

# Elstel Farm & Seeds

“ The Crabgrass Seed Folks ”

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## FACT SHEET – 2000

### USING NURSE CROPS AND COMPANION FORAGES TO ESTABLISH ‘RED RIVER’ CRABGRASS STANDS

**Introduction:** Crabgrass has been used for a forage, planned or accidental, since the mid-1800’s when it was planted by seed imported by the U. S. Government. We are not aware of any planned plantings on farms in our lifetime until 1976 when native crabgrass seed of a good forage type harvested by Noble Foundation personnel was planted to establish pastures. Crabgrass as planned and planted forage has increased regularly since that time. During the mid-1970’s to 1990 only naturalized (native) ecotypes were available. After 1990, both the proven ‘Red River’ Crabgrass variety and naturalized types of crabgrass could be planted. This fact sheet pertains to all crabgrass types.

A vast amount of crabgrass seed plantings has been done in some manner to initially establish a pure stand on clean prepared lands. These types of plantings have had a *relatively high rate* of success. However, there are two inherent weaknesses of these types of plantings: 1) Crabgrass establishes fast for a pasture grass, but somewhat slow compared to some of the more domesticated crops, and 2) lands that are prone to wind and water erosion are left bare or somewhat bare for a longer time than agronomically wise.

**Why Consider A Nurse Crop or Companion Forage?** We shall consider nurse crops and companion forages as one. Nurse crops are used, and considered for use, for the same reasons as the weaknesses listed above. A thin, but effective, nurse crop can emerge and produce a good grazing cycle or hay cutting prior to and as the crabgrass crop is emerging, getting established and coming into a properly utilizable stand. Therefore, the producer can obtain some earlier forage from the planting that sets up the crabgrass field and future planned volunteer management of the crabgrass.

Crabgrass produces very well on soils that are prone to wind erosion. Therefore there is some erosion hazard when planting on bare, prepared seedbeds on these soils. In addition, most tillable soils also have water erosion potential. Planting a nurse crop capable of *very quick germination* and *early growth* can effectively control wind erosion and assist in water erosion. But, as a nurse crop, *it should be relatively thin and have short timespan* influence as compared to full season influence.

**Some Successful Nurse Crops** From the standpoint of erosion control, we also consider prior crop residues as “nurse crops”. These residues could include winter annual crops, such as wheat, etc., but also summer crop residues from the prior season.

Green forage nurse crops successfully used, more or less in order of use include: palatable sudangrasses, millets, hybrid sudangrasses, southern cowpeas, hay or grain type soybeans, mungbeans, and corn. There could be other examples unknown to us.

#### **Advantage & Disadvantage of Specific Nurse Crops**

- The “sudangrasses” are available as pure type like the safe Piper sudangrass and a vast array of hybrids. Both have been successful as nurse crops, but we prefer Piper sudangrass for this purpose because *it does the job, is very low in prussic acid poisoning risk, has moderate height and production level, is very palatable with readily grazed leaf and stems and relatively low cost to use.*
- Millets are available as pearl millet and German (foxtail) millet. We favor millet for a crabgrass nurse crop. It does the job, has low toxicity problems, is short, can be grazed, and makes only one major

growth. Production will not be as good as Piper sudangrass. Pearl millet performs much like sudangrass and it can be used the same way. The stems are relatively unpalatable and if the first growth is grazed, livestock will not use it all.

- Hybrid sudangrass can be used, but they grow very tall and are sometimes too competitive and livestock do not graze the stems well.
- All of the legumes: southern cowpeas, soybeans and mungbeans, can work as a nurse crop. They do not emerge as quick and stop wind erosion as does Piper sudangrass and other grasses. The legume nurse crops are better suited where the first growth is taken for hay. Only cowpeas make some second growth.
- Corn is an excellent nurse crop to arrest wind erosion and can be grazed or hayed to utilize the first growth.

**Planting Crabgrass and Nurse Crops** The purpose of the nurse crops is to form some cover ahead of crabgrass, but to be relatively noncompetitive by mid to late season. It should be a thin stand to allow crabgrass to establish and produce well. Generally nurse crop seeds are mixed with the crabgrass seed and planted at the same time. Some soil coverage of seed is needed for best success of the nurse crop. In some cases, crabgrass can be planted and the nurse crop no-till drilled over the crabgrass planting. Plant shallow.

Seeding rates of nurse crops should be low compared to usual pure stand rates. Crabgrass seeding rates should be 3 pounds per acre pure live seed, more or less. Suggested nurse crop seeding rates are: Piper sudangrasses – 5lbs./ac, foxtail millet – 3 lbs./ac, pearl millet – 4 lbs./ac, hybrid sudangrasses – 7 lbs./ac, southern cowpeas – 10 lbs./ac, soybeans – 10 lbs./ac, mungbeans – 8 lbs./ac, and corn –12 lbs./ac. Other usual good planting practices and early production management practices should be used.

**Utilization of the Crabgrass and Nurse Crop** There is no question but that the nurse crop is a bit of a weed to the crabgrass - - that is a necessary evil. The mixture stand can be grazed or hayed. If a palatable nurse crop is used, grazing normally works well. If a relatively unpalatable nurse crop is used (such as pearl millet), the nurse crop may not be grazed as well as desired and the understory crabgrass will be severely overgrazed. Young crabgrass is the most palatable in any of these combinations, and it will be overgrazed to some degree during the first grazing. What generally happens is the crabgrass is overgrazed, the nurse crop is grazed well, and the crabgrass recovers and begins to take over in succeeding regrowth. Depending on the nurse crop - - it may not recover or it will recover somewhat. Rotational grazing should always be used - - graze it off and let it recover to a good stage. The first grazing should be done when the nurse crop is properly ready and the crabgrass is emerged and well rooted. That is the normal case.

From the crabgrass point of view - - the best way to use the first growth of the nurse crop is by haying. The crabgrass will not be overly abused with this technique, it will have leaf remaining, and recovery is usually rapid. Hay yields will be low because the nurse crop is thin. Harvest when the nurse crop is ready - - ignore the crabgrass understory. Cut the crop to leave a 2-3 inch stubble.

Normally after the initial use of the nurse crop, the area can be managed as a crabgrass area, more or less ignoring the remnants of the nurse crop.