**Quarterly report for the NW Potato Research Consortium**

**Title:** Comparison of potato yields, soil health, and pathogen loads in virgin and non-virgin soils.

**Funded PIs:**

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**Objectives:**

1. Sample soils from virgin and non-virgin fields.
2. Characterize soil physical, chemical, and biological properties.
3. Quantify potato performance in microplots.
4. Learn from data.

**Progress:**

Objective 1 was completed in May of 2021. A total of 22 fields (n= 11 pairs) of virgin and non-virgin soils were sampled from the Columbia Basin (n=7) and Skagit Valley (n=4).

Objective 2 is in progress. Drs. Griffin LaHue, Gleason, and Frost are characterizing the soil physical, chemical, and biological properties, including pathogen and nematode loads. Some surmountable problems, like low DNA extraction yields for nematodes, have been encountered. No insurmountable problems have yet been encountered.

Objective 3 is in progress. Microplots were established in Pullman, WA during the spring of 2021 (**Fig 1**). Pots were filled with virgin or non-virgin soils and potatoes were planted on 5/26/2021. Currently, the plants are still in the process of senescence. Thus, we will continue to estimate symptom severity across all plots until they senesce. After senescence we will measure yields.

Objective 4, where we analyze and learn from the data, has not yet commenced. We have no reason to think this object should not be completed on time.

For more project updates, please check out our [project site](https://github.com/d-linnard/SoilFingerPrints) (we will update with images soon).

A picture containing ground, grass, outdoor, dirt

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**Figure 1.** Microplots in Pullman, WA.