# Mustard Green Manures Replace Soil Fumigant and Improve Infiltration in Wheat-Potato Cropping System. (A08-mcguire133013-Poster)

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## Abstract:

Mustard green manures (Sinapis alba and Brassica juncea) have the potential to reduce input costs by improving soil-borne pest control and soil quality. On-farm research was conducted to determine if the use of these mustards could replace the fumigant metham sodium, used for soil-borne pest control in potatoes, and increase water infiltration in a spring wheat/mustard-potato cropping system. Three trials were conducted over two years (1999 and 2000) at Moses Lake, WA, on loamy sands and sandy loams. Mustard green manures were fall-incorporated and potatoes (cv. Russet Norkotah), with and without metham sodium, were planted the following spring. Mustard biomass yields averaged 5840 kg dry matter/ha. Subsequent potato yields averaged 72.8 Mg/ha with no significant differences between fumigated and non-fumigated treatments. An average of 86% of the tubers met the US#1 grade (>113.4 g). Infiltration rates for soils receiving mustard green manures were from 2 to 10 times greater than those not receiving green manures. In this cropping system, using mustard green manures to replace metham sodium, potato farmers could improve their soils while saving 121-269 USD/ha.

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