Essential topic oils on the prevention and treatment of mastitis

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Raising animals started many ages ago, and was aimed, as today, the benefit of man from the right care for domesticated animals. so; as production began, the health problems has also started, difficult problems, since in the past there wasn't the large battery of antibiotics and antiseptics which have today. And many of these health problems still afflict producers today. One of these problems, to mention some of the most important might be the mastitis.

One question that could exist is as could correct these health problems without the aid of specific drugs such as today. The answer lies in the observation and wit of man who initiated the use of a variety of plants with different properties to protect and heal animals if necessary.

With the passage of time, the use of these plants was more than necessary, even being recorded as part of the cultural heritage of many communities. Mention these plants with beneficial properties for animals and humans is impossible because of its large size, but until today people still use these, usually as essential oils, for the benefit and care of both men and their animals (Katiyaret al. 2010).

It should also be mentioned that at present many commercial products contain essential oils compounds to give the user a complete product that not only look after the health of the animal, but also provides comfort and quality of life.

Regarding mastitis, proper cleaning of post- milking teat prevents and can relieve mastitis; since intramammary infection is initiated and maintained with the contamination of the teat skin by a pathogen agent, then it enter through the teat canal and multiply in the milk secretory tissue. The reduction of the bacterial population in the teat skin decreases the probability of occurrence of mastitis and reduces the risk of more severe complications and reduces pain and increases the comfort of the animal (Izak , 2006) .

Creating a relationship between plants with medicinal properties and the issue of mastitis may be mentioned certain plants with special features, the essential oils can help in both the prevention and resolution of mastitis; among these we have the Japanese mint (Menthaarvensis), the eucalyptus (Eucalyptusglobullus) , wintergreen (Gaultheriaprocumbens) and aloe vera (barbadensis Alore) .

The essential oil of Japanese mint contains more menthol in relation to other mints; and menthol is which gives the typical properties of mint. Menthol gives mint its anti-inflammatory , anti-infective , antibacterial (against Staphylococcus aureus , Escherichia coli , Salmonella spp. and others), antifungal and radioprotective properties. Menthol causes vessel constriction, increases heart rate, it also has analgesic properties since the excitation of the motor and sensory nerves is accompanied by a reduction in pain and also benefits the immune system. Thus, peppermint essential oil is indicated in skin problems such as eczema, itchy and ulcerated areas; as well as muscle pain, nerve pain, stress-related problems (Janssenet al, 1986 ; Arakawaet al, 1992 ; Bayoumi , 1992, El- Naghyet al, 1992 ; MoleyarandNarasimham , 1992, Tyler, 1992, El- Kadyet al, 1993 ; Pattnaiket al, 1996; Pattnaiket al, 1997; Fleming , 1998, Imai , 2001 ; Nepal gov, 2001 . jagetia and Baliga , 2002 ; HMRC , 2002 ; Awadet al, 2010 ; Mickienėet al, 2011) .

The essential oil of eucalyptus, also called eucalyptol, is probably the most powerful antiseptic essential oil. It has great antibacterial, anti-inflammatory, analgesic, stimulant drainage, insecticide, repellent and refreshing capacity. It can increase the activity of the immune system, especially the innate cell-mediated immunity. Its use in animals with external parasites (ticks and mites), wounds, burns, abscesses and eczema is recommended (Hong *et al*, 1991; Newell*et al*, 1996; Göbel*et al*, 2002; Salari*et al*, 2006; Serafino*et al*, 2008; Nagata*et al*, 2008; Maciel *et al*, 2009; Awaad*et al*, 2012; Dixit *et al*, 2012). Among its most important uses is as a preventive and therapeutic treatment of mastitis in dairy cows (Joshiet al, 1996;

Payneeshet al, 1996).

Furthermore the wintergreen, produces an essential oil rich in methyl salicylate, a compound similar to the nonsteroidal antiinflammatory acetylsalicylic acid since it is its derivative, being similar to aspirin. The essential oil of wintergreen when used topically has the rubefacients, antiseptic, analgesic, mild anesthetic properties. Methyl salicylate stimulates blood flow in the capillaries, and like menthol produces a thermal feeling of cold and then heat thus the animal gets distracted from pain. It is recommended to treat bumps, bruises, abrasions and quite inflamed areas (Sanjurjo, 1996; Balch, 2002; Mason et al, 2004; Trameret al, 2004; EMC, 2012).

Meanwhile, the medicinal properties of aloe vera have been known for centuries and is also has been used for the benefit of man in the treatment of animals. Aloe vera has antiseptic, antibacterial, antifungal, anti-inflammatory, analgesic, immune system stimulants, antioxidants, angiogenic, moisturizing, soothing refreshing repellent properties. The aloe vera essential oil is recommended for the treatment of burns, open wounds, allergic reactions, itching areas, bleb, in cases of mycosis, eczema, edema, erythema, ulcers. It is also recommended in cases of mastitis, not only to clean the area and leave it free of bacteria, but also to soften and rehydrate the teat skin to retain its integrity (Garuda, 2011, Silveira et al, 2011; Ruiz et al, 2012).

This is how it shows that the medicinal properties of these plants can be helpful in a production center. The combination of essential oils has been tested with great results for general health (Katiyaret al, 2009) and mastitis (Deryabin, 1991). It was applied with gentle massage for 5-7 minutes in the mammary gland 3 times a day in cows. Values of 95% efficiency were achieved in comparison with conventionally treated cows (Deryabin A, 1991).

It is noteworthy that the use of natural products is a great choice to the use of antibiotics because of the increasing occurrence of antibiotic-multiresistant bacteria also it causes side effects such as gastrointestinal disorders. Additionally milk and meat are directly affected since they can contain antibiotics residues. It is so with great concern for the safety and in an effort to generate a natural product quality, Agrovetmarket SA produces Ubremint ®, a topical cream with Japanese mint essential oils, aloe vera, eucalyptus and wintergreen, joining in this product the best properties of its components, for, both preventive and therapeutic treatment of mastitis and other conditions of our animals, with a withdrawal period of 0 days.

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