

Use of Wheat and Corn Glutens as Soil Amendments for Weed and Disease Control in Organically-grown Potatoes

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Field trials maintained using organic protocols have been established at the Harrington Research Farm to determine the efficacy of wheat and corn glutens added as soil amendments for weed and disease control in potatoes. Plots with glutens added singly, or in combination, were compared to control plots that received no soil amendments or plots with a flamer treatment for weed control. Corn gluten significantly ($P=0.05$) reduced the number and dry mass of certain broad-leaved weed species compared to a control receiving no treatment, and for some weed species, was similar to the flamer treatment in effectiveness. Plant stems and tubers from plots receiving corn gluten were also significantly ($P=0.05$) less affected by stem canker and black scurf (*Rhizoctonia solani*), respectively, compared to controls receiving no amendments. By contrast, wheat gluten was generally less effective as a treatment for weed or disease control. These initial findings warrant further investigations of the potential use of corn gluten as a soil amendment in potato agriculture.

Key Words: potato, gluten, weeds, disease, *Rhizoctonia solani*

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