Aspergillus flavus, the causal agent of aflatoxin contamination of many crops, is a natural inhabitant of soils. This species can be divided into the S- and L-strains, with the S strain producing, on average, greater quantities of aflatoxins. Variation among fields in *A. flavus* community structure has been characterized on both local and regional scales. Variation at within field scales is known to occur, but has not been quantified. The structure of *A. flavus* communities as colony forming units (CFU) per gram and percent of S strain isolates was determined for 38 soil samples taken in a nested design from a cotton field in Arizona. Eight locations separated by 1 m to 10 m were sampled in each of four areas 250 m to 400 m apart. *A. flavus* was isolated from soil by dilution plating onto a modified Rose Bengal agar. Both variance component analysis and variogram analysis indicate that within field variation in population density of *A. flavus* is proportioned approximately equally among the three scales: among areas, among locations within areas, within locations (<25cm). Most of the variance in S strain incidence occurred at the within location scale, with minimal variation explained by the larger scales. The results suggest that niches dictating the outcome of competition between the L and S strains are relatively uniformly distributed within fields.

Association of Fusarium with wilt and dieback of *Acacia koa* in Hawaii
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Wilt of *Acacia koa* in Hawaii was first described in 1980. Symptoms also include branch and stem dieback. Disease etiology was ascribed primarily to pathogenic strains of *Fusarium oxysporum* (FO), placed within the forma specialis *koae*. Recent work has focused on screening native koa families for pathogen resistance. Many isolations from diseased seedlings, saplings, and mature trees indicated that FO was located primarily within root systems and very rarely isolated from stem and branch vascular tissues. Only 6 of 50 FO isolates randomly selected from a collection obtained primarily from diseased tree roots were highly virulent in greenhouse tests. Some of these will be used to screen for disease resistance. Three other *Fusarium* spp., commonly isolated from seeds and diseased trees, included *F. solani*, *F. semitectum*, and *F. subglutinans*. Eleven other *Fusarium* species were isolated from either seeds or different locations within diseased trees. Roles of these other species in disease etiology is unknown, although several are suspected of being non-pathogenic fungal endophytes.

Resistance of apples from the Kazakhstan germplasm collection to postharvest decay caused by *Penicillium expansum*
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Despite causing significant l