Research Priorities – Field Variability Project

* The overall goal of the research program is to foster sustainable, competitive growth of the Manitoba potato industry through a research program within Manitoba.
* The current objective of this research program was to identify areas of variable potato yield and to characterize the variables responsible for variable yield.
  + 96 soil, plant, and environmental variables are observed in four-to-six fields annually.
  + The value (in dollars), specific gravity, and tuber size profiles of <3 oz, 3-6 oz, 6-10 oz, 10-12 oz, and > 12 oz tubers are also recorded for 15 points in each field.
* The future objective is to evaluate strategies to remediate each factor in-field in an economically sustainable manner.
  + Future objectives will focus on results with sulfur, nitrogen, and verticillium remediation. Other areas of focus will become evident pending continued analysis.

1. There is an association with too much or too little soil and petiole nitrogen at row closure and a negative yield association of 6-12 oz tubers. A research priority will be to quantify the amount of soil and petiole nitrogen at row closure necessary to optimize in the yield of 6-12 oz tubers.
2. There is an association with greater amounts of soil sulfur were associated with our highest-yielding points in the field. A research priority will be to quantify the amount of soil sulfur necessary to optimize in the yield of 6-12 oz tubers.
3. There is an association between increasing numbers of Verticillium propagules and a large, negative contribution to 10-12 oz potato yield. A research priority will be the reduction of Verticillium propagules in potato field soil.