

**PRODUCING AN
EARLY CROP
AN IRRIGATION
APPROACH**

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WHY PRODUCE AN EARLY CROP?

As the first presenter on this topic I would like to very briefly outline the major advantages of producing an early crop.

- 1) Early harvest - resulting in;
 - * Better grades (less chance of rain damage)
 - * Earlier ginning .
 - * Earlier payment.

- 11) More time for ground preparation during the following winter.

- 111) Probable cheaper insect control. - we have been able to virtually eliminate the more expensive Stage 3 sprays over the past few seasons.

IRRIGATION APPROACH TO PRODUCING AN EARLY CROP.

My experience has been mainly on the heavy clay soils of the McIntyre Valley, but over the past two (2) seasons we have had the opportunity to carry out the same approach on the alluvial soils of the lower Gwydir.

1) LAYOUT

Irrigation system layout is very important to this subject as water must be able to be applied to the crop quickly and drained off quickly. Short runs with reasonable grades as well as Tail Water Return Systems that can cope with most storm situations are advantageous.

Reservoirs are also an advantage as they allow flexibility in irrigation (ie you don't have to wait for ordered water). Large capacity pumps and supply channels to move water around the farm quickly (when necessary) all contribute in allowing fast irrigation when YOU believe it is necessary.

2) PRE-IRRIGATION V's WATERING UP.

Over the past few seasons I have aimed to be planting by the 15th September (if conditions allow) and my experience in both valleys has lead me to believe that dry planting and then watering-up is the preferred method of plant establishment for the following reasons;

(a) Seed can be placed evenly just below the soil surface and when water is applied, quicker emergence results in earlier establishment of seedlings. It should be noted here that seeding rates should be maintained at reasonable levels so that if a cold snap does follow, a viable stand remains even when some seedlings are lost.

(b) Pre-watered fields often do not dry out evenly which means the seed has to be "buried", therefore slowing establishment.

(c) Earliness is obviously lost if a field is pre-watered and substantial rainfall occurs before planting.

(d) Try to avoid using water from the bottom of reservoirs when watering up. (substantially colder).

(e) Firm, well prepared hills are essential for early establishment so early ground prep, use of bedshapers, cultipackers, etc maybe worth considering. I would like to note that over the past four (4) seasons we have had no yield differences between conventionally prepared and minimum till ground preparation.

3) FIRST CROP IRRIGATION.

DON'T MOISTURE STRESS THE CROP.

FIRST CROP IRRIGATION CONT'.

Be a couple of day's early rather than late. My experience has been that once the plants stop growing it takes valuable time to get them moving again. The varieties available at present will start their fruiting phase without stressing the crop.

Growth regulants have had a place in our programme and I believe are an important tool if the crop starts to go rank. In other words, irrigate the crop early and don't be worried as to the cost of regulants as I believe they have other advantages, such as more even defoliation. Up to 1 Litre per hectare of PIX (r) has been applied over the past four (4) seasons, on apporximately 60% of crop area.

Without rainfall influence first crop irrigation is usually mid to late November.

4) FINAL IRRIGATION

Normally a difficult decision - however, keep in mind that small bolls on top of plants usually do not contain much lint and that lint is often of inferior quality. If in doubt irrigate that portion of the crop which has the most "life" left and leave out that portion which is showing the most signs of being finished.

We aim to have all irrigations finished by the end of February. In 1987/88 season our earliest fields received their last irrigation on 11th February and picking commenced on 13th March.

CONCLUSION

In order to produce an early crop the farm operator must not allow the crop to be stopped or slowed down at any stage. An adequate irrigation system to allow fast, efficient irrigation and drainage is important and moisture stress must be avoided at all stages.

It is important to remember that many other crop factors such as ground preparation, insect control, weed control, and fertilizer application all form part of an overall management strategy to produce that early crop.

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