

# UPGRADING SEEDING EQUIPMENT TO BENEFIT THE FARM AND THE LAND



Upgrading seeding equipment to allow for banding or injection of fertilizer has many benefits for both the farmers as well as the fields they manage. Some of these benefits include:

1. **Reduced Environmental Impact** – Shallow banding and injection of nitrogen fertilizer reduce losses to the environment as compared to broadcasting. Proper placement of fertilizer based on environmental and soil conditions helps decrease the in-soil movement of nutrients in the ground and surface water through volatilization and leaching.
2. **Reduced Seeding Damage** – Placing fertilizer further from the seed instead of in the same row can reduce seedling damage from salt and ammonia toxicity. This toxicity can lead to reduced yields, lower response to nitrogen fertilizer and reduced nitrogen use efficiency. Nitrogen injection systems can reduce chemical stress on the plant by waiting until it is more mature and resilient, while providing the nutrients when they need it the most.
3. **Increased Productivity** – Changing to banding or injection can allow optimal nitrogen rates to be applied to increase crop growth and yield without the risk on ammonia toxicity. Banding fertilizer can improve nutrient intake leading to

improved plant health, vigor and yield. Banding fertilizer can also improve soil health and promote beneficial microbial activity by creating localized nutrient zones. This can lead to increased productivity for the current and subsequent crops.

4. **Improved Nitrogen Use Efficiency (NUE)** – Applying required nutrients exactly when and where they are needed helps to improve NUE by reducing potential runoff and increasing fertilizer absorption. The primary benefit of injection is to provide precise delivery of nutrients to the root zone resulting in reduced losses, while ensuring the crop gets the exact nutrients they need at the right time.

Upgrading seeding equipment may result in reduced input costs, increased cost savings in terms of time and labor, and increased yields while reducing impacts to the environment.

Upgrading seeding equipment to allow for banding, side-dressing or injection is an eligible project through SAW's SWEAP (Saskatchewan Watersheds Environmental Agriculture Program) Nitrogen Management category. Funding for SWEAP is provided by Agriculture and Agri-Food Canada through the Agriculture Climate Solutions - On-Farm Climate Action Fund (OFCAF).