

CANOLA CHECK - A MANAGEMENT SUPPORT SYSTEM FOR GROWERS

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The Australian canola industry is presently undergoing rapid expansion. The area is likely to double to around 140,000 hectares in the early 1990's. The aim of Canola Check is to maximise the yield potential of the new generation of varieties released since 1988. It is a management support system that packages new technology (varieties, nutrition, windrowing) and provides management targets for maximum economic yields. It is a means of easing new growers into production at a higher yield level and providing agronomy and profitability comparisons for grower groups.

MATERIALS AND METHODSGrower Participation

Growers are asked to record simple observations at four times during the growing season. This does not replace more regular observations to check for insects, weeds, diseases, etc. Rather, these checkpoints are regarded as an opportunity to check that management goals are being achieved. They also provide records for economic analysis of the crop after harvest and identification of management areas that were deficient or could be improved.

At some checkpoints, paddock inspections by grower groups are encouraged. Growers can exchange ideas with each other and with agronomists, and take advantage of knowing the problems that may already have arisen on other properties. The last two checkpoints occur in a busy time of the year and are best carried out individually.

Information Gathering

Two hard sheets are provided separately for participants.

The first sheet "Canola Check - crop growth checks" involves collecting management and crop growth information during the season. The sheet is simple and does not require a lot of time to complete. The information is based on current growing recommendations.

The second sheet "Canola Check - crop operations" is used to develop individual crop profit margins. Information is required from growers on the background of the paddock, variable costs of production, yield and marketing arrangements. The data is processed using standardised costs so that margins that are developed can be placed in order of profitability for a participating group of growers.

Grower groups are advised to combine after harvest to discuss the reasons behind varying crop profitability.

Checkpoints

Growers are provided with the following information to make effective growth checks.

Early establishment. Approximately 4 weeks after sowing - designed to check for satisfactory plant establishment, earthmite infestation and weed control. Comments can be made about the factors that limited or improved establishment. All pre-sown and early establishment inputs are recorded and it is essential to assess whether the control strategy for earthmite has been successful. Until the next checkpoint, routinely check for weeds and nitrogen deficiency. Apply nitrogen early if any deficiency is recorded.

Before flower buds become visible. Approximately 8 to 10 weeks after sowing - designed to check whether full ground cover has been achieved before the first flower buds appear. If nitrogen topdressing has been planned this is the correct time to apply it.

Flowering/early pod development. Approximately 16 to 20 weeks after sowing. Routinely check for insects (aphids, cabbage moth, heliothis, rutherghlen bug) until windrowing time. Record the presence of diseases, particularly the stem form of blackleg, sclerotinia and alternaria which are more likely to occur if cool, moist, conditions are present during petal fall. To plan ahead for windrowing, record when the crop has basically finished flowering. Crops have finished flowering when the majority of petals have fallen, but a scattering (no more than 10%) remain in the paddock.

Crop maturity. Approximately 24 weeks after sowing - designed to ensure windrowing is carried out so all grain is harvested at maximum oil content. Start collecting pods from 15 days after 90% flowering date, and once seed starts to change colour collect pods daily (20 pods at random, shell out and group seed into colour). Windrowing should commence when 40% to 60% of seeds have changed colour which corresponds to about 38% seed moisture content, or approximately 20 to 30 days after the end of flowering. Also comment on lodging and harvestability of the variety grown.

Grower Support

Technical officers have been employed to support growers. This is necessary because many growers are not used to carrying out simple but written crop checks. This is often a barrier for participation. The on-farm technical officers encourage growers by helping at group meetings, making contact with individual growers and processing all the available data into individual grower reports.

At the same time each participating grower receives a folder containing all the available information which can be used as a resource manual. Growers are encouraged to keep all other relevant technical information in this folder.

RESULTS

During its first season of operation during 1990 the Canola Check program has achieved considerable success in terms of accomplishing its project aims. These are discussed using the following aims as terms of reference.

1. To have a consistent NSW Canola Crop of 60,000 ha yielding 1.5 tonnes/ha by 1992.

Until 1989 the area sown to canola remained fairly static at approximately 34,000 ha for the previous three years. In 1990 this was significantly increased to an estimated 53,000 hectares, with yields averaging 1.6 t/ha. The impact of Canola Check in creating greater awareness of both the agronomic and economic advantages of producing canola means that a likely forecast of 75,000 to 100,000 hectares in 1991 can be reliably anticipated, with current varieties more than able to maintain a consistent yield of over 1.6 t/ha. Areas sown could even be higher depending on seasonal conditions.

2. To maximise the yield potential of new varieties released by efficiently transferring available technology.

The variety Eureka was only released in 1988 yet it was the predominantly grown variety in 1990 canola production, easily replacing the former standard Maluka. Barossa was released in 1990 and whilst only a small area was sown, in that year its outstanding success and acceptance placed it as the likely candidate for most popular variety in 1991, replacing Eureka. There would be little, if any, Maluka grown at all. Similarly Yickadee looks set to easily replace the older Shiralee line. The impact of Canola Check in not only promoting these new lines but also providing optimum management guidelines has meant yield potential can be maximised.

3. To ensure available technology is regularly used and discussed by new and experienced growers via participation in Canola Check.

The Canola Check program centres on encouraging growers' participation at its meetings. An informal atmosphere is retained which promotes discussion more than a formal restrictive approach. A wide range of resources are available at these meetings to transfer technology. In 1990 250 growers from a total of 400 were involved. New growers in the district are encouraged to seek advice on localised problems from other growers with similar past experiences. In 1990 the specific problem of windrowing timing was addressed and a colourful poster was produced for use by growers.

DISCUSSION

Grower Benefits

Growers cite that the biggest advantage of Canola Check is that management has been broken down into smaller independent components that takes them step by step them through management decisions.

Group meetings provide them the opportunity to question and become informally involved with experts. As well,

problems can be highlighted early, and a wide range of crops can be reviewed within the one growing season.

The agronomy profitability review at the end of the season is appealing to growers. They like to know what everyone else has achieved and what inputs they have put into their crops. Although numbers are used to designate growers, confidentiality is normally waived to ensure healthy discussion.

Grower groups have progressed into organised marketing by putting parcels of grain up for tender through marketing agencies.

Research/Advisory Benefits

For advisers, crop information data, eg. yield, gross margin is the most accurate source of available information in the district. Yield can be reliably compared between seasons and management weaknesses assessed from available data. New staff can become quickly involved in the crop without the need to build up years of experience. Progress in crop management can be more reliably evaluated by group members and the data they generate.

For researchers, a structure is available to commercially evaluate technology and in the process create a direct awareness amongst growers of its usefulness for them.

CONCLUSION

Results of grower groups, Canola Check cards and the grower manual will be available for display at the conference.