NATURAL THERAPEUTIC ALTERNATIVES FOR TREATMENT OF BOVINE MASTITIS USING XANTHONES OF MANGOSTEEN FRUIT (GARCINIA MANGOSTANA LYNN)

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The present and near future require new considerations in veterinary medicine with new alternatives regarding the quality of milk, animal health and its relationship to the organic production of milk, as well as new advances in the treatment of MASTITIS and of the organic control. (Kaske et al. 2002)

Mangosteen (Garcinia Mangostana Lynn) has demonstrated its antibacterial properties in the laboratory (Begum et al.1982, Sundaram 1983). Under the whole range of its functions, the anti-inflammatory activity is the most beneficial (Templeman 2008).

The subject is to test xanthones as a microbial modulator and their anti-inflammatory effect as a new natural alternative in bovine MASTITIS therapy.

Mangosteen, is native from Southeast Asia and is cultivated in tropical regions. (Othman 1995) Mangosteen contains a large number of biologically active substances including vitamins, catechins, polysaccharides, and particularly the chemical components stilbenes and xanthones (Govinchari 1971, Jefferson 1970) .

There are approximately 200 known xanthones in nature and over forty are found in the mangosteen fruit (Templeman 2008, Morton 2005) The effects of xanthones on Staphylococcus aureus (S. aureus) bacteria resistant to ordinary antibiotics, especially penicillin (Linum 1996) showed that they inhibit the reproduction of the bacteria (Mahabusarakam 1986). The polysaccharides from the mangosteen pericarp or skin stimulate the phagocytic white blood cells to become more efficient at removing bacteria.

S. aureus, P. aeruginosa, S. tiphimurium and B. subtilis are highly susceptible to alpha-mangostin, while Proteus spp., Klebsiella spp., and E. coli are moderately susceptible (Sundaram et. al., 1983) Xanthones mangosteen directly inhibit the enzyme cyclooxygenase, and disrupt the chain of events that cause inflammation(Nakatani K, et., al., 2004). The alpha and gamma mangostin xanthones are blocking histaminergic and serotoninergic agents, respectively (Chairungsilerd et al., 1996). Therefore we suggest using xanthones of the mangosteen fruit as a natural alternative in the therapy of bovine MASTITIS. (Garcinia mangostana Lynn).

As part of this project the effects of xanthones in the treatment of bovine MASTITIS should be investigated in dairy herds in the state of Jalisco in Mexico.

Keywords: MASTITIS; Xanthones; Mangosteen fruit (Garcinia mangostana Lynn)