

# Manhattan Plant Materials Center

Manhattan, Kansas



*A newsletter in support of the Plant Materials Program for Colorado, Kansas, Nebraska, and Oklahoma*

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## **Proper Seedbed Preparation is Key to a Successful Planting**

Many times we're in such a hurry to get the seed into the ground that we often ignore one of the more important steps of proper planting. That step is ensuring proper seedbed preparation. Some assume that since we are seeding native plants, those species should be able to readily establish even under unfavorable conditions. This of course is a false assumption. Seeding into a loose and rough seedbed will many times lead to failure while a properly prepared seedbed will provide optimum conditions for seed germination, plant establishment, and growth.

One key aspect of seedbed preparation involves the correct soil firmness. Seedbed firmness affects proper seed unit depth placement. If the seedbed is too loose, the seed unit will be planted too deep and the seedling will be unable to emerge. If the seedbed is too compacted, the seed unit will be planted too shallow and, the surrounding soil and seed unit will quickly dry out. Depth bands on drill openers do not compensate for a poorly prepared seedbed.

With proper seedbed firmness, the optimum planting depth may be achieved that will place the seed unit in soil that will remain moist and is near enough to the surface to allow seedling emergence. A good rule of thumb to remember is that proper firmness is achieved when a grown man walking

across a properly prepared field will leave a footprint no deeper than 1/8 of an inch.

Seedbed firmness also affects soil moisture relationships. Soil firmness affects capillary pore spaces which directly affects the amount and movement of moisture in the soil. In loose soils, while there is a large amount of pore space, the pores will be too large to serve as capillaries for soil water. Loose soils have few interconnecting pores spaces and will ultimately retain very little water. On the other hand, if the soil is excessively compacted, the total amount of pore space will be significantly reduced resulting in poor moisture availability as well as moisture movement into and through the soil.

In a properly prepared seedbed, the soil will be firm enough so that there is adequate capillary pore space for maximum moisture storage as well as moisture movement between wet and dry areas. Soils that dry during the day will be partially rewet during the night and water taken up by seeds and roots will be replaced by capillary water movement. This will result in favorable seed germination, plant establishment, and growth.

So next time we're in a hurry to get the field seeded, don't forget about proper seedbed preparation. It could mean the difference between a successful seeding and a failure.

## Plants with A Purpose

The Manhattan Plant Materials Center with help from the Kansas Public Affairs Staff has updated its promotional video of the Plant Center. New footage was shot on location at the Center's greenhouse and lath house. A new interior view of the office was recorded. The new scenes were integrated into the video by the Mid America Production Staff at their Salina multimedia office. They also had a new sound track or narrative completed to be utilized on the updated video. The Production Company made VHS videos and Compact Discs for distribution of the material. The video or CD will be shown for tours and to update groups interested in the Manhattan Center or the Plant Materials Program generally. Distribution of the CD was made in the PMC's service area and to interested personnel in the Plant Materials Program.

## How to Become an Author in Seven Easy Steps

The web site <http://plants.usda.gov> often receives several thousand visits per day. One of the more popular aspects on this web site is the ability to download and/or print "Plant Fact Sheets" and "Plant Guides". Last year over 800,000 Plant Fact Sheets and Guides were printed from the Plants Database. This indicates that our services and technical knowledge are in demand by the general public. Who writes these well-read and often cited sources of plant data? People like you and me. What does it take to author a plant guide? Knowledge, research, writing ability, a lot of editing and the ability to e-mail will help.

Steps in writing a Plant Fact Sheet or Guide include:

1. Write about a plant that is familiar to you.
  2. Go to the Plants Database and see if a Plant Fact Sheet or Guide already exists.
  3. Get the newest template for a Fact Sheet or Guide by requesting one from Jennifer Kujawski (e-mail: [jennifer.kujawski@md.usda.gov](mailto:jennifer.kujawski@md.usda.gov)) at the National PMC.
  4. Do your research. By researching a plant species you will likely find out there is more to know about this plant than you first realized. References usually come from two sources: A library with books and journals. The world wide web (WWW). You will need to use a search engine such as <http://images.google.com>). In the search block use the Latin, or scientific name, of the plant. This will give you credible reference sources.
  5. Use the template as a guide to focus your work.
  6. Have some people that are familiar with the subject proofread your work.
  7. After making the sheet coherent and readable and comply with the template criteria save it and e-mail it as an attachment to Scott Peterson (Director, National Plant Data Center) at [Scott.Peterson@usda.gov](mailto:Scott.Peterson@usda.gov).
- Scott will contact you and if he likes your work you may get your name on the Internet and be able to tell all your friends you are an author read around the world.

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