

ARE THE GROWERS NEEDS BEING MET

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When it comes to varieties I don't believe that the growers needs will ever be totally met, we are always looking for improvement in varieties to satisfy, not only the ever tightening cost-return squeeze, but we have to satisfy the changing requirements of the market place.

I have endeavoured to define the major varietal needs of growers and will cover in detail each of the following items.

QUALITY

YIELD

DISEASE RESISTANCE

REGIONAL NEEDS

PLANT STRUCTURE

INSECT RESTISTANCE

HERBICIDE RESISTANCE

SHORT SEASON VARIETIES

QUALITY

Before discussing the important segments of quality I will state the obvious. If, in the eyes of the market place, a variety of cotton is of inferior standard then it will always be hard to dispose of, let alone a reasonable price being achieved for it. Therefore it is pointless having a 5 bale/crop if you have difficulty selling it. It may sound good when talking at the bar, but it won't improve Bank Manager - Customer Relations.

STRENGTH

With co-operation between Plant Breeders, Processors and CSD, a minimum fibre strength standard has been adopted and NO new lines being developed are carried through the breeding programme unless they achieve a standard that is accepted in the market place.

It is pleasing to note that as each new generation of cotton variety is developed there has been an increase in strength over the variety it will supercede and now our traditionally lower strength SLOKRAS are in some cases as strong as DP90 or very close and the SICALAS are generally stronger than DP90. So it is apparent that this need is being met.

STAPLE LENGTH & UNIFORMITY

These important characteristics are being maintained at a satisfactory base and we are now growing some reasonably long staple cotton, so once again our need is being met.

MICRONAIRE

Generally the varieties that are available have satisfactory micronaire ranges. However some of the SIOKRA lines do hover close to the lower end of the acceptable range.

We are told that the spinners require fibre that is mature at low micronaire levels, which I understand SIOKRA is, but until processors can convince the buyers that our low micronaire SIOKRAS are mature we are often being penalised, so until that message can be transmitted and accepted we would prefer to stay in a safer stable 3.8 to 4.2 range.

It is probably unfair to say our needs are not being totally met and possibly it is the processors in this case that should be meeting our needs in convincing buyers that our cotton is mature, but until that idyllic situation prevails we would prefer that the stable range I mentioned be maintained.

GRADE

With the exception of the okra leaf types, given an average season and reasonable weather at defoliation and picking we have no grade problems.

However, if others experiences are similar to mine I do have difficulty cleaning up the okra leaf varieties. I do believe however, that in the case of grade, our needs are all but being met.

YIELD

As someone answered when asked what are the three most important characteristics of wheat, they replied YIELD, YIELD and YIELD. This probably applies to cotton as well.

I said earlier that unless quality is right it is pointless growing 5 bales/acre, the same goes for yield. Unless yield is good then quality means nothing, so these two characteristics go hand in hand and must be considered on an equal footing.

Like most growers I am never satisfied with my yield, but I have to be realistic and appreciate the fact that year in year out Australian cotton yields are considerably close to if not the best in the world.

Yield is obviously a basic selection criteria and this is born out when new releases inevitably seem to squeeze a little more out of each acre. It is obvious that we should be satisfied with the yield performance of our varieties.

DISEASE RESISTANCE

The need for reducing the disease problems that affect the cotton plant are being addressed and in one case in particular have been met.

I refer to the CSIRO bred varieties that are resistant to BACTERIAL BLIGHT. Every variety that is selected by the plant breeders for progression through to potential commercial use must have this BACTERIAL BLIGHT resistance.

Also the industry collectively undertook a programme to reduce the level of BACTERIAL BLIGHT in the susceptible overseas introductions. The body charged with this task, the Blight Investigation Group, was formed in December 1985 and consisted of representatives from CSIRO, NSW Department of Agriculture, QLD Department of Primary Industries, Processors and CSD.

Following the implementation of this groups recommendations the blight levels in DP90 were reduced substantially. Some of the procedures adopted were:-

1. All nursery lines were sprayed three times per season with a bacteriacide.
2. Only pure seed fields exhibiting low or nil levels of blight infection were accepted into the planting seed system.
3. Large tonnages of DP90 were carried over in storage at CSD for twelve months to reduce the Blight levels on the seed.

As a result of these measures the levels of Blight infected DP90 seed were reduced significantly from as high as 20-25% to as low as 0.03% infected seed. So a conscious effort was made to meet our requirements.

Now we must consider VERTICILLIUM WILT which arguably has the potential to reduce yield more severely than any other agronomic problem. For those farmers whose crops are not affected severely, if at all, this problem could be just around the corner. In the Namoi Valley we have seen that the incidence of VERTICILLIUM WILT seems to expand in relationship with the number of years that cotton has been farmed in an area.

All our current commercial varieties are susceptible to wilt, however there will be some varieties available for limited commercial release this coming season that have some degree of tolerance to the disease, but these varieties are not resistant. I am sure that many farmers in the Wee Waa - Narrabri area would give their eye teeth to have access to a truly VERTICILLIUM WILT resistant variety.

So there is a glimmer of light in the VERTICILLIUM WILT resistant tunnel, but it is very faint and this industry need has not as yet been met.

The problem of the fungal disease ALTERNARIA is a tough one and until the current investigation into crop management practices that is being carried out to determine what is required to lessen the impact of this disease are completed and implemented, there is little that can be done from a varietal standpoint and it looks as though this is a long way down the track.

REGIONAL NEEDS

Until now we have relied on the three main commercial varieties SIOKRA, DP90 and SICALA, which are all being grown over a wide geographic range, SIOKRA being favoured in the cooler shorter season areas, DP90 in the longer hotter regions and SICALA somewhere in between.

This situation has possibly filled the bill for most farmers, but I am sure that growers from Breeza, The Macquarie, The Downs, Cecil Plains or the fledgling areas of Menindee or the Lower Lachlan would prefer to have at least one variety more specific in its suitability for their region.

The need is being addressed, however I would think that the growers from these regions in particular and possibly others believe that their need is not being met as quickly as they would like.

PLANT STRUCTURE

The structure of the cotton plant can in some seasons affect the result of your yield and quality substantially.

This year lodging was a major problem with SIOKRA 1-4. The plant with its weak stems carrying heavy boll loads will at times lodge quite badly and consequently, following heavy rain close behind an irrigation late in the growing season, will cause the lower bolls to be submerged for long periods of time and many will eventually rot.

Fortunately SIOKRA 1-4's probable replacement SIOKRA L22, which will be available for commercial planting this season, will not present the same problem. This plant has a cluster type boll setting with most bolls set close to the main strong stem on shorter laterals, the plant is generally much stronger with the added advantage that the bolls start setting higher up the plant keeping them off the ground. The lodging need is being met with the introduction of SIOKRA L22 and this characteristic needs to be considered in future lines as well.

There is also the problem of storm proof or tight bolls. We all want cotton that is easy to pick, but at the same time, when the weather turns nasty, which is more often than not, we want the lint to stay on the bush until we pick it. There is an area between these characteristics that is ideal and the varieties we require must not exhibit one or other of the extremes.

INSECT RESISTANCE

There are some characteristics that the plant exhibits now that assist in reducing the insect problem.

Okra leaf varieties appear to suffer less from mite infestation in particular and to a lesser degree attack from *Heliothis* spp. than the normal leaf plants. We also know that spray penetration into Okra leaf plants is more efficient so these features are a plus for Okra leaf plants.

Work has been and is still being done on the development of the Glabrous, Frego Bract and Nectariless lines which have shown less attractiveness to insects, this work should continue for in the future they may fill the growers needs.

There is also Genetic Engineering which we hope in the future will give us some measure of protection against insect attack.

As no doubt most of you are aware CSD is co-operating with CSIRO and a large Multinational Company to bring to fruition, in the not too distant future, the development of cotton varieties that will carry the BT gene which should give the plant a reasonable degree of protection against Heliothis damage.

The subject of genetic engineering will be covered in detail later, but I am sure that farmers will want this work to continue.

HERBICIDE RESISTANCE

Whilst on the genetic engineering theme it must be noted that work is also being carried out to introduce both 24D and Glyphosate (Roundup) resistant genes into the cotton plant, this also should be pursued through to fruition and will go towards meeting growers needs.

SHORTER SEASON VARIETIES

Earlier I mentioned the requirements of particular regions, where in some cases there is a specific need for short season varieties. However there are other needs for the development of this characteristic. All of us at some time have been or will be faced with a replant situation, be it as a result of a bad start or the devastation of an early hail storm. The trauma faced would not be quite as bad if we had access to varieties that would perform reasonably well to cover a forced November or even later replant.

There is currently much discussion about the merits of earlier crops. Whether the claims of lower insect control costs, less water use or better quality cotton due to early picking are supportable I do not know, but I do know that if I can harvest my crop early, I get paid early and that makes both my Bank Manager and myself happy. If this is achievable with new varieties and does not require any super special or expensive management techniques and does not reduce my potential return then there is a need for shorter season varieties.

PLANTING SEED QUALITY

This contentious subject is similar to the migratory habits of some birds in that it manifests itself every Spring. Each year there are problems with stand establishment scattered over all regions of the cotton industry. More often than not it is blamed on seed quality with no particular variety at fault, but embraces the whole varietal spectrum.

I will now wear my CSD hat and say that after investigation and testing it is usually an agronomic and not a seed problem. Like all farmers, cotton growers are born optimistic gamblers and very often try to beat the climatic odds. We sometimes plant by the calendar and not by the temperature.

Having said that I will now discuss if our needs are being met. I believe they are, for even under the adverse conditions we have experienced at picking over the last few years and the obvious problems associated with trying to salvage good quality planting seed we as growers have still been able to receive seed of a quality that will stand up to any scrutiny or comparison. This is possible because of the rigid quality control and extensive laboratory testing that is carried out prior to growers receiving their seed.

In conclusion I believe that many of the growers needs are being met by the varieties we have available, but there are still a few gaps that need to be filled.

On balance we are fortunate to have such a competent and committed team of plant breeders, who not only have the patience and expertise to keep producing a steady stream of new and improved varieties that are meeting our needs, but they have the foresight and down to earth appreciation of what our industry requires and thankfully are not carried away with singular trends or short term fashionable fads, but always keep the long term goals in view.

