

SOIL MAPPING & TESTING: KEY TOOLS FOR SMART NITROGEN MANAGEMENT

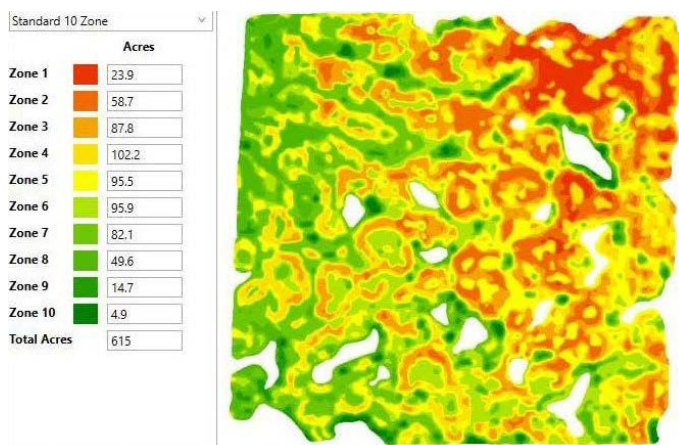
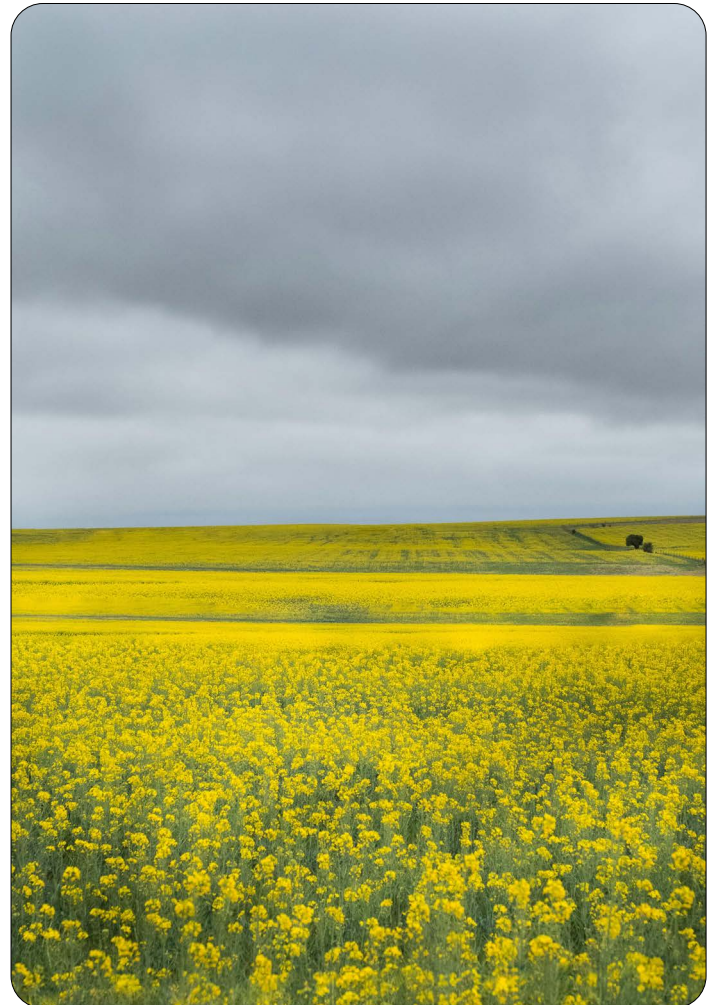
Nitrogen fertilizer remains a cornerstone of crop production in Saskatchewan. Soil testing and soil mapping are proven, cost-effective strategies to optimize nitrogen use while reducing emissions.

The Case for Soil Testing

- **Baseline Data for Better Decisions:** Soil tests quantify existing nutrient levels and organic matter, allowing agronomists and producers to make data-driven fertilizer plans.
- **Right-Rate Fertilization:** Understanding the soil's nitrogen supply capacity reduces the risk of over-application, lowering costs and minimizing environmental losses.
- **Improved Efficiency Metrics:** Precision application guided by soil data ensures higher nitrogen use efficiency (NUE)—a critical performance indicator for both farm economics and sustainability reporting.

The Role of Soil Mapping

- **Identifying Variability:** Saskatchewan's fields often show significant differences in soil type and productivity potential. Mapping reveals these variations at a sub-field scale.
- **Enabling Variable Rate Technology (VRT):** Soil maps paired with modern application equipment allow for variable-rate nitrogen management, aligning inputs with yield potential while reducing waste.
- **Strategic Long-Term Planning:** Soil maps serve as a baseline for tracking soil health and nutrient dynamics across seasons.



615-acre soil map split into 10 zones - colour-coded from red to green to reveal soil variability at a glance.

Widespread adoption of soil testing and mapping across Saskatchewan grain farms represents a win-win opportunity: lower input costs for producers, as well as measurable progress toward national and global climate commitments.

Soil mapping, soil testing and agronomic services are eligible for support through SAW's SWEAP (Saskatchewan Watersheds Environmental Agriculture Program) Nitrogen Management Beneficial Management Practice program. Funding for SWEAP is provided by Agriculture and Agri-Food Canada through the Agriculture Climate Solutions – On-Farm Climate Action Fund (OFCAF). Agricultural Climate Solutions – On-Farm Climate Action Fund.