

# Ease the NH<sub>3</sub> bottleneck



Pairing up anhydrous tanks improves efficiency.

**A**nhydrous ammonia is almost always the most economical source of nitrogen--but it's seldom the most convenient. Farmers have long relied on 1,000-gallon NH<sub>3</sub> trailers to get the product to their fields, but with increased farm size and wider applicators, this method of delivery is now limiting the capacity of large producers. A growing interest in low-disturbance NH<sub>3</sub> for no-till and sidedress operations has led to the development of high-speed toolbars able to empty those tanks in a matter of minutes. Frequent stops to change tanks--and the endless job of pulling them to and from the field--limits productivity and destroys efficiency.

Those limitations have led farmers like the Reiss family, who operate as Southwest Family Farms near Plains, Kansas, to take steps that bring NH<sub>3</sub> into the modern era. "We've rigged up a pair of trailers that each carry two 1,000-gallon tanks to take the bottleneck out of NH<sub>3</sub> application," says Brett Reiss. "NH<sub>3</sub> is our best source of nitrogen and we rely on it heavily, but we've had to come up with a more efficient method of getting it to our 40-foot strip-till and sidedress applicators.

"On our highest yielding irrigated acres we apply up to 250 pounds of nitrogen per acre. At a typical pace of 25 acres per hour we would go through a 1,000-gallon trailer in about 30 minutes. By doubling-up the tanks we can now run an hour or more on those fields."

The Reiss's built two of the carts, one to be in the field while the other is being filled at the farm's



**Dual 1,000-gallon NH<sub>3</sub> tanks have improved efficiency for Southwest Family Farms of Plains, Kansas. A ball valve bleeds NH<sub>3</sub> from plumbing that joins the two tanks.**

30,000-gallon NH<sub>3</sub> storage facility. "We use a liquid pump, rather than a vapor pump, on the storage tank which allows us to transfer the 2,000 gallons in about 20 minutes," says Brett.

The NH<sub>3</sub> tanks were mounted on Yetter All Steer carts, which feature four-wheel steering to minimize soil compaction and crop damage. "The rear tires track behind the front tires, so they don't run down rows when sidedressing and, with wide tires on the trailer, there's also less damage to our strip-till strips."

Reiss explains that it took only slight modifications to the cart frames to accommodate the tanks. "We plumbed the liquid and vapor lines from both tanks together, and mounted them on the front of the cart frame below the tanks. This lets us hookup for filling or transfer at ground level, rather than having to climb to the top of the tanks. We also installed a ball valve on these connections, with a hose running to the back of the trailer, to safely bleed liquid and vapor out of the plumbing.

"The double tanks also have safety benefits," adds Reiss. "We're not constantly pulling single tanks on the road, which is where accidents are most likely to happen. It would be even better to bring transport loads of NH<sub>3</sub> right to the field, but that's still prohibited by state law."



**Brett Reiss**