



## Technical Information

### THE IMPORTANCE of PLANT POPULATIONS in GRAIN SORGHUM

Over the last twenty years the improved farming practices that have taken place now allow farmers to grow crops with a lot less rainfall than was the case when their fathers and grandfathers commenced farming. Conservation of moisture is one of the most important advancements in farming and the ability to use the available stored moisture successfully is very important.

The successful growing of grain sorghum has shown amazing improvements in the last ten years with no till farming; the advancements of no till planters, in particular disc openers, and the modern seed treatments for protection against soil insects. Other modern techniques which have had further positive effects are the advancement of controlled traffic and GPS steering systems on farm machinery.

With all these advancements made in general farming systems, many farmers have discovered that they can now reduce planting rates in grain sorghum to a greater degree and still have a manageable plant population which has a greater chance of surviving and producing a fair to good crop under marginal rainfall during the growing life of a sorghum crop.

In the past 10 years, many farmers in marginal areas have had great success growing sorghum in single skip or double skip rows and this practice has been very worthwhile insurance in getting crops through to harvest under the harshest of growing conditions. The advancement of stay green sorghums has also had a positive effect with these stay green hybrids being able to endure longer periods under moisture stress than the earlier non stay green hybrids.

However, taking all of the above into account, the reduction in plant populations is one of the most important management tools in modern sorghum growing. With the latest chemical seed treatments such as Cruiser, Gaucho and Cosmos for ground insects being readily available, farmers can achieve a much higher strike rate when planting sorghum seed. Together with modern precision planters, particularly the disc opener planter which is used widely, farmers can now plant a lot less seed and achieve a higher percentage and more even strike rate than previously and this in turn has cut down seeding rates dramatically. This saves on cost of seed and a crop that has an even strike will always perform better under all conditions than a crop with an uneven strike. **Many farmers in marginal areas of the Western Downs, West of the Newell Highway in northern NSW, and the Central Highland areas of Qld have cut their planting rates by up to a half in the last few years and this has meant that instead of planting 80,000 to 100,000 seeds per hectare they are now planting between 30,000 and 50,000 seeds per hectare, depending on their local conditions with regard to stored moisture.**

**Two of the popular hybrids that have** performed very well in the above mentioned areas are **Dominator and Armour**. These two hybrids perform well under lower and even plant populations with **Dominator**, in particular, being able to compensate by providing big heads and even tillers for higher yields under favourable conditions if the season improves. **Armour**, which has high stay green, has proved to be a hybrid that can tough out with little or no rain during the growing season and has been able to provide a good average yield and in many cases, outperformed its competitors. The newly released **Tiger** also has shown strong adaptability to lower populations, as proven by its strong performance in NSW Ag sorghum trials