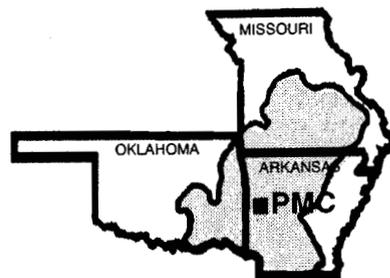


# BOONEVILLE PLANT PRESS

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## Grand Prairie Native Grass Establishment Study

The previous newsletter discussed a project by Plant Materials Center being conducted in cooperation with the Army Corps of Engineers (Memphis District) and the Arkansas Natural Heritage Commission. This study is designed to determine the most effective method of establishing native ecotype warm-season grass species in the Grand Prairie area of east central Arkansas.

The area of the Grand Prairie contains indigenous genetic ecotypes of native grass species that are unique to this area. The newly proposed irrigation project would make available approximately 3,000 acres of canal bank rights-of-way on which these prairie grasses may be established. This increase in native grass area is important since there is only 0.1 percent (650 acres) of the original 700 square miles remaining in native grass species.

The study is designed to evaluate:

- ~ optimum planting date,
  - ~ importance of mulch,
  - ~ top-soil vs. sub-soil,
  - ~ moisture retaining hydrogel, and
  - ~ native grass hay as seed and mulch.
- ~ Native grass seed will be drilled late fall (November), mid-winter (February), and late spring (May). Seed of many grass species benefit from a period of winter dormancy. This is designed to determine the optimum establishment date for these native grasses.
- ~ Mulch is often important in establishment of grasses, especially during periods of low rainfall by reducing evaporation. Mulch also is beneficial by reducing weed

competition and soil erosion during high rainfall periods.

~ Two types of soil (top-soil and sub-soil) will be used during the study. These two soil types will simulate the possible soil conditions that may be present on the canal banks for establishment of grass species. The top-soil will be removed from the surface, stockpiled and reapplied to canal banks. The top-soil will be higher in fertility, organic matter, essential mycorrhiza, and pH. Sub-soils are removed from the bottom of the canal and spread on the canal banks. These soils are characterized by being opposite of top soils in the above aspects.

~ Hydrogel, a water retaining amendment will be added to some plots to assess its potential to supply moisture. Hydrogel is capable of absorbing up to **400** times its weight in water and releasing about 90% of the moisture as the plant needs it. This means that one pound of hydrogel can absorb approximately 50 gallons of rainwater for plant use. According to the literature, the life of hydrogel is around eight years.

~ The last treatment will utilize grass hay which has been harvested from stands of native grass. This will examine the potential for using hay as a mulch and as a source of seed.

Once the plots have been established, they will be evaluated based on several criteria. These are seed germination and date, seedling vigor, weed competition, erosion, and percent ground cover.

From this information, the PMC will be able to make recommendations for establishment of these native grasses.

## PMC HOSTS TRAINING

On 29 and 30 July, the Booneville PMC hosted a workshop and training session. Employees from three agencies, the University of Arkansas Extension Service, Natural Resources Conservation Service, and Soil and Water Conservation Districts attended the two days of training. Approximately 45 individuals from the three agencies came to the PMC. Coordination for the training was provided by Billy Moore (Area Agent-Alternative Agriculture), and Lance Tharel and Randy King (PMC). The highpoints of the agenda were:

- Billy Moore - Herbicide Safety**
- David Brauer - Tour of ARS Facilities and Research**
- Lance Tharel - Warm Season Grass Establishment**
- Randy King - PMC Mission and Service Area**
- PMC Staff - PMC Tour and Projects**
- Glen Aiken - Grazing Switchgrass and Gammagrass**
- Corn & Litter Supplement on Fescue**
- Bob Glennon - Streambank Bioengineering**
- Randy King - Farm Equipment Safety**
- John Boyd - Weed ID and Control**
- Stan Chapman - Soil Fertility**
  - Fertility for Native Grass Species**
  - Fertility for Introduced Grass Species**

## TECHNICAL MEETING

The annual Technical Advisory Committee for the PMC met in Booneville in mid-May. The meeting was attended by Jim Caudle and Keith Vaughn State Resource Conservationists for Arkansas and Oklahoma, respectively, Dr. Charles Taliaferro, OSU Department of Agronomy, Dr. David Brauer, ARS Location Leader, Billy Moore, Area Extension Agent, and Randy King and Lance Tharel, PMC.

The purpose of the meeting is to (1) prioritize plant materials needs from each state which may be added to and addressed by the Booneville PMC Long Range Plan, (2) review current PMC projects, and (3) determine if our on-going projects are meeting the needs of our partners and customers. Jeral Hampton represented the Booneville Agricultural committee and attended a supper for the members of the Technical Committee.

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