PEACE REGION LIVING LAB

Optimizing Intercrops for the Peace Region

This study aims to report significant findings in yellow pea, wheat and canola yield, test weight, protein content in wheat as well as oil content in canola seed obtained from intercrop systems fed under various percentages of N fertilizer rates in comparison to monocrop yields of these cash crops fed at 100% of N fertilizer rate. Moreover, weed cover is also evaluated in order to observe if more weeds are found under intercrop compared to monocrop systems and how this can be affected under different N rates.

PEACE REGION
LIVING LAB

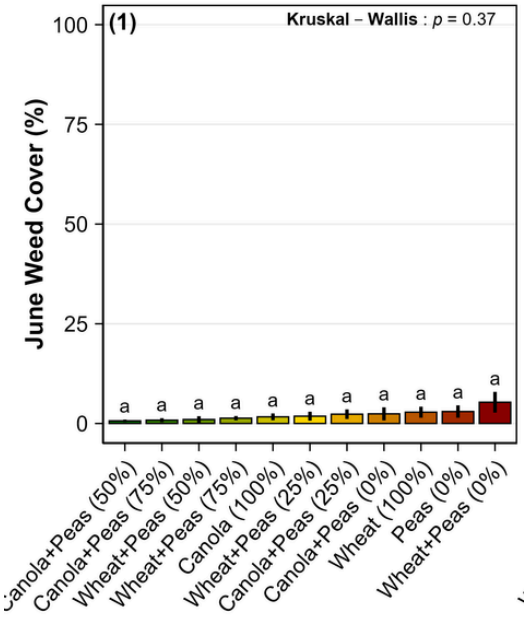
Key Points:

- **Intercropping wheat-pea at any N rate can decrease weed cover**
- **Excessive N rates were not required for increasing emergence, yield or protein content in a dry season**

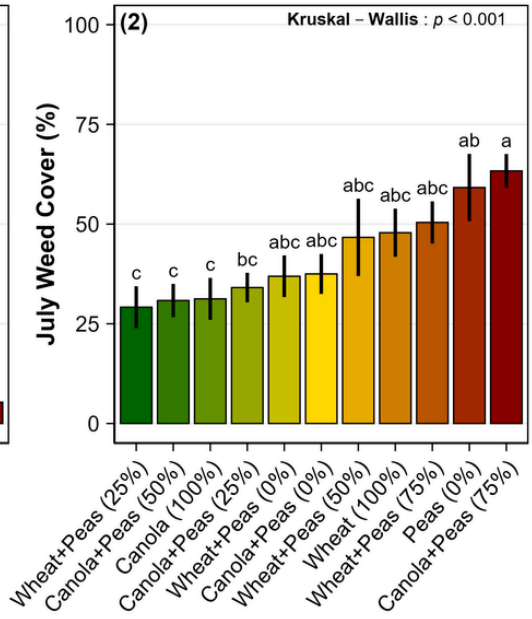
Task	Timeline	Details
Seeding	May 28	Canola 2.4-4.8 lb/ac Wheat 63-127 lb/ac Peas 147-196 lb/ac 0.75" depth
Maintenance	May 10-June 24	Urea and S15 0-158 lb/ac Glyphosate (pre-seed) 1 L/ac Coragen 0.71 L/ac
Harvest	Sept. 16	Straight-cut

PEACE REGION LIVING LAB

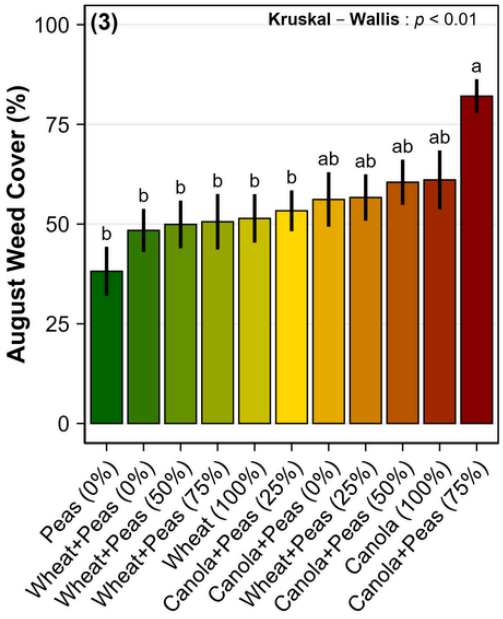
Optimizing Intercrops for the Peace Region



Weed cover (%) in June



Weed cover (%) in July



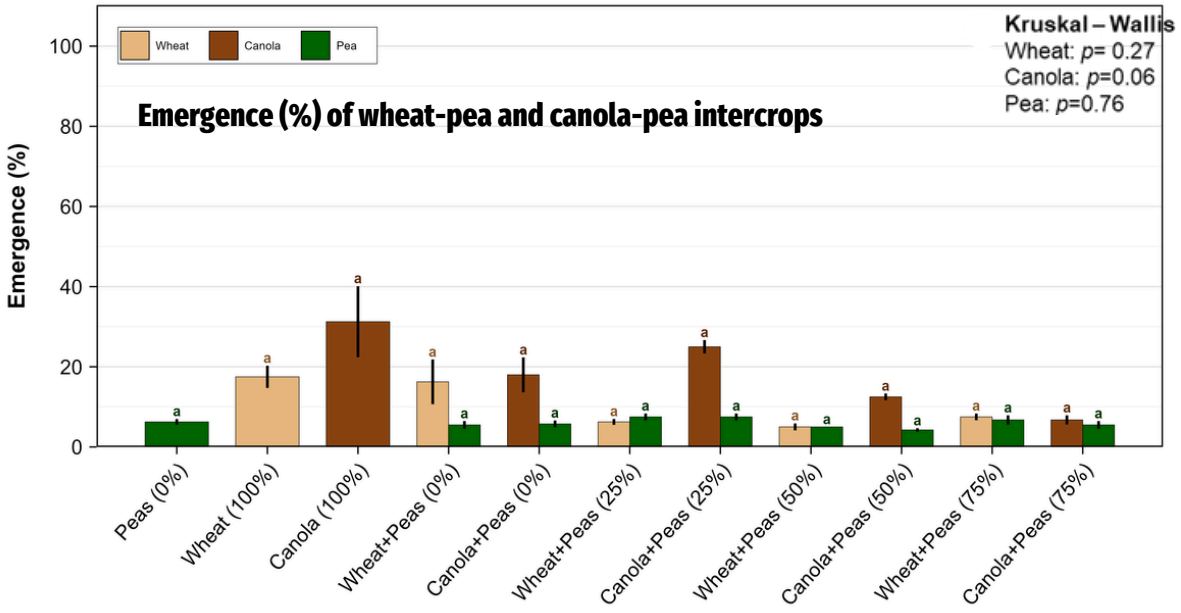
Weed cover (%) in August

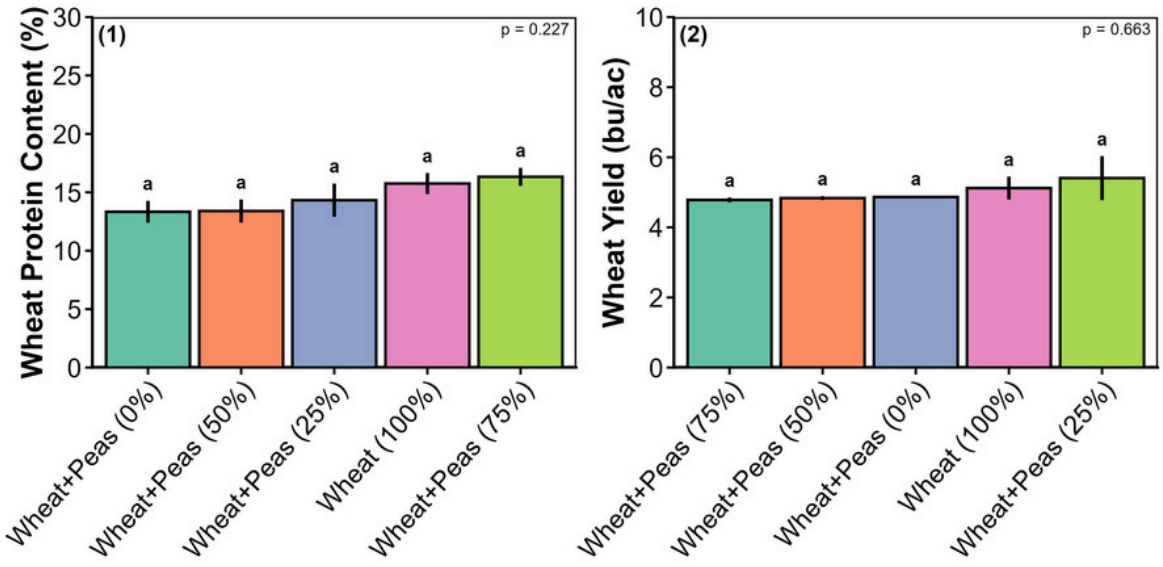
The weed cover results show that although the different treatments did not change weed cover in June, important differences appeared later in the season. In July and August, the intercrop of wheat and pea, especially without N and with the lower N fertilizer rates, were more effective at suppressing weeds and reducing weed cover than the other intercrop types.

PEACE REGION LIVING LAB

Optimizing Intercrops for the Peace Region

This year's results indicated that there were no significant differences between monocrop and intercrop systems in the emergence of wheat and canola, including their intercrops with pea. Similarly, no significant differences were observed in protein content and yield of wheat and wheat-pea intercrops across N fertilizer rates ranging from 0 to 100%. Overall, under dry conditions, increasing synthetic fertilizer rates is not recommended to improve emergence, protein content, or yield in intercropping systems.





(1) Protein content (%) of wheat from wheat-pea intercrops

(2) Wheat yield (bu/ac) of wheat-pea intercrops