
Tuesday 24, Afternoon, Auditorium - Poster

303 - Acarofauna of vineyards associated with three production systems in the São Francisco River Valley, northeast Brazil

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Vineyards constitute a considerable part of irrigated fruit growing areas of the São Francisco Valley, Petrolina-PE and Juazeiro-BA. The production is mainly oriented to fresh consumption for exportation. Expansion of vineyards in this region has been accompanied by attacks of pests, including mites, which frequently reduces yield significantly. This aim of this research was to study the diversity of mites in three vineyard production systems: (i) certificate (following Integrated Fruit Production principles), (ii) semi-conventional (no control of insects and mites) and (iii) conventional (no monitoring for pest control). It was conducted in the county of Petrolina, Pernambuco, Brazil, from February 2008 to March 2010. Samples were taken twice a month at five locations (3 of 'Festival' variety and 2 of 'Brazil' variety) from 15 plants. Each sample consisted of 6 leaves per branch (2 apical, 2 middle and 2 basalleaves) of each of 3 branches per plant. The mites were counted and identified. In total, 31,836 mites were collected, 19,706 predators, 11,914 phytophagous and 116 of variable feeding habits. The family Phytoseiidae was the most numerous with 61.8% of the mites collected, followed by Tetranychidae (31.3%), Tenuipalpidae (3.1%), Tarsonemidae (3.1%) and Stigmaeidae (0.1%). Phytoseiids were most abundant on 'Brazil' variety, in the certificate system. The populations of tetranychids and tarsonemids were higher in the conventional system, in both varieties. However, on 'Festival' variety, the Tenuipalpidae population was most abundant in the semi-conventional system. The species found in the 3 production systems were *Euseius citrifolius* Denmark & Muma (Phytoseiidae), *Oligonychus* sp. (Tetranychidae) and *Polyphagotarsonemus latus*

(Banks) (Tarsonemidae).

Thursday 26, Afternoon, Auditorium - Poster

304 - Gluconeogenesis in the tick *Rhipicephalus microplus*

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Ticks are obligate hematophagous and the blood meal is the only source of energy for its development. Despite the small amount of carbohydrates in blood, this arthropod accumulates glycogen in its tissues. Information on the conversion of the ingested protein to carbohydrate is almost nonexistent. To investigated glucose production in adult females of the hard tick *Rhipicephalus microplus* we selected enzymes potentially relevant to this process and studied the expression of its corresponding genes. As the genome of the cattle tick is unavailable we used bioinformatics tools to search for its coding sequences in EST databases that have information on *R. microplus*. When the coding sequence of a relevant gene was not found we used the genome information of *Ixodes scapularis*, the closest relative of the cattle tick that has its genome sequenced. This tick is the vector of the Lyme disease that is prevalent throughout USA. To access the expression profile of these genes, RNA was extracted from fat body, single strand cDNA was produced and used as template for RT-PCR. Six enzymes were expressed: three Transaminases, Phosphoenolpyruvate Carboxykinase, Pyruvate Kinase and Fructose-1,6-Bisphosphatase. Our results show that gluconeogenesis is an active metabolic pathway in ticks. The high expression of transaminases point to amino acids derived from blood protein as the carbon source for the process. This research was financially supported by CNPq, FAPERJ and INCTEM.

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305 - Mite families on *Vitis vinifera* var. 'Merlot' at Sant'Ana do Livramento, Rio Grande do Sul, Brazil