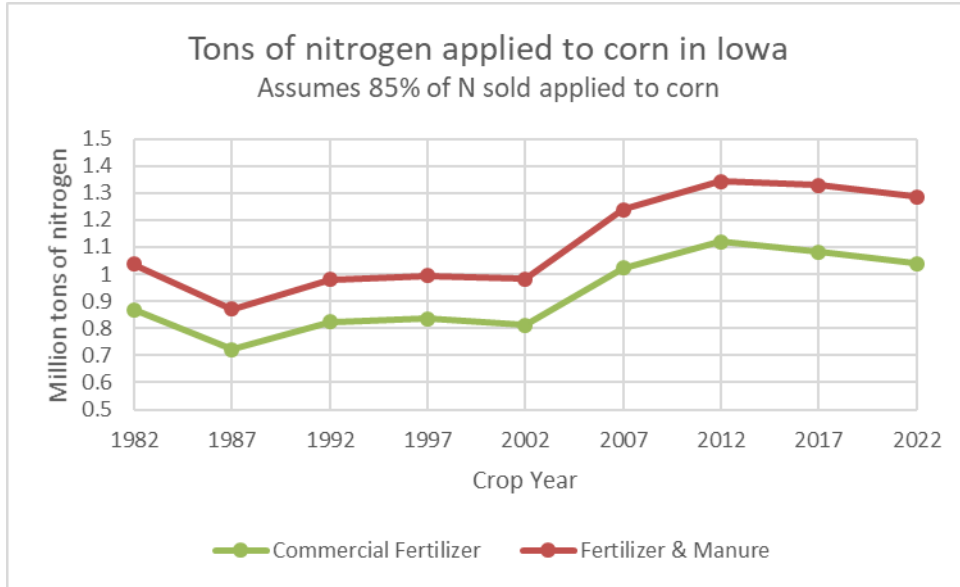


## What happened to nitrogen application rates?

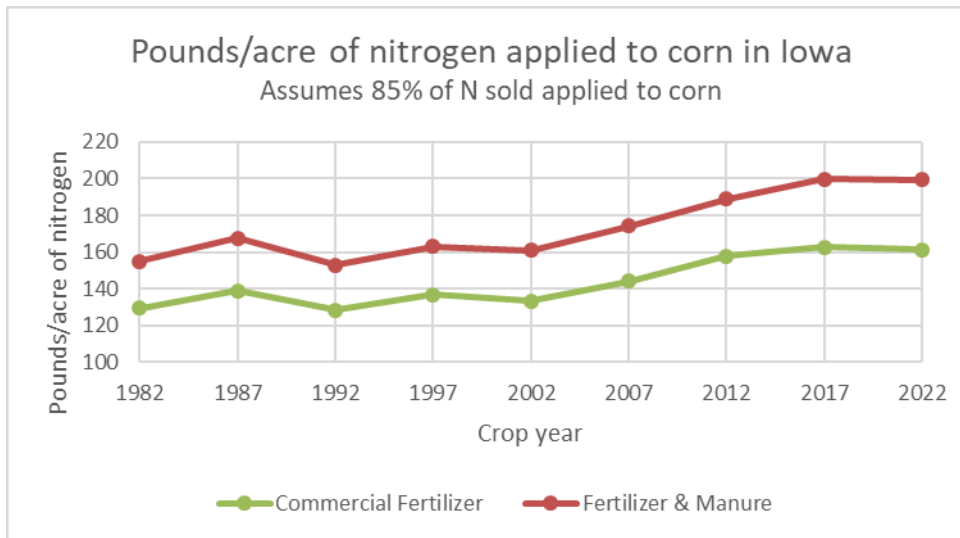
Dan Haug, Prairie Rivers of Iowa

December 4, 2025

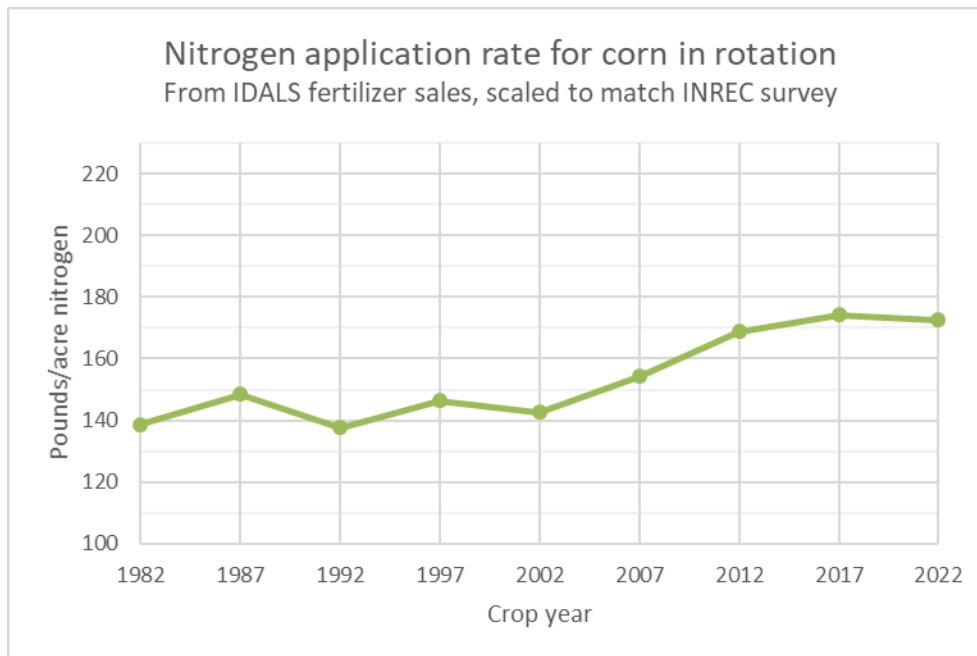
The amount of nitrogen fertilizer sold in Iowa peaked in 2012 at 1.29 million tons. The Gazette reported an uptick in fertilizer sales in 2024 (1.25 million tons, as nitrogen), but it's still below those levels.



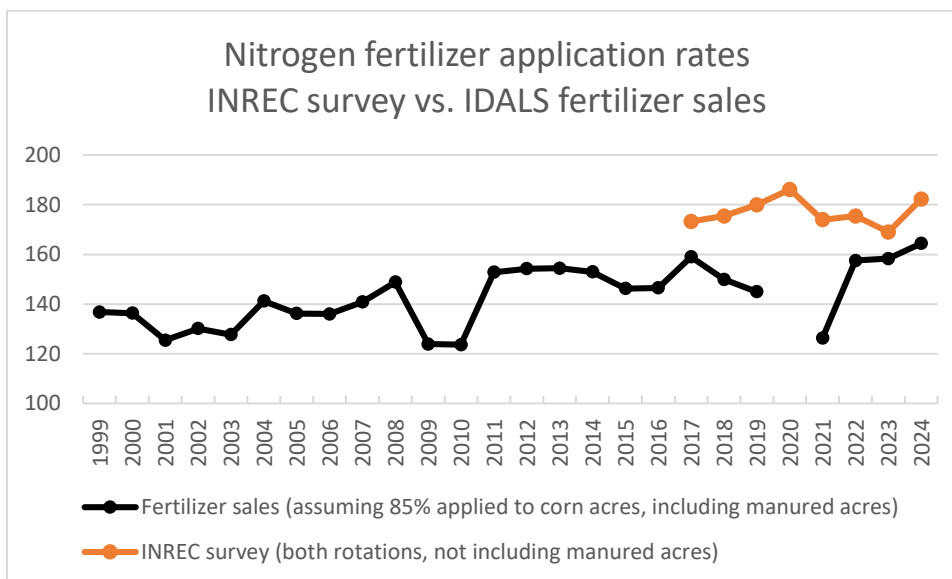
Corn acres planted in Iowa also peaked in 2012. Per acre nitrogen application rates levelled off recently, at around 160 lbs/acre from commercial fertilizer plus 40 lbs/acre from manure. Keep in mind this figured includes both manured and un-manured acres, and both continuous corn and corn-soybean rotations.



The INREC survey reported between 170 and 175 pounds of nitrogen per acre applied to corn following soybeans, for the 80% of fields that did not receive manure. I've scaled the application rates derived from fertilizer sales to match those numbers, which are only available since 2017.



The time frames and definitions used in agricultural statistics are not consistent, so the details of the story will vary depending on which sources you consult and which simplifying assumptions you make. IDALS fertilizer sales are not broken out by crop, so I used typical assumptions about how much nitrogen is applied to turf grass and pasture. Fertilizer sales numbers from 2020 are unrealistically low, likely due to reporting error associated with a database update. Dips in 2021 and 2009 crop years are more plausible, as they correspond to price shocks.



However, in broad strokes it's clear that nitrogen applications have levelled off recently.