S2-P08

Variability of *Mesocriconema* populations associated with grapevine decline disease in South Brazil.

Welllington Silva[1] (cbauergbr@gmail.com), Margareth Divers[1], Jerônimo Araújo-Filho[1], Alexandre Menezes-Netto[2], Cesar Gomes[3]

[1] *Plant Protection Post Graduation Program, Universidade Federal de Pelotas, Pelotas, Rio Grande do Sul, Brazil*; [2] *Laboratory Entomology, Epagri, Videira, Santa Catarina, Brazil*; [3] *Lab Phytopathology and Nematology, Embrapa Clima Temperado, Pelotas, Rio Grande do Sul, Brazil*

The Grapevine Decline Disease (GDD) is one of the main factors limiting crop production in Southern Brazil. Data of recent field surveys has revealed a worrying increase in the incidence of this complex disease. Abiotic and biotic factors are involved with this syndrome and the presence of ring nematode (*Mesocriconema* spp.) seems to be an important cause. The taxonomic status of the genus *Mesocriconema* is controversial and a reason for discussion among taxonomists about the validity and composition of species of this genus due to closely-related taxa. Therefore, this study aimed to identify the diversity of *Mesocriconema* species associated with vineyards with GDD symptoms in Southern Brazilian states. Soil samples were collected in vineyards with symptomatic plants from four municipalities of Rio Grande do Sul (Caxias do Sul, Flores da Cunha, Garibaldi, Nova Pádua) and in three municipalities of Santa Catarina (Pinheiro Preto, Tangará and Videira). In order to identify *Mesocriconema* species, temporary slides were used for morphological and morphometric examination according to Raski and Golden (1965) and Andrassy (1965) keys. Adult female specimens of *Mesocriconema* obtained from processed soil were observed, and the micrographs were performed with the 10, 20 and 40, 60 and 100X. The measurements of the images were performed using the LAS Core Software. According to morphological and morphometric data, five species of *Mesocriconema* were identified: *M. xenoplax*, *M. curvatum*, *M. rusticum*, *M. sphaerocephala* and *Mesocriconema* sp. *(≈M. mutabile*). The Principal Component Analysis (PCA), based on five characters (L, St, Ran, VL VB and VL), indicated variation among the populations of Southern Brazil and also among those populations and distant geographical areas from data in the literature (all identified by DNA sequences). The PCA results for *Mesocriconema* were reasonably aligned with those obtained previously. The first two main components (CP) explained 75,82% of the variation. The *Mesocriconema* populations from this study were all grouped in the same cluster and grouped with other *M. xenoplax* isolates described in the literature, confirming our preliminary identification. In our research we detected a complex of *Mesocriconema* species associated with plants with GDD symptoms, suggesting the need for new studies to the characterize the host status of the main rootstocks in Brazil.

Keywords: Mesocriconema - Variability - Grapewine - Decline - Brazil.