

## Dormant Seeding of Switchgrass with and without Seed Treatments in New York

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Switchgrass is being investigated for biomass production in the Northeast for bioenergy and carbon sequestration: however, seedling establishment is challenging in the Northeast due to high soil temperature requirements, long germination time, seed dormancy and short growing season. It would be advantageous to be able to successfully plant switchgrass as a dormant seeding to take advantage of natural stratification, early soil moisture and early establishment and when there is less demand for labor and equipment. Due to the longer period of time the seed is in the ground during cool moist conditions, we investigated the protective role of seed treatment fungicides: Thiram 42S, Captan 400, Raxil XT and Dividend Extreme and the biologicals, TrigoCor 1488 and T-22. These seed treatments were compared to a fall dormant planting and spring planting without seed treatment. All plantings were conducted on a Unadilla silt loam soil, the plots, were rototilled, the seed broadcast by hand, raked and cultipacked. The dormant and spring plantings were conducted on 10/31/07, 11/4/08 and 11/12/09 and 5/6/08, 5/8/09 and 5/28/10 respectively. In 2007, 2008 and 2009 the seed was sown at the rate of 9.4, 11.0 and 8.4 kg ha<sup>-1</sup> in 4.6 m<sup>2</sup> replicated plots. The seedlings/0.09 m<sup>2</sup>, for the dormant nontreated control, average of all dormant seed treatments, and spring control were for 2007; 4.1, 6.5, and 12.0 for 2008; 7.3, 9.1, and 12.7 and for 2009; 2.8, 4.4, and 15.3 respectively. There was no significant difference between seed treatments. There was a trend toward increased seedling density with the use of seed treatments compared to the dormant nontreated. The spring seeding date consistently produced the highest seedling density in all years.