

Increased Incidence of *Aspergillus flavus* in Peanut Seed and Relative Efficacy of Commercial Peanut Seed Treatments

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For years, Dynasty PD (azoxystrobin, fludioxonil, and mefenoxam) has been the standard seed treatment for peanuts in the southeastern United States. Rancona V PD (ipconazole, carboxin, and metalaxyl) is also effective but has played a lesser role. Commercial peanut seed testing in early 2020 showed lower than expected germination, especially with Dynasty. *Aspergillus niger* has been a growing problem in seed, but plating treated seed on PDA demonstrated very high frequencies of *A. flavus*. *Aspergillus flavus* is a well-known producer of aflatoxins that are of great concern in edible peanuts, but it is also a virulent seed pathogen. The percent colonization of *A. flavus* in 8 commercial seed lots averaged 68% and ranged from 34-92% on seed treated with Dynasty, while averaging 2% and ranging from 0-5% on seed treated with Rancona. *Rhizopus* spp. can also rot peanut seed and were found at a frequency of 15% (range of 3-32%) in Dynasty treated seed, and only 1% (range of 0-3%) with Rancona-treated seed. The percent seed producing a root on the PDA plates was 40% and 72% for the Dynasty and Rancona-treated seed, respectively. The percent seed producing a shoot with leaves on the PDA plates was 10% and 25% for the Dynasty and Rancona-treated seed, respectively. Testing of 200 seed samples at the Georgia State Seed Lab showed an average percent germ of 70% (range of 37-92%) for Dynasty-treated seed, and 86% (range of 70-94%) for the Rancona-treated seed. One lot had the same germination with both treatments, but 6 of 8 lots were at least 10% higher on Rancona, with one being 33% higher. Further studies are underway to determine if changes in fungicide sensitivity have occurred that may help explain the development of unexpected high frequencies of this aflatoxin-producing pathogen in peanut seed treated with Dynasty.