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NEWS RELEASE FROM THE OFFICE OF:

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GREGG COUNTY***

Check Soil Temperature

With the first warm days of spring, gardeners are anxious to get their vegetable seed in the ground. Unfortunately, it is not the air temperature, but the soil temperature that controls seed germination. We have to wait for the soil temperature to reach the correct temperature for a specific crop if we hope to get a good stand of vigorous seedlings. Significant losses may occur due to the fungal disease "damping off," especially if cool, wet weather conditions prevail for the first few weeks after seeding.

Soil temperature is a factor few gardeners check before planting, yet it is probably the most important factor affecting seed germination and plant growth.

Soil temperatures at which vegetable seed will grow include the minimum temperature required for seed growth, an optimum temperature and a "realistic" soil temperature. The realistic soil temperature is somewhere between optimum and minimum; it is the temperature at which you should plant to insure maximum success.

For instance, the optimum soil temperature for seed germination of vegetable crops, such as cucumber, cantaloupe, okra, pumpkin, squash and watermelon, is 95°F. However, if planted late enough during the year for soil to reach this temperature, summer heat will decrease plant vigor and yield. The minimum soil temperature for these crops is 60°F; yet, at this temperature the seed will not grow vigorously. Thus, there must be an intermediate soil temperature that is more realistic. Realistic soil temperatures for the best plant production are cucumber (64°F), cantaloupe (68°F), okra (73°F), pumpkin (75°F), squash (70°F) and watermelon (72°F).

Crops such as beans, beets, cabbage, chard, eggplant, pepper, radish, tomato, turnip and corn have an optimum soil temperature for seed germination of 85°F. The minimum soil temperature required for some of these cold-tolerant crops, such as beets, cabbage, chard, radish and turnip, is as low as 40°F. The realistic soil

temperatures recommended for these crops are beans (72°F), beets (45°F), tomato (55°F), turnip (50°F) and corn (55°F).

As might be expected, vegetables which are really cold-tolerant, such as carrots, parsley, lettuce and spinach, have lower optimum soil temperatures for seed germination. For instance, the optimum soil temperature for seed germination of carrots is 80°F, for parsley and lettuce 75°F, and for spinach 70°F. The minimum temperature required for these crops is 35°F. The realistic soil temperature at which all of these crops should be planted is 45°F.

The outdoor soil temperature may be manipulated by covering the ground first with black plastic, then clear plastic with an air layer between formed by a series of thin strips of wood. The clear plastic traps solar heat, the black plastic absorbs it, and the air layer insulates and reduces loss due to convection and radiation. The black plastic will also warm the soil. A good soil thermometer is important so you can see when the soil has warmed sufficiently to allow planting of the seed.

Bull Selection program

The Oil Belt Farm and Ranch Club will meet on Monday, March 16, 2009 at 7:00 p.m. at the Gregg County Extension Office at 405 E. Marshall, Longview Texas.

Understanding and utilizing Expected Progeny Differences, (EPD's) continues to be a popular topic among many beef cattle producers. Often times these numbers may be confusing to some of us. Dr. Jason Banta, Extension Beef Cattle Specialist with the Texas AgriLife Extension Service in Overton will present a program on "Using EPD's in Bull Selection." This program will simplify the use of the EPD numbers in selecting the correct bull for your herd. Dr. Banta will also discuss "External Parasite Control on Beef Cattle."

Producers with a Texas Department of Agriculture pesticide license or certificate will receive 1 CEU at the conclusion of this program.

This meeting is open to the public. Anyone with an interest in Beef Cattle production is encouraged to attend. For more information, contact the Texas AgriLife Extension Service - Gregg County office at 903/236-8429.

Dennis Smith can be contacted at the Gregg County Extension Office by e-mail at dg-smith@tamu.edu or telephone at: 903-236-8429.

Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability, or national origin.