# Tolerance of Seedling Creeping Red Fescue to Roundup Seeded With Roundup Ready Canola (January, 2007)

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**Funded by the Peace Region Forage Seed Association**

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***The following discusses treatments that are not registered for use and the researchers involved do not recommend their use. Use of these products is entirely at the risk of the producer or company involved.***

## Introduction

The traditional method for establishing creeping red fescue seed fields is to underseed fescue to an annual crop. The following year is considered a clip crop where weed control and mowing is conducted. Seed is then harvested the following year. A number of growers prefer to use canola as a cover crop instead of cereal crops. Much of the canola now grown is Roundup Ready. Questions have been raised regarding the tolerance of seedling creeping red fescue to Roundup applied in crop when grown with Roundup Ready canola.

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## Methods

Creeping red fescue was underseeded with Advanta 225 Roundup Ready canola on May 16th, 2004 on a field east of Rycroft (John Sekulic). The canola was seeded with a drill and the fescue broadcast and harrowed following the canola seeding. Soil moisture conditions during and following seeding were excellent. This resulted in quick emergence of both the canola and fescue.

A small plot herbicide trial was established on the field. Various Herbicide treatments were applied to an area of 2 x 7 m. Each treatment was replicated 3 times in a randomized complete block design. Treatments included:

1) One application of Roundup Transorb was made on June 16th when the fescue was emerging to 1 leaf stage.
2) An application of Poast Ultra, which is considered the check treatment, was also made on June 16th.
3) Roundup Transorb applied June 4th and again on June 24th.

On June 4th the fescue had not yet emerged. By June 24th the fescue was at the 1-4 leaf stage. The field of canola was swathed and combined in the fall of 2004.

**Figure 1. Creeping red fescue establishment the year following applications of Roundup on creeping red fescue underseeded with Roundup Ready canola. Left = Roundup applied twice, Right = Poast Ultra (1X).**

In 2005 the field in which the trial was conducted was re-staked. Ratings on visual percent stand reduction and plant counts were conducted. Seed yields from each treatment were collected in 2006. Area harvested was 3.84 $m^2$.

**Figure 2. Harvesting creeping red fescue from the plots in 2006.**

**Results and Discussion**

Roundup Transorb applied twice significantly reduced creeping red fescue plants by 40% as compared to the application of Poast Ultra (Table 1). Roundup Transorb applied once slightly reduced creeping red fescue plants but was not statistically different than the Poast Ultra treatment. Fescue seed yields collected in 2006 were not affected by the Roundup treatments even though they had reduced the plant stands during establishment.

**Table 1. Tolerance of creeping red fescue to Roundup Transorb applications underseeded to Roundup Ready canola.**

| Treatment | Form. g/litre | Rate ml/acre | Application Date (2004) | Fescue Leaf Stage | Visual % Stand Reduction 06/01/05 | Plants /m2 08/02/05 | Seed Yield kg/ha 07/16/06 |
|---|---|---|---|---|---|---|---|
| **PoastUltra+ Merge** | 450 EC | 190 0.4%v/v | June 16 | Emergence- 1 lf | 0 | 35 a | 456 |
| **Roundup** | 360 EC | 500 | June 16 | Energence-1 lf | 11 | 28 ab | 487 |
| **Roundup Roundup** | 360 EC 360 EC | 500 500 | June 4 June 24 | No emergence 1 – 4 lf | 21 | 22 b | 491 |
| **CV%** | | | | | | 17.5 | 5.7 |
| **LSD(P=.05)** | | | | | | 8.5 | NSD |

In 2004, the producer sprayed Roundup Transorb at 500 ml/acre on the rest of the canola field twice. There was good establishment of the creeping red fescue in 2005 (Figure 3), the clip year. In 2006, creeping red fescue seed yields from this field averaged 600 lbs/acre (Figure 4).

**Figure 3. Cooperators' creeping red fescue field the year following establishment with Roundup Ready canola, sprayed twice with Roundup Transorb (2004).**

**Figure 4. The creeping red fescue field prior to harvest in 2006.**