

Physical Weed Control In Potatoes

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Weeds exert the most impact on potato growth shortly after crop emergence so it is important that they be controlled during the first 2-4 weeks after crop emergence to prevent yield loss. Even 3 weeks of competition from a moderate stand of broadleaved or grass weeds can reduce crop yield by 15 to 30 %. Over the past several years we have evaluated a number of physical weed control techniques used alone or in combination for potential to achieve weed control in Russet Burbank potatoes on a Charlottetown fine sandy loam soil. A comparison of a between the row rototiller, over row flamer and full plot width finger weeder to achieve weed control in potatoes showed that the flamer gave greatest control of quack grass and broadleaved weeds and generally had highest potato marketable and total yield. Cultivation after the potatoes were emerged caused foliar injury to the potatoes but they recovered quickly and this injury often did not affect yield. There was no difference between flaming once at potato emergence or once when potatoes were 10 to 15 cm tall. Flaming twice (just before potato emergence + 2 weeks later) tended to reduce potato marketable and total yield. Removal of the weeds between the row was not difficult but removal of weeds in the row was difficult and required well timed cultivation to destroy the weeds when they were small. Evaluation of the Weedcast program to predict emergence and time cultivation in potatoes for control of lamb's-quarters found that cultivation at the 15 to 30 % predicted time of emergence gave best control and potato yield. More than one cultivation may be needed depending on the rate of potato emergence, weed species present, and number of weed flushes that occur. Some success has been achieved by researchers using organic products such as corn gluten or vinegar (acetic acid) for weed control.

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