Optimizing Canola Production: Pest Implications of Intensive Canola Rotations

H.R. Kutcher, Melfort Research Farm, S. Brandt, Scott Research Farm
Agriculture and Agri-Food Canada, University of Saskatchewan
Project Code: CARP 9830, 2004-17 and 2007-17

Optimizing Canola and Field Pea Production: Disease Implications of Intensive Canola and Field Pea Rotations

H.R. Kutcher, S.A. Brandt and E.G. Smith
Agriculture and Agri-Food Canada, Melfort, SK; Scott, SK; Lethbridge, AB

Introduction

In many years canola and field pea provide the best economic return to producers compared to other field crops grown in western Canada. Knowledge of the consequences of continuous or repeated use of these crops will allow producers to prepare for related consequences such as pest problems. Bacterial leaf blight (Bacillus pseudomonas) and blackleg (Leptosphaeria maculans) are the most important diseases in canola production in Western Canada (Jennings et al., 2006). Rotation with canola or peas reduces the incidence of bacterial leaf blight, but not that of blackleg. Blackleg resistance is a major factor in the management of this disease in Western Canada. Resistance to blackleg is most effective in the rotation of canola and peas with a break crop (Brandt et al., 2007).

The objective of this study was to determine the implications of intensive production of canola and field peas, using varieties and fungicides to control disease.

Materials and Methods

The study was conducted at Scott and Melfort, SK, which represent the Mixed Tall Grass and the Multi-Block soil types. Field experiments were designed in a split plot split plot of the 2006-2007 rotation with canola or peas in treatment and rotation and a break crop in the 2007-2008 rotation. The split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were canola in 2006 and canola in 2007, split plot treatments used were cana
Figure 1.

Figure 2.