

GROW WITH CANOLA ON-FARM DEMONSTRATION

Presentation to the Soils and Crops Workshop

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Grow With Canola...it's perhaps the most ambitious program undertaken by an agricultural organization to date. It's purpose is to:

- to encourage growers to apply production techniques
- to create grower commitment to increased productivity
- to assure the market place of adequate supply of quality canola
- and to establish a strong interface between researchers, extension specialists, industry and growers.

Grow With Canola was launched in early 1985 on the initiative of the Canola Council of Canada. It is designed as a five year, farm level technology transfer program. After a review of the state of the industry in 1984, the Council concluded there was a need to stimulate a flow of information which would facilitate the application of new and existing canola management techniques.

Of the prairie crops, canola is perhaps the most technologically advanced. Rapeseed's modification to canola and canola's subsequent market acceptance occurred relatively quickly. While considerable research has been done into varietal development and agronomic practices, a farm level adoption of the new technology was not as rapid as it could have been.

In its review of the production aspects of canola, the Council discovered an interesting correlation between acreage and yield. Historically, in years when canola acreage increased, average yield declined. conversley, in years of minimal acreage, average yields reached top levels. This relationship seemed to indicate that a core group of canola growers were able to apply techniques which helped them maximize yields. While many groweers report yields of 30 bushels per acre consistently, the five year prairie average was 20 bushels per acre.

Even taking into consideration climatic variation, it was obvious there was room to improve yields. It followed that improved productivity through increased yields would mean greater profitability for growers.

In today's economic climate, productivity and profitability are important factors in a farming operation.

It was on this basis that Grow With Canola was conceived. Grow With Canola is a co-operative program.

Everyone in the agricultural industry has been encouraged to participate, from researchers, government and agri-business to farmers. To effectively disseminate canola management information as broadly as possible, a number of transfer media and methods were planned as the Grow With Canola program was developed.

Grow With Canola is a five phase program. Each phase is designed to compliment the other phases in the program. Phase 1 involved the compilation of the most up-to-date canola management information. This resulted in the publishing of the Canola Growers Manual.

This manual has virtually become the Bible of the program. Some 175 pages long, the manual covers everything there is to know about canola production. It is a prime example of the co-operation that has made Grow With Canola possible. It was written by Phil Thomas, Alberta Agriculture's Oilseed Specialist in collaboration with some 80 researchers, growers and crop management specialists. Some of those 80 people are in this room today. Since its publication in 1985, over 17,000 manuals have been placed in the field. A response mechanism, in the form of a registration card, is included with each manual. This card entitles manual owners to receive updates of the manual as they are printed. To date there has been a response rate of 9,400 cards.

However, it's one thing to provide people with information, it's quite another to get them to use it. The on-farm demonstration portion of Grow With Canola works on the premise that seeing is believing. Grow With Canola agronomists are in place in each of the three prairie provinces, including the Peace Country of Alberta and B.C.

The purpose of the on-farm demos is to re-inforce the information in the Growers Manual by visually demonstrating sound agronomic practices and the difference those practices can make to yields.

In Saskatchewan a major portion of the on-farm demo phase of Grow With Canola is organized by the Saskatchewan Canola Growers Association. It is funded by the Canada-Saskatchewan Subsidiary Agreement on Agriculture Development (E.R.D.A.).

Demonstration sites were situated throughout the canola growing area of Western Canada in 1985 and 1986. In Saskatchewan sites were established on 20 canola growers' farms in 1985 and

28 growers farms in 1986. The on-farm demonstration sites vary in size from 5 to 50 acres. At each site different combinations of management practices are used. Field scale equipment is utilized whenever possible.

This year our major demonstration topics were:

- 1) Soil fertility
- 2) Double seeding and packing
- 3) Variety demonstrations
- 4) Weed and disease control

I will only have time today to talk about the results from a few of our demos.

Yield data was taken from all sites other than one which suffered from poor germination in the north east spring drought and one which suffered extensive wind damage to the swaths.

One of the areas of soil fertility we looked at was sulphur. We applied sulphur on five fields which did not have a recommendation for sulphur from the lab. We did not achieve an economic response at any of these sites.

However, at Gordon Cresswell's farm, south of Tisdale, we did some work on a field which had a soil test recommendation for 20 lbs. of sulphur. The check strip showed the symptoms of sulphur deficiency at an early stage (cupping of the leaves and color changes). Seedling vigor differences were noted between plants from the check strip and from plants which received sulphur. In the fall a portion of the check strip did not set any seed. All treatments received 50 lbs. of 11-55-0 with the seed. The results were as follows:

Gordon Cresswell Tisdale

Tobin

Soil Test Recommendation (normal) — 85N; 15P; 20S; 0B
(50 lbs. of 11-55-0 with the seed)

| <u>Treatment</u> | <u>Yield</u> | <u>Operating Cost Per Acre</u> | <u>Operating Cost Per Bushel</u> |
|---|--------------|------------------------------------|--------------------------------------|
| 1. 80 N + 20 S as solution | 27.25 | \$84.30 | \$3.09 |
| 2. 65 N banded (urea) 15 N + 20 S top dressed as solution | 15.7 | 86.40 | 5.50 |
| 3. 65 N banded (urea) 15 N + 20 S + .25 B top dressed as solution | 20.1 | 88.15 | 4.39 |
| 4. 65 N banded (urea) | 14.0 | 80.00 | 5.71 |
| 5. 65 N banded (urea) 100 lbs. 21-0-0-24 top dressed | 25.75 | 86.40 | 3.36 |

Our conclusions regarding sulphur are:

Conclusions Regarding Sulphur

1. The Sask. Soil Testing Lab. is a valuable asset.
2. Sulphur pays big dividends if you need it.
3. Wide window of application time.
4. Sulphur-Boron interrelationship
5. Different responses to different forms of S.
6. Cost per bushel is the important number, rather than cost per acre.

We had variations of double or cross seeding at 13 locations. The objective was to capture some of the yield advantage which research has shown it is possible to achieve from narrow row spacing. Our conclusions from these demonstrations were:

- 1) a press drill can effectively be used as a packer in a pre-seeding operation. However, there are cheaper ways of packing.
- 2) a press drill can be used to band phosphorus prior to seeding.
- 3) double and cross seeding was not financially sound on our plots in 1986.

An example of a weed control demonstration is the following:

Wild Oat Control

Ronald Schultz, Langenburg

| | <u>Yield</u> | <u>Operating Cost Per Bushel</u> |
|--------------------|--------------|--------------------------------------|
| Unsprayed | 29.93 | \$1.17 |
| Sprayed with Poast | 36.63 | \$1.33 |

Variety demonstrations were done on dryland and irrigation.

Variety Demonstration

Summary of Dryland

| | % of Westar |
|-----------------------------|-------------|
| Tobin, Maidstone | 145% |
| Tobin, Weldon | 81% |
| Tobin, Riverhurst (fallow) | 43% |
| Tobin, Riverhurst (stubble) | 64% |
| Triton, Langenburg | 83% |

An example of a disease control demonstration is our Sclerotinia control project at Maidstone.

Sclerotinia Control

Westar Canola Bob Bullock, Maidstone

| | <u>Yield</u> | <u>Operating Cost Per Bushel</u> |
|-----------|--------------|----------------------------------|
| Untreated | 25.31 | \$1.73 |
| Treated | 36.91 | \$1.73 |

Yields were determined by thrashing sq. meter samples on some demonstrations. In other demonstrations we harvested a given length of a full width swath and weighed the seed in a weigh wagon. The weigh wagon yields reflected more closely what we and the farmers observed in the fields and what would be expected based on past research.

Field tours are held at most sites. Total attendance in 1986 was 1240.

Winter extension meetings are also used to discuss the results generated by the on-farm demos. Meetings in which I participated in 1986 had attendance of 1851 growers.

While technology transfer may be a sound goal, and the information solid, things can get a little dull if the interest

isn't sparked. In the spring of 1986, a grower incentive program was launched. It had a dual purpose - to keep interest high and to re-inforce the intent of the program as one of sound or attentive management.

All growers, some 6,500 who had returned their manual registration cards were sent special Grow With Canola team pins. As well, they were sent an Attentive Crop Management Field Sheet. This sheet was designed to focus attention on the important role that management plays in producing superior yields. As an added incentive, growers who returned one copy of the ACM field sheet by November 1 will receive a special Canola Growers kit this year. It is anticipated that this kit will include items useful in canola management. The incentive program will proceed over the remaining three years of the program.

Another important component of the program is the farm media, including corporate newsletters. Because the grower base is so broad, no one information transfer method can carry the message alone. News releases and news features are being used to involve the farm media in Grow With Canola.

The fifth component of the Grow With Canola program is the research phase. Practical agronomic research is being conducted at research institutions under the auspices of Grow With Canola.

In summary then, the Grow With Canola program is a co-ordinated approach to improving productivity through better canola management. In order to measure the effectiveness of Grow With Canola, a program goal was set at the outset. Over the five year period it is hoped that average per acre yields can be increased by 25 per cent and sustained at that level or greater. To encourage the attainment of that goal, the Council has adopted a theme - Attentive Crop Management. Growers are reminded that higher canola yields don't necessarily depend on higher inputs. Is a 25 per cent yield increase possible by simply applying attentive crop management?

I think it is. I believe it is possible partly because of some of the things we have achieved and observed in our program. In most demonstration sites a portion of the plot reflected the farmer's regular management. The average yield results from all our regular management plots was 29.9 bushels per acre. The provincial average yield was 25.4 bushels per acre. We surpassed the provincial average by 18 per cent. Our cooperating farmers used attentive crop management.

Are we achieving our goal? Prior to the start of the GWC program the 5 year average yield in Saskatchewan was 22 bushels per acre. The average variation in Saskatchewan's seeded acreage was 3/4 of a million acres per year. The goals of GWC include stable or a slightly reduced acreage and an increasing yield.

Acreage has stabilized in 1985 and 1986 and the yields have advanced. The average yield in Saskatchewan was 23.5 in 1985 and 25.25 in 1986. The average change in seeded acres during these two years was 225 thousand acres.

I believe the GWC program is meeting its objectives. I also believe it's that little bit of extra attention that pays off in higher productivity and increased profitability.