Book of Abstracts

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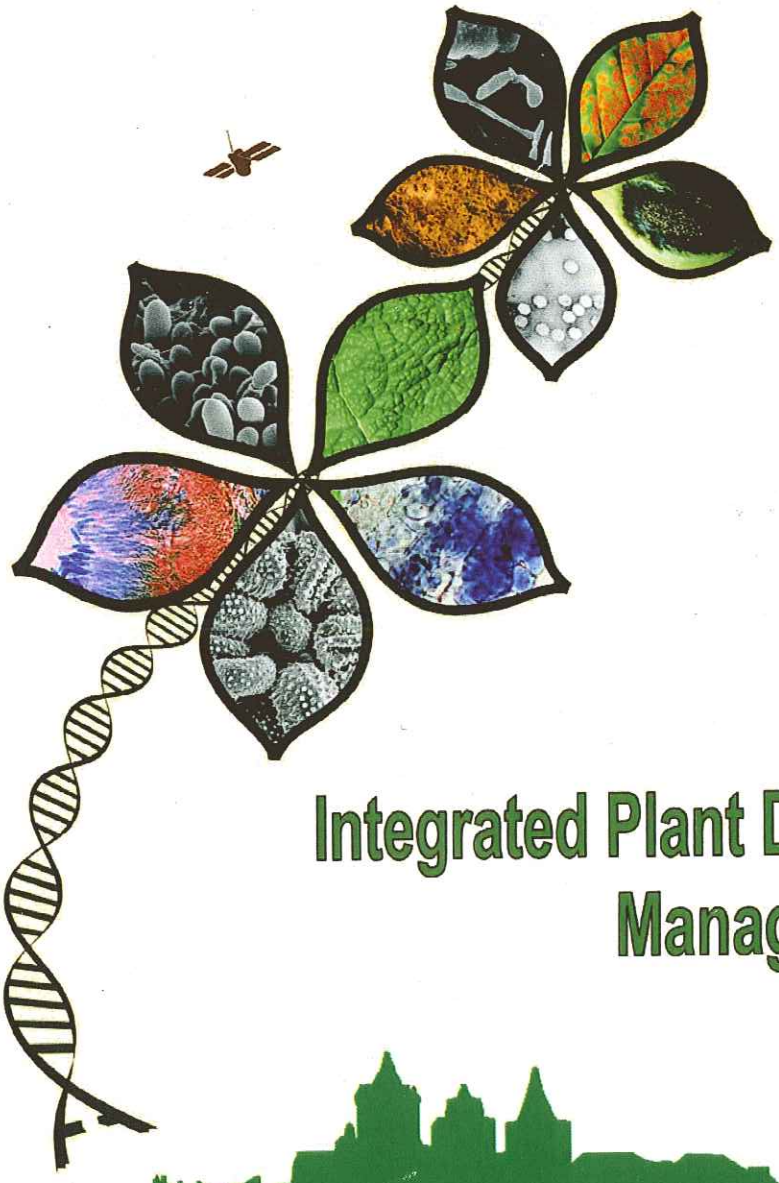

Integrated Plant Disease Management

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O2.5 Exploring feasibility and reliability of rating for resistance to *Sugarcane yellow leaf virus* (ScYLV) in a core collection of sugarcane.

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Yellow leaf is a worldwide distributed aphid vectored sugarcane disease caused by ScYLV. However, only little information is available on sugarcane resistance to yellow leaf. The objective of the study was to evaluate the feasibility of rating yellow leaf resistance in a naturally infected core collection of 200 sugarcane clones, which will in parallel be subjected to molecular characterization in a perspective to tag alleles linked to useful agronomical traits. ScYLV diagnosis is usually made by RT-PCR or tissue blot immuno-assay of leaves. However yellow leaf is a systemic disease and the ScYLV will circulate within the vascular bundles in the whole plant. We tested therefore tissue blots from basal leave midribs and from one cm core section of bottom stalk to estimate ScYLV incidence and virus titer in leaf and stalk in the 200 varieties. Samples were collected from a three randomized complete block design during two crop cycles. Experimental level broad sense heritability of virus incidence and virus titer, ranged from 0.80 to 0.94 for both crops. This indicates a good control of environmental error in the assessment of yellow leaf resistance. Significant correlations were observed between crop cycles (0.69-0.84 range) even if contamination increased between cycles. Diagnosis obtained from leaf increased the number of varieties in susceptible classes compared to stalk sections. Moreover stalk imprints seem to give a larger segregation on virus titer. Reliability of the collected data needs to be refined. These phenotypic data will be used to look for yellow leaf resistance alleles in sugarcane genome.