A 39-year farming veteran split from his past farming practices to use less fertilizer and improve crop health and yield performance. By replacing anhydrous ammonia with split spring applications of liquid nitrogen, he is also supporting Iowa’s Nutrient Reduction Strategy by reducing the risk of leaching and runoff.

Carson says the ability to apply nitrogen as late as mid-July is a key component in his spring fertilizer plan.

### Fertilizer Plan

- **Fall** – potash and phosphate/NPK (15-20 units of N)
- **Early Spring Pre-Plant** – UAN 32% liquid nitrogen with 10-34-0 liquid ammonia phosphate (75 units of N)
- **June** – Sidedress liquid nitrogen with the first pass of corn herbicide (30 units of N)
- **July** – Variable rate liquid nitrogen with a 24-row “Y” drop sprayer using a Hagie high clearance tractor and an Ag Leader OptRx® crop sensor (50-60 units of N)
The Carsons are using a Hagie Tall Corn applicator to protect the crop while applying nitrogen in tall corn. “We could not execute our plan without the high clearance applicator,” RJ said. “This technology changed the way we apply nutrients.”

They began applying their final nitrogen application on July 7 this year to fields that were beginning to turn light green, which indicates a nitrogen deficiency. “In less than 48 hours all new growth was coming out – so deep green it was phenomenal,” he said.

The Carsons are not limiting their new fertilizer plan to corn-on-corn. They are also using split N applications in most of his corn-soybean rotation fields. The results have been eye-opening. “Our yields have been phenomenal,” RJ said. “We did some field to field comparisons last year, and found 25 to 55 bushel per acre increases with our new split application system.”

**New System Benefits Environment**

It may be difficult to assess the exact environmental benefits their new fertilizer plan provides, but RJ knows they are applying less nitrogen than before. He says they were applying about 250 units of anhydrous ammonia in the fall with corn-on-corn, and now their applications are more field precise, ranging from 170 to 200 units.

“I really feel we are better land stewards now,” he said. “We are not only applying fewer nutrients, we are applying them when the plant needs it, so it is taking it right up, dramatically decreasing the risk of leaching or runoff.”

**Time Commitment**

One downfall of the new system is an increase of time in the field, although some of that was spent custom applying. During Greg’s July application this year, he worked 7 a.m. to midnight for a few weeks using the high clearance tractor. “Between our farm and custom applying, he probably covered 10,000 acres in July,” RJ said.

“It’s a lot of work when many farmers are taking a vacation,” he said. “We stay very busy from March 1 with calving through harvest.”

Visit your local USDA-Natural Resources Conservation Service office to learn more about a conservation plan to help build your farm’s productivity and improve your net return.