

Variety Blending
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In recent years, cotton producers have been heavily discounted for high micronaire and short staple cotton. Not all fiber quality problems can be blamed on varieties but many high-yielding, short-season varieties have offered fair fiber quality at best. Until recently, most varieties that offered improved fiber quality have been later maturing varieties not suited for short-season environments. In addition to the later maturity, the yield potential of these varieties was often less than desirable. In the absence of suitable varieties, some producers have adopted variety blending as means to improve overall fiber quality. Normally, a high-yielding, early-maturing variety is blended with a variety that provides better fiber quality. Therefore, overall fiber quality could be improved while maintaining high yields and earliness. Variety blending is not a new idea. Research was conducted in Arkansas in the 1980's and more recently in North Carolina, Tennessee and Louisiana. Although improved fiber quality is the driving force behind blending, the widespread adoption of bulk seed containers and seed treatments has made blending more attractive. In addition, seed availability and pricing of new varieties has prompted producers to look at blending as a means of making seed allocations go farther. Conversely, the disadvantages of blending include maturity differences of blending partners, a potential drag from a lower yielding partner, fiber uniformity issues, technical service problems, acceptance of merchants and mills and the unknown effect of the environment that may result in no fiber quality improvement at all.

Several questions that have been addressed by recent research include; does blending work, which varieties should be blended, should I use a 50:50 seed blend or an alternating row configuration (alternating hoppers) and what ratio of varieties is needed for optimum yields and improved fiber quality? While blending has usually improved overall fiber quality, the result is often intermediate between the two blended varieties. Data from Tennessee and Louisiana does not indicate a significant effect of blending on uniformity. However, choosing the correct blending partners has proven to be more of a challenge. The most common blend of late has been the 50:50 blend of PM 1218 BG/RR and DP 451 B/RR. This blend has proven to be successful for fiber quality improvements, but differences in variety management and maturity can be a problem. Results have been similar for alternating row blends or 50:50 seed blends, and convenience has been the deciding factor when choosing a blending method. One year of research has shown that blends must contain at least 40% of the good fiber variety for overall fiber improvement.

Experience suggests that variety blending does as might be expected; the results are often nothing more than a "blend" of the two varieties and the result may or may not result in a reduction in discounts. Although blending can result in better overall fiber quality, the practice is still only a temporary fix, and the need for blending will likely decrease with the release of new varieties with high yield potential and discount free fiber quality. It is for this reason that variety blending is difficult to recommend. However, if blending is something you want to try, here are a few tips:

- **Select varieties of similar maturity**
 Varieties that will mature at the same time will make harvesting much easier. An example of two varieties with similar maturities would be PM 1218 BG/RR and DP 444 BG/RR.
- **Select varieties with similar seedling vigor, seed size and germination results**
 It is important that the two varieties used emerge at the same time and have similar early season growth so that one variety does not become a “weed”. It is also important that seed size be similar for planter calibration and when using bulk handling systems. Differences in seed sizing may result in too much or too little of one variety and smaller seeds often settle when mixed.
- **Select varieties with similar canopy architectures**
 Varieties should be similar in canopy architecture (growth habits) for mepiquat chloride (e.g. Pix etc.) management and elimination of inter-plant competition.
- **Select varieties of the same technology**
 One of the most commonly asked questions asked is whether RR and BR varieties can be blended and used to satisfy the embedded refuge requirements. The answer is no. Using the embedded refuge option requires that the embedded refuge must be at least 150 ft wide.
- **Select varieties from the same company**
 It is often tempting to blend varieties from different companies but technical service issues arise in the event of a complaint.