“RAGDOLL” TEST FOR SEED GERMINATION

It is often important to determine the germination of seeds that have been held over from previous years. In the case of warm-season grasses such as switchgrass, one needs to get an idea about how many seeds may be dormant. It is always best to send a sample of seed to the NCDA Seed Testing Lab. Nevertheless, a fairly simple procedure can be conducted at home to get some indication of germination. Seeds that will not germinate in an ideal environment like that of a “ragdoll” most likely will not germinate in a field situation.

Properly used, the ragdoll test is very valuable. Following are some suggestions to help you obtain the most reliable results.

➢ Use a firm paper towel such as a brown hand towel or equivalent. The soft, very absorbent paper towels often used in a kitchen make poor ragdolls because they allow roots and shoots to penetrate into the fiber, making seedlings difficult to remove during counting. If no other type of towel is available, the soft towels can be used, but it is best to use two layers. These towels often hold too much water which drowns the seeds.

➢ Wet the towel and allow free water to drip off for a minute. Lay the wet towel flat and add seeds.

➢ Count out 100 seeds (50 for larger seeds like corn, peanuts, and soybeans) and place them on one half the towel. Fold the towel in half and roll it into a moderately tight tube. Rolling it around a pencil works well. Place the tube in a jar or sealable plastic bag.

➢ Position the ragdoll so the tube is upright. Doing this causes roots to grow down and shoots to grow up so that seedlings are more easily removed during counting. The ragdoll should be kept in a warm place (between 75 and 85°F). A little water in the bottom of the jar or plastic bag will insure adequate moisture.

➢ Make the first germination count for most crops in about three days. Open the towel and count the seedlings as you remove them. After another three to four days make another count. If you had 100 seeds, the number of seedlings removed equals the percentage germination.

➢ You can distinguish hard or firm (dormant) seeds from dead seeds by pushing down on each non-germinated seed with the flat part of a pencil eraser. If the seed does not flatten with gentle pressure, it is considered dead. Dead seed will usually be moldy at the end of the test.

➢ You can test your procedures using viable alfalfa or clover seeds that you know
have good germination. Those seedlings should look normal in a ragdoll test if the ragdoll procedures are favorable.

Source: Dale Wolf and Dave Parrish, Research Agronomists, Virginia Polytechnic Institute and State University, Blacksburg.