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### Re-establishing Alfalfa After Alfalfa

When alfalfa follows alfalfa in the same field, there are problems with establishment and weeds. Some recommendations are given to overcome these problems.

Because of poor alfalfa survival last winter, some farmers are thinking about plowing up the stands and reseeding back to alfalfa. There are some problems that could arise.

#### 1. Autotoxicity

Autotoxicity exists when a plant has lower germination, poorer establishment and/or lower productivity if grown after itself, than after another crop. Autotoxicity on alfalfa has been reported in a number of states.

Michigan State has conducted field experiments on autotoxicity of alfalfa since 1978. Based on their research Dr. M.B. Tesar of Michigan State has made the following recommendations for seeding alfalfa after alfalfa:

- (a) Delay conventional seeding two or more weeks after plowing under an old alfalfa sod.
- (b) If sod-seeding, after spraying with Roundup to kill the old stand, delay seeding three or more weeks.

The autotoxic compound in alfalfa is water soluble and mostly in the green leaves. Waiting at least two weeks after plowing, will allow the compound time to move below the root zone of the seedlings. With sod-seeding, an extra week is needed to wash the compound out of the leaf and then below the seedling root zone.

#### 2. Weeds

When re-establishing alfalfa after alfalfa there are two major weed problems, that, could carry over into the new stand.

- a) Twitchgrass - if the twitchgrass is actively growing, then Roundup at recommended rates will give good control. If the twitch isn't actively growing then you may have to apply it in the fall and delay seeding until next spring. The other alternative is to grow corn for two years and use the split application of atrazine.
- b) Dandelions - normally Roundup does not give good control of dandelions. If the dandelions are actively growing, then an application of 1.5 kg/ha of 2,4-D (3.0 l/ha of amine 500) before working the field gives good control.

After application of the 2,4-D wait at least 2 weeks before reseeding.

#### 3) Planting Date

Alfalfa should be planted before August 15 in much of Ontario. Later seedings generally result in poor establishment because of increased winter-kill and heaving.