



Researchers at the University of Saskatchewan (Fran Walley [fran.walley@usask.ca](mailto:fran.walley@usask.ca) and Rich Farrell), together with collaborators John Heard (Manitoba Agriculture) and Lyle Cowell (Nutrien Ag Solutions) are aiming to revise the crop nutrient uptake and removal guidelines for Western Canada.

We continue to have an inadequate understanding of the rate of grain nutrient removal by individual crop species on farms across western Canada. Our current assumed numbers are based largely on data from research sites, and not from farm fields, and do not represent the full geography of western Canada. Our goal is to develop new estimates for crop nutrient uptake and removal based on crops grown under typical farm conditions. In doing so, we are addressing concerns that current information regarding crop nutrient uptake and removal does not reflect current crop yields or varieties. Without an accurate understanding of crop nutrient removal, estimating fertilizer requirements to counter crop nutrient removal is not possible, with the risks of either under fertilizing subsequent crops and thereby losing yield, or over fertilizing with needless expense and the potential for groundwater contamination.

Revising nutrient removal estimates start with collecting a robust sample of grains from across western Canada. The goal in this first year of the study is to collect 50 to 200 samples of each of 14 crops, with the number of samples collected in each province reflecting the acreage of each. Each grain sample should be approximately 300-400 grams, and placed in a soil testing bag or zip lock bag, together with the sample ID information on the label (see below). And that’s it. Our team will take it from there, and analyze the grain samples for macro and micronutrient content and ultimately provide new “made on the prairies” nutrient removal guidelines.

Funding for this project is being provided by Western Grain Research Foundation, Alberta Wheat Commission, Prairie Oat Growers Association, Saskatchewan Canola Development Commission, Saskatchewan Flax Development Commission, Saskatchewan Wheat Development Commission.

Samples to be sent to: Lyle Cowell, Box 1238, Tisdale SK, Canada S0E 1T0 (Physical Address: 803-100<sup>th</sup> Street); Cell: 306-873-7105; email: [Lyle.Cowell@nutrien.com](mailto:Lyle.Cowell@nutrien.com).

**Please fill out the following and include in the sample bag:**

Name of farmer: \_\_\_\_\_

Phone Contact: \_\_\_\_\_ e-mail (optional): \_\_\_\_\_

**Crop (circle):** Barley, Canola, Chickpea, Corn, Lentil, Oats, Soybean, Field pea, Flax  
Mustard, Spring\_Wheat, Winter Wheat, Durum Wheat, Dry Bean

**Variety:** \_\_\_\_\_

**Legal land location:** Quarter \_\_\_\_ Section \_\_\_\_ Township \_\_\_\_ Range \_\_\_\_ Meridian \_\_\_\_ RM \_\_\_\_

**Approximate yield:** \_\_\_\_\_ bu per acre

**Fertilizer nutrients applied per acre (rate):** N \_\_\_\_ P<sub>2</sub>O<sub>5</sub> \_\_\_\_ K<sub>2</sub>O \_\_\_\_ S \_\_\_\_  
Micros (please list) \_\_\_\_\_

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Please do not include samples from fields manured in the past three years, with excess salinity or significant weather damage.