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# Recropping of Durum Wheat on Pulse and Oilseed Stubble In Southwest Saskatchewan

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## Abstract

A three-year demonstration project was conducted at 4 locations in south-central Saskatchewan between 1998 and 2000.

The purpose of the demonstrations was to determine the most profitable rates of seed and fertilizer for direct-seeding durum wheat on pulse (field pea, chickpea, lentil) and oilseed stubble (mustard, canola).

The overall objective of this AFIF project was to demonstrate sustainable cropping sequences and management practices for growing alternative crops in south-central Saskatchewan.

## Method

PFRA, SSCA and SAF Extension Service worked with 4 farmer cooperators to conduct the field scale demonstrations. Experimental design was modified to accommodate the farmer cooperator's air drills and self-propelled combines. Grain yield and protein were measured for all treatment strips. The results from 6 site-years of data were used to calculate net return per acre and cost of production per bushel for each seed and fertilizer combination.

Infrared aerial photographs of the demonstration site were taken in 1998 and 2000. In 1998 and 1999 samples were taken from the flow of grain entering the combine hopper to map grain protein levels across the demonstration treatments.

## Results

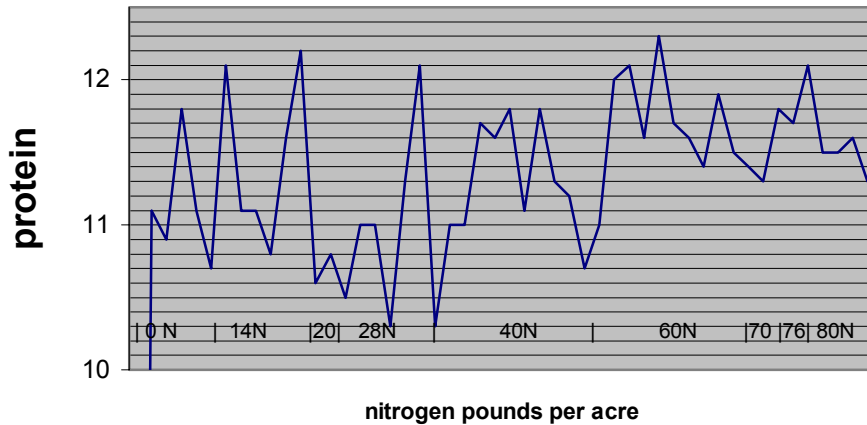
Seed- Over 3 years at six sites, no yield response was attributed to seeding rate in the ranges from 1- 2.5 bushels/acre.

Fertilizer- Soil tests and safe seed-placed rates of nitrogen were used to set fertilizer increments. Fertilizer rates ranged from 14-80 lbs actual nitrogen and 13-38 lbs actual phosphorus/ac.

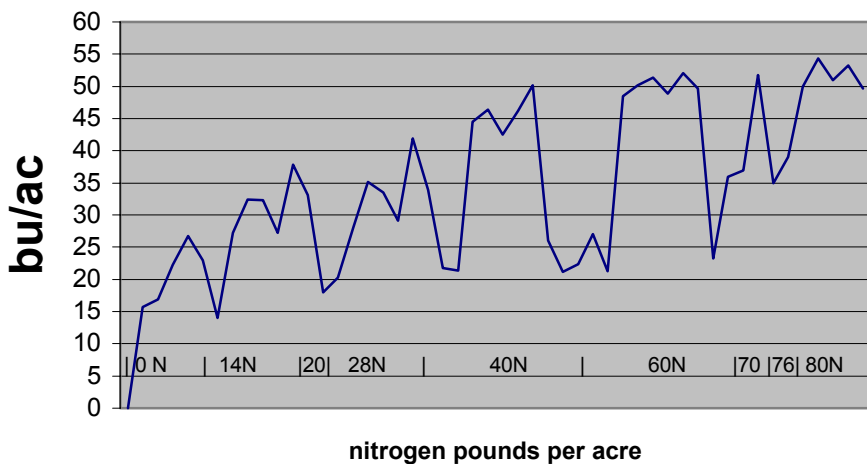
Highest net returns/acre and lowest cost/bushel were recorded at both extremes of the range. In 1999 and 2000 grain yield on fertilized treatments ranged from 1 – 25 bushel/acre (avg 8.5 bu/ac) over unfertilized checks in 39 side-by-side comparisons.

In 1999 and 2000, we could measure, not predict which fertilizer rate (1X, 1.5X, 2X) Would give the most profitable yield response for durum wheat on pulse and oilseed stubble.

## Nitrogen vs Protein



## Nitrogen vs Grain Yield



Thank you to Suzanne Waiting and Shirley Pickard , Extension Service, Assiniboia for preparing and word processing the project results.

Thanks to Dale Regnier and Blaine Schafer PFRA for their assistance in conducting the field demonstrations

Thanks to our farmer co-operators for providing land, crop inputs and machinery to plant and harvest the field demonstrations : Don Kirby (Coronach) Bob Mayes (Assiniboia), Colin Piche (Gravelbourg) and Norm Shoemaker (Mossbank)