SIOKRA - ITS ECONOMIC POSSIBILITIES

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THE POTENTIAL OF SIOKRA TO REDUCE COSTS

Generally most capital costs and a considerable proportion of the variable costs are independent of variety. But there are some inputs and cultural practices such as weed control, water, nitrogen and pest control which could well be altered depending upon whether DP90 or Siokra is grown. Can anything concrete be said about these? Perhaps not too much as yet but I sense you expect me to try!

In addressing these points I firstly canvassed growers on their experiences with Siokra. Most said that weeds were no more difficult to control in Siokra than in Deltapine 90. Both varieties, but especially Siokra, rated highly for their good germination and vigorous seedling growth. However, a few farmers found that Siokra had more weeds than did 90, and occasionally an extra cultivation or herbicide application was given. Yet one well-known Downs grower publicly stated that vigorous weeds like thornapple were easier to spot in Siokra, and this was (another!) good feature of the variety. On balance then I won't differentiate between the two varieties for cost of weed control.

Many growers commented that Siokra showed symptons of water stress earlier ,than Deltapine 90. Quite often they'd watered Siokra slightly more frequently. Yet again, at the end of the season, the last irrigation had been made sooner, so that the total number of irrigations had been the same or at most one more. Equal amounts of fertilizer had, almost always, been

applied to both varieties, although a number of growers considered that Siokra's smaller plant habit provided an opportunity to increase N rates, if desired. Again, at this stage, until research and grower experience clarifies the position more clearly, I'll assume the two varieties are equally costly to water and fertilize.

The ability to tolerate pests is one area though in which I believe the two varieties do differ substantially. Peter Reid and I established some time ago that the okra leaf character is less affected by pest damage under a reduced level of spraying than is normal leaf, and Gary Fitt has confirmed this finding. The ability of the okra leaf character to cope with insect pests better than normal leaf has also been demonstrated in the large scale comparison of Deltapine 90 and Siokra under different levels of spraying conducted by Ken Brook, and the commercial trials conducted by Brian Stafford. Again a number of producers reported that Siokra was less sensitive than Deltapine 90 to pests, and some had actually applied fewer sprays. On the basis of our experience to date then I suggest that a savings of two insecticide applications is achievable, if Siokra is grown in preference to 90. It needs, however, to be realised that the number of pests present in the crop may not be any less, but rather that the okra leaf allows pest threshold levels to be raised.

RETURNS

Yield of Siokra compared to Deltapine 90

In the 1986 February issue of the Australian Cotton Grower I tabled the theoretical yields of Siokra, relative to Deltapine 90, for the various Australian cotton growing districts under cool, average and hot seasonal conditions. This was based on a relationship between relative yield and growing degree days established from CSD trials (Slope 1 of Fig. 1). This last (85/86) season a number of trials suffered hail damage (Siokra apparently recovers better than DP90), Bacterial Blight was prevalent and damaging in DP90 at most sites, and only at Warren where Verticillum Wilt was severe did Siokra yield less than expected. Overall then, in 1985/86, Siokra performed better (Slope 2 Fig. 1) than expected. However, in calculating the monetary consequences of growing Siokra instead of 90, I used the original relationship established (Slope 1) since I believe it is a "truer" reflection of the relative response to warmth of the two varieties than is provided by lumping all the data together (Slope 3 Fig. 1). You can see I have adopted a conservative stance since Siokra's relative yield advantage is greater with Slope 3 than for Slope 1.

Grade and staple

DP90 and Siokra are usually of equal staple length. However in CSD trials 90 has averaged a quarter of a grade better than Siokra, and this year was a third of a grade better commercially (J. Prendergast, pers. comm.). Taking current Co-Op premiums and discounts on grade this represented about $2.50 less per bale for

Siokra.

Micronaire

In the CSD commercial trials this year Siokra never averaged less than 3.5 whereas DP90 averaged less in three of the fifteen trials. On the other hand the Co-Op this season recorded twice as much low mike from Siokra as from DP90, perhaps because more Siokra was grown in cooler areas. Although the evidence from the cool, rainy 1983/84 season was that Siokra produced more mature cottons under adverse conditions, this advantage is not at present recognised commercially. Although Siokra micronaires don't fluctuate so widely as DP90's I think at the moment one can only safely say that low mike could occur in either variety under adverse conditions, and whether one variety is better or worse than the other in this respect is not clear.

Strength

Here Deltapine 90 has a clear advantage of about 6,000 Pressly units, sufficient to generally make it easier to sell beside often giving it a price advantage.

ECONOMIC CONSEQUENCES ASSOCIATED WITH GROWING SIOKRA

To translate the good and bad features of each variety into monetary terms, I've calculated per hectare profit and loss values, were a grower to plant Siokra instead of DP90. This entailed a number of assumptions. Firstly I decided to use a base yield for Deltapine 90 of 7.5 bales/ha i.e. 3 bales/acre (since that is about the current minimum level of yield for survival), and then worked out expected yields for Siokra in the various

areas under cool, average or hot seasonal conditions from the relative yield expectancies published in the Australian Cotton Grower. I then worked out the differences in returns were Siokra to be planted instead of DP90 under a set of four situations as follows:

A. DP90 price $200/bale; Siokra $180/b; no bacterial blight (BB)

B. " " " " " ; DP90 suffers 5% yield loss from BB

C. " " " " $200/b; no BB

D. " " " " " ; DP90 5% yield loss to BB

Additionally I assumed that growers had "cashed in" on Siokra's greater tolerance of pests (by using SIRATAC!) and saved two sprays worth $64 a hectare by growing it instead of 90.

Results

Under the assumptions made in the analyses the results (Figs 2-5) show that seasonal conditions in most areas will have the greatest effect on returns, even when Siokra markets at $20 a bale less than 90. In the cool areas, including the Darling Downs, Breeza and Trangie, Siokra should return more, even when there is no blight, a hot summer is experienced and the lower price per bale for Siokra pertains. However in the hot areas such as Bourke, St. George, Goondiwindi, Biloela and Emerald, only under really cool seasonal conditions could you be reasonably sure of making more from Siokra than from Deltapine 90. In the area bounded by Wee Waa, Moree and west as far as Collarenebri in both cool and average seasons Siokra should return more, except when there is no blight and the lower price for Siokra is

received. However in hot summers in this area Siokra would return less than 90 even if the price per bale was similar for both varieties.

A final word of caution. Siokra is new to the trade and the current version is not as strong as 90. Hence the selling authorities are still establishing a place in the market for it.

Acknowledgments

I thank the many people in the industry who I consulted in the course of preparing this talk. I also greatly appreciate the help I received from various industry organizations such as the Queensland Cotton Marketing Board, Auscott, Namoi Co-operative and Cotton Seed Distributors.

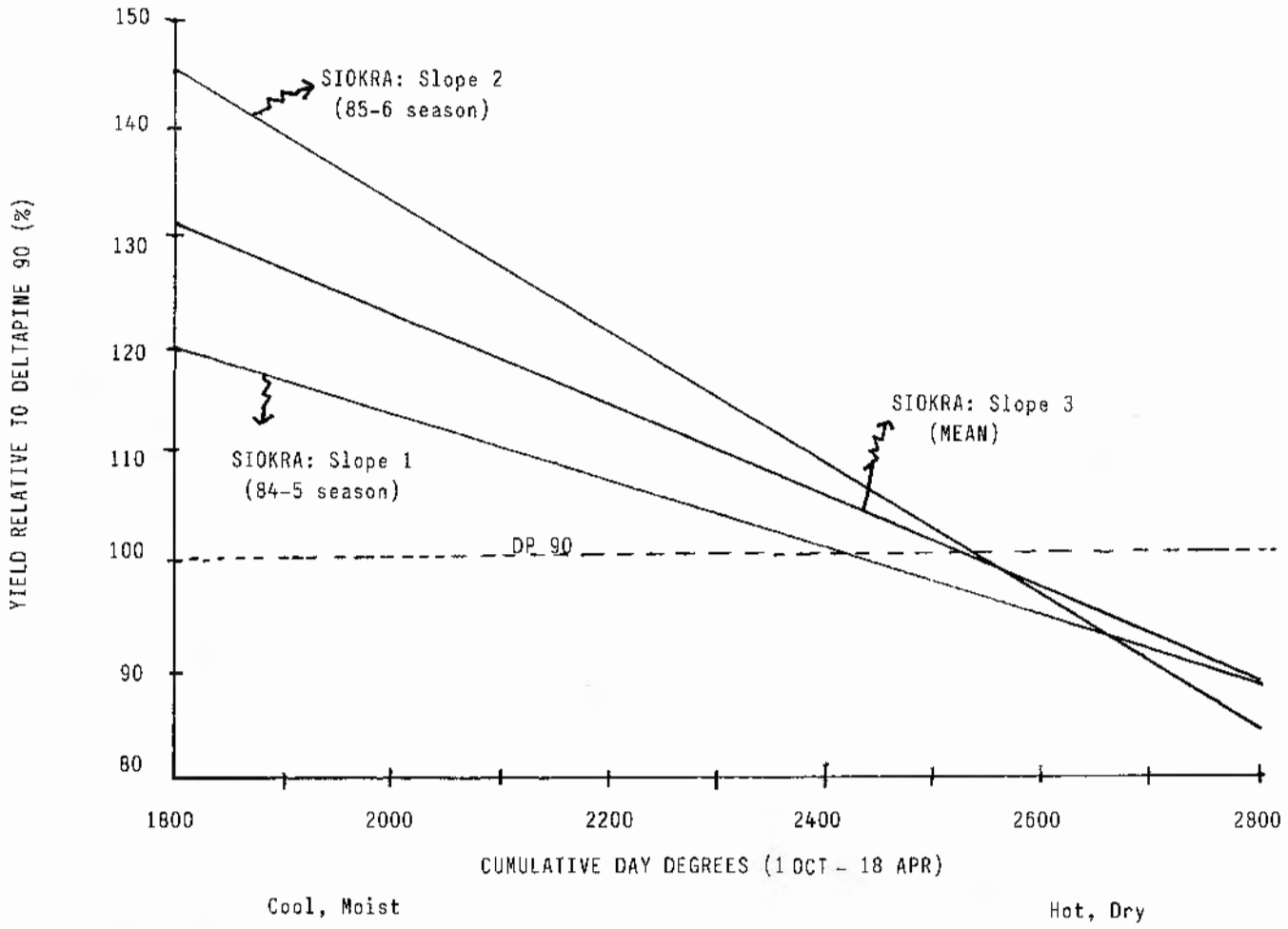

Fig. 1. Relationship between yield of Siokra, relative to DP 90, and seasonal warmth.

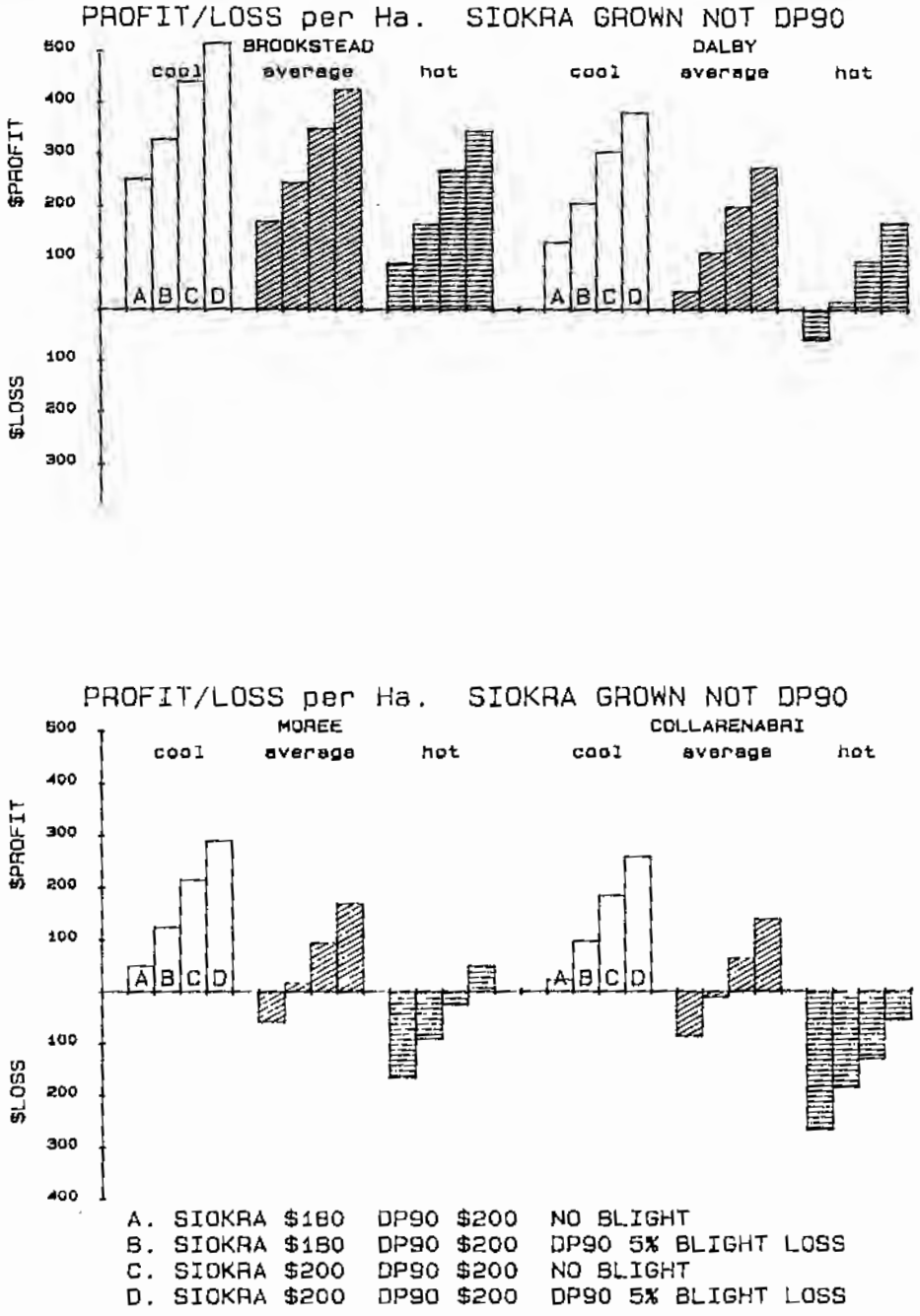

Fig 2. Profit or loss associated with growing Siokra instead of DP 90 at Brookstead, Dalby, Moree and Collarenebri in cool, average and hot summers.

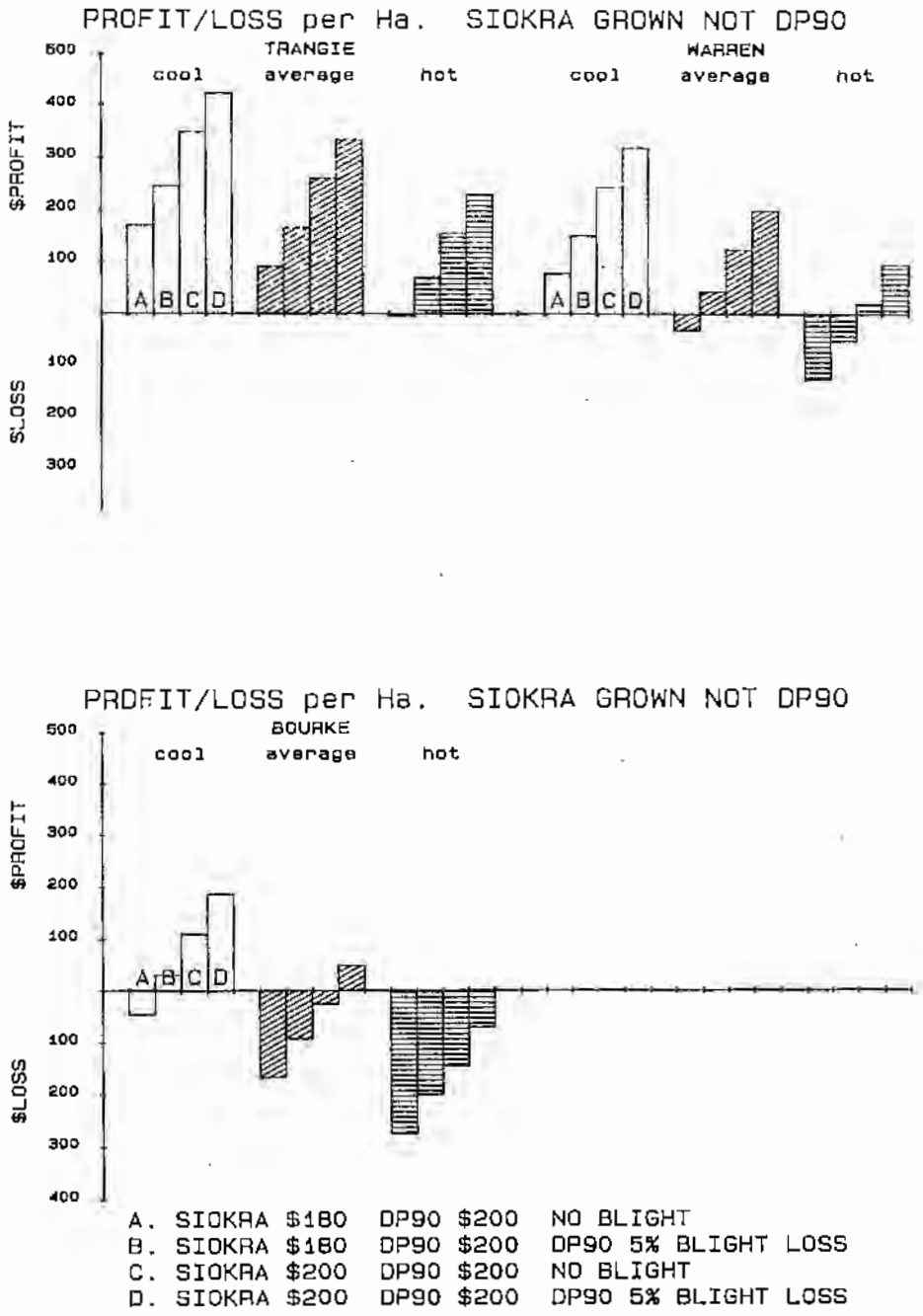

Fig. 3. Profit or loss associated with growing Siokra instead of DP 90 at Trangie, Warren and Bourke in cool, average and hot summers.

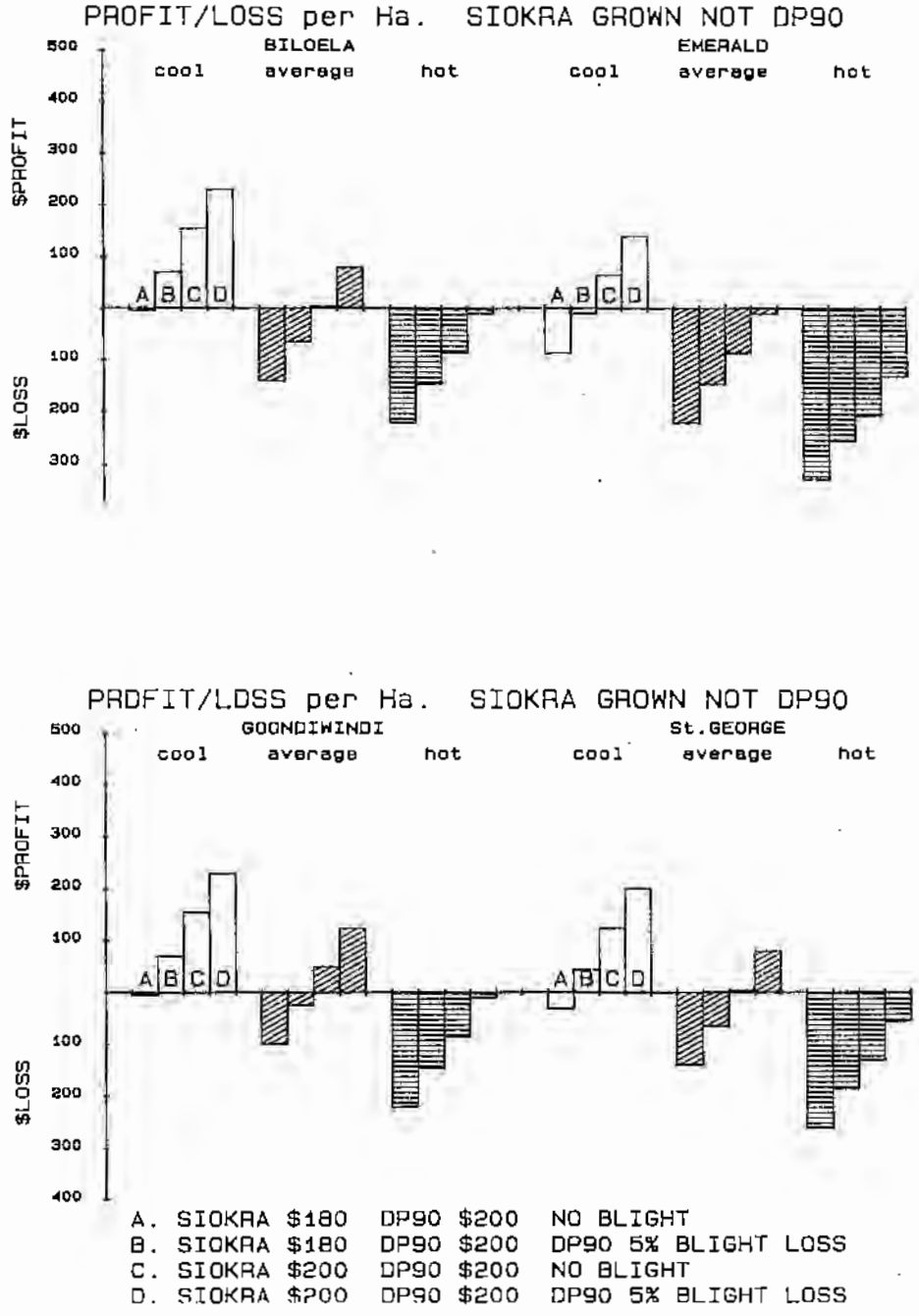

Fig. 4. Profit or loss associated with growing Siokra instead of DP 90 at Biloela, Emerald, Goondiwindi and St. George in cool, average and hot summers.

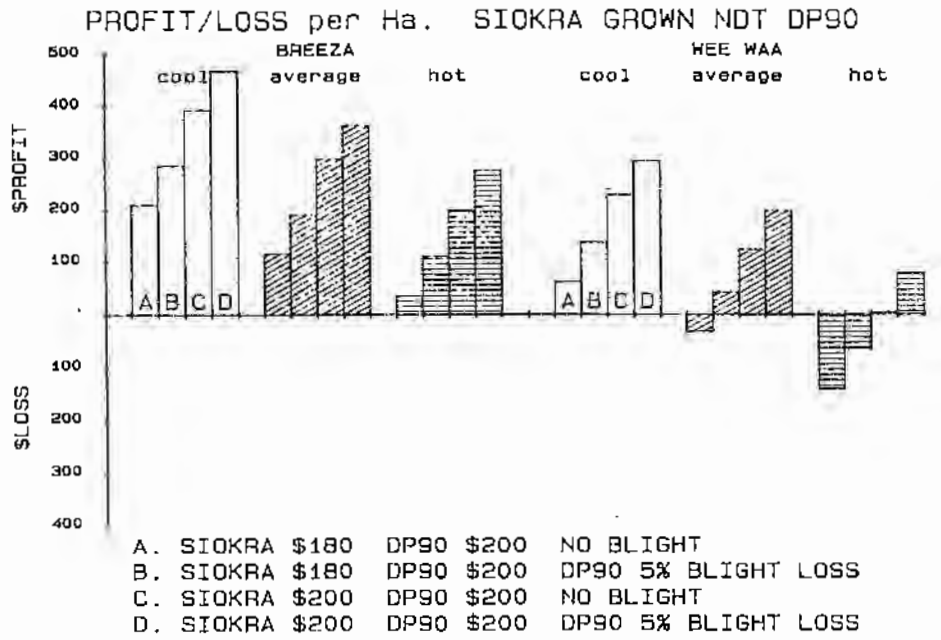

Fig. 5. Profit or loss associated with growing Siokra instead of DP 90 at Breeza and Wee Waa in cool, average and hot summers.