

PREPARING YOUR COTTON FOR THE GIN

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Introduction

Many growers show little or no interest in their cotton once it leaves the farm gate. The only contact they have with their cotton after it leaves the farm is when the merchant, or independent classifier put a value on the cotton. The classer often makes a comment on the sample of cotton for the grower which is often only a justification for why the cotton has been called down in quality. However, when such comments as "pin trash present, poor preparation, preppy cotton, immature fibres, neps" etc are seen by the grower, where does the grower go? - back to the classer who can easily blame the ginner. I often wonder what growers think the function of a cotton gin is. In this presentation I will talk about some of the ways in which growers can improve the preparation of their cotton for ginning so that a better financial result can be achieved in the classing room.

Where can the problem start?

I have been involved in the ginning and marketing segment of the industry since 1984. I worked under the guidance of the late Andrew von Mengerson and he frequently commented to me that 90-95% of problems with cotton quality that are seen in the gin or on the classing table start in the paddock. At that time I thought this was a rather bold statement. However assuming a gin is run professionally, well maintained, and receives good feedback from the classing room for fine tuning, I have found this comment to be very true.

At the time of writing this paper we at Koramba Gin have processed in excess of 85000 bales of lint this season with an average turn out of 38.5%. However the range in lint outturn has varied from 35.8-40% between our clients. Can this be attributed to a gin problem?

Turnout is a magical figure. It is often used by the ill informed in our industry to make comment and comparison on a gin's performance. Very simply put, rubbish in = rubbish out and unfortunately many of the factors that determine the extent of the downgrading in cotton can be related back to the farm.

These days all gin yards are flood free and generally modules are laid down on well planned and drained module pads. The real problem that may effect the sample of ginned cotton starts well before the module reaches the gin yard unless of course the module has been covered with a poor tarpaulin or it has broken during loading and unloading.

At Koramba our aim is to lift the quality of the product we are processing. The higher the lint outturn we can achieve for our client combined with a good sample of cotton,

the more bales are put through the gin and the better the chance we have of making a reasonable profit. I have adopted a policy of spending time with our clients throughout the season helping them in many ways to maximise their return which in turn will benefit us as a gin operator. As a contract ginning facility Koramba has a policy of processing all our client cotton ahead of our own farm cotton. This has some real benefits for me in helping our outside grower clients. All grower cotton was finished by 1st June this year giving me time to discuss in detail with the growers the areas to work on to improve quality for next season.

For instance one of our clients had a problem with turnout this season. A full day was spent reviewing his whole farming and management operation. This included consultation with his farm manager, workshop manager and agricultural consultant. All aspects of his operation were considered and we quickly pinpointed a major problem in very high nitrogen rates. This was addressed promptly and along with soil testing and varietal selection for 1999, should result in a reduction of growing costs and an increase in average farm yield as well as farm profit.

Preparation of cotton for the gin is something I believe should commence at least 12 months in advance especially for those of us who have a long term aim of producing high quality premium style cotton. Any decision in business should not be made on a knee jerk reaction but thought through and all aspects of the problem considered before the decision is made.

As you are now getting ready to plant the 1999 crop think hard about the last few years results (particularly from a ginning and marketing point of view) and question yourself about what you can do to produce a better product for presentation to the ginners and marketers.

There are many things to consider regarding individual fields-

- are they well developed
- are they easy to water
- can you get the water on & off quickly
- has the field a history of disease or associated problems
- what varieties have been planted in them over the years
- agronomically is there anything different about the crops grown in these fields compared to other fields on your farm
- how does your operation compare to that of the high yielding growers in your immediate area etc.

By asking yourself these sorts of questions I am sure it will help you understand some of the interactions that affect quality of the lint.

At the commencement of picking each year I visit all of our ginning customers and bring to their attention any aspect of the defoliation and picking process that may improve yield and returns. Defoliation is a critical phase of crop management. Even though both grower and consultant have had a long busy summer together by this stage

of the season a lot of emphasis needs to be placed on a good defoliation and more importantly *not* beginning to harvest the crop before it is physiologically ready to pick. Many growers use the number of days since the last day a defoliant was applied as a method to decide when to commence picking or alternatively ask their picking contractors "Is the crop ready?" Having been a picking contractor myself I know that contractors only make money when the pickers are working in the paddock. Don't be pressured into starting too early. My advice is if in doubt wait a few days. This is easily said but hard to put into practice if the rain clouds are rolling in. Cotton has a wonderful ability to bleach back its colour after rain with hot windy conditions.

Cotton pickers

As soon as a picker goes into the paddock you will know whether the crop is ready or not. Have a good look for green unopened bolls and the amount of green leaf in the lower canopy, spindle marks on the stem and branches of the plant and tagging of the cotton out of the bolls. If the cotton is not releasing from the bolls cleanly check the moisture content of the seeds by biting between your teeth. Often soft seed which is partly mature will not release from the boll. If this is the case the bracts are probably not dry and moisture and pin leaf will be a problem in the sample. High moisture in the seed will mean higher than normal module weights and lower lint outturns as much of the weight due to the moist seed has gone into the seed shed. This immature cotton will remain in the sample right through to the classing table.

Have a very good look at the picker. Not only at the basket etc., but also have a good look inside the picking cabinets. As an ex contractor who had some tough clients I had to pay particular attention to cleanliness. Baskets must be kept clean all the time. In trashy cotton a lot of the leaf fragments and pintrash will blow through the basket. I suggest you watch the movement of this as the pickers move through the field. If baskets aren't kept clean this leaf and trash will remain in the sample. Last season I saw some trash blow out of the basket and then fall straight on to the ground due to excessive moisture content. You can imagine why the module weights were high at the weighbridge but the lint outturn down. Baskets should be cleaned frequently. Attention needs to be made as to where the trash is dropped. I have seen pickers pull up at the end of the row and when the basket is cleaned, all the trash and loose cotton is thrown off the basket and onto unpicked cotton next to the picker.

The cabinets of pickers should also be cleaned on a regular basis and spindles inspected for any signs of spindle twist. This can create fires and/or quality problems. Again don't clean out the heads of the picker and then place the module builder over the trash and grease that came from the cabinets. Picker heads are often cleaned either when waiting to dump into a module builder or straight after dumping while the picker is still on the module pad. This is a common practice when the season is in full swing and the pressure on.

grease and oil - particularly early in the season when they have not been used for 8 months or so.

Well made modules of ideal moisture content and with minimal trash will handle well - poorly made modules may break apart and loose their tarps within a couple of weeks of arriving at a gin yard. This situation is often made worse by windy weather conditions. Stretched or broken modules often produce spotted cotton and a classic sign of this problem is either the first two or the last two bales of a module being down graded. If a number of bales of spotted cotton is found in the middle of a module this often indicates a hole in the tarp. A lot more effort needs to be put into producing more uniform modules with well pressed ends.

Although the larger modules (especially the 40 ft ones) may appear to be more economical to cover and freight there is more chance of them breaking at the ends particularly if they are not well pressed. In wet weather the big modules are much more difficult to handle in the gin yard. In general cotton gins prefer to handle well made 36 ft modules.

At the gin

Placement of modules in the gin yard is critical. Obviously a gin wishes to lay a yard down to achieve maximum module capacity. However an adequate space between modules is critical to prevent "wet ends" and possible down grading. When negotiating a ginning contract think about this. Many of the older gin yards were designed for 36ft modules, so with 40ft modules now being delivered the modules are butted up against each other to fit into the available space. This maybe acceptable early in the season when the weather is fine and modules are only standing in the yard for short periods of time. However, when modules are stored for any length of time the risk of wet ends and downgrading gets greater.

Module tickets are often the only link between the grower and the gin. Growers should provide as much information on the module ticket as possible particularly if the cotton in the module contains grass or burr, is a fire suspect or is high in moisture. This is often helpful information to laying down a module yard and in scheduling gin runs to reduce quality problems. Ideally modules should be delivered to the gin yard in the same order as you would like them ginned.

All the cotton we process through our gin at Koramba is done on a contract basis. We encourage growers to talk to us about the allocation of cotton from particular fields to certain contracts or merchants. Long runs usually provide a more uniform line of cotton for both the ginner and the merchant with any financial gain going to the grower. I have found if a grower has a 1000 bale contract with merchant A we would rather gin the full 1000 bales in one run rather than gin 500 bales of one variety and possibly 500 bales of another variety and give it to 2 different merchants A & B. We also liaise with the merchants throughout the season in an attempt to satisfy their needs regarding varieties and bales.

I urge all growers to go into the gin yard where their cotton is being stored. Not only look at your own cotton but have a good look at other cotton in the yard. Look at how modules are made, how they are tarped, how they are placed on pads etc. By looking at the cotton in the module whilst in the gin yard I am sure you will see it from a different perspective than when it was on farm. Modules always seem to look white and clean on farm.

Be involved in the ginning of your cotton. Know your gin manager and the shift supervisors and speak to them on a regular basis about not only your cotton but that from the district in general. The permanent staff at a gin rarely see what happens on the farm and can really only comment on the module and sample as they see it in the gin.

When I walk into our gin my priority is to look at the cotton in the following two areas.

- 1) in the feeder bay while the module is still in tact and
- 2) at the bale press.

I look for immature fibres, the size of the trash and contaminants, the presence or absence of bark and the general preparation of the sample. Well prepared and ginned cotton is very clean with the fibres lying uniformly in the sample. Ginners are not classers and should not be held to comments they make about the sample. We encourage our staff to pay particular attention to the sample and then look at the incoming product. Remember the comment I made earlier in this paper about

RUBBISH IN = RUBBISH OUT

Good records are usually kept by the ginners of each module processed. These gin control sheets are a valuable source of information not only on what happened during a particular gin shift but also on weather conditions during the shift and the condition of the incoming cotton.

Once the cotton has been ginned I urge growers (and I do it myself) to follow the sample through to the classing room. As an employee of a ginning organisation the relationship with the classer is very important. I have found the feedback from both classers and merchants to be invaluable as it helps to pinpoint any gin problem or it may highlight some on- farm problem that has shown up through the whole process.

Summary

In my experience it appears that Andy Mengerson's assessment that 90-95% of cotton quality problems that we as ginners and marketers see in Australian cotton can start on the farm is correct. For Australia to maintain the status of a supplier of high quality cotton to the world we need to look seriously at all aspects of crop production, processing, classing and selling.

There are many issues I have not included in this paper due to time. However I trust I have touched on some points and if we can see more growers and consultants in our gins during the ginning season I am sure we will all benefit.

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