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## Plant Health in a Global Economy

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## Monitoring the spread of Maize chlorotic mottle virus and Sugarcane mosaic virus under high disease pressure in Ecuador

**Monday, July 30, 2018**

**15:40 - 15:50**

📍 Hynes Convention Center - Room 207

Maize lethal necrosis (MLN) is currently the most devastating viral disease in corn. The disease is caused by a mixed infection involving Maize chlorotic mottle virus (MCMV) and Sugarcane mosaic virus (SCMV). Although identified as early as 1970's, MLN has re-emerged during the past 6 years as the major problem in several countries around the world. In Ecuador, the disease was documented in 2015 in yellow corn cultivars, mostly grown in coastal provinces, where the presence of both MCMV and SCMV was confirmed in severely affected plants. However, epidemiology aspects regarding the time of the year when MCMV and SCMV appear in the field, as well as the rate of spread and their prevalence in relationship to insect populations remained unknown. To shed light on the dynamics of MLN in Ecuador, a field experiment was implemented where maize plots were set up in a contiguous overlapping fashion. Plots were planted in 30-day intervals starting from January. In each plot, 25 plants were marked for monitoring the presence of MCMV and SCMV in relationship with insect populations (aphids, thrips and leaf beetles) that were recorded in a weekly basis during one year. Our results indicate at least two peaks of virus infection along the year, with SCMV showing the highest rate of spread compared to MCMV. Aphids (*Rhopalosiphum maidis*) and thrips (*Frankliniella* spp) were the most prevalent insects exhibiting population peaks correlated to virus incidence.

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