

CAPSAICIN - Nature's Painkiller

The value of herbals is well documented in human medicine, for helping conditions from arthritis, wounds and pain to stress and sleep disorders. And it is widely known that most pharmaceuticals are derived from a component of an herb or plant, for example aspirin comes from the bark of the willow tree. For centuries it has been employed in the treatment of equine conditions and now the equestrian industry is flooded with herbal remedies to help your horse. I would like to introduce you to an incredible little plant known as the capsicum plant. And, in particular, the active ingredient in capsicum called **capsaicin**.



We all know that burning feeling we get in our mouths after eating a fiery curry - some of us love it and some of us hate it! What you probably don't know, is exactly what causes the burning feeling, and how remarkable a substance it is. Capsaicin (8-methyl-N-vanillyl-6-nonenamide) is derived from the capsicum family, like chilli peppers. Capsaicinoids are found primarily in the peppers 'placenta' - the white 'ribs' that run down the middle and along the insides of a pepper. The seeds are usually also hot.

The capsaicinoid content of a pepper is measured in parts per million. These parts per million are converted into Scoville heat units, the standard for measuring a pepper's 'fire'. One part per million is equivalent to 15 Scoville units. Bell peppers have a zero Scoville rating, whilst habaneros get to 200,000-300,000! Pure capsaicin has a Scoville heat unit score of 16 million!! This gives us some idea of the strength of this amazing compound.

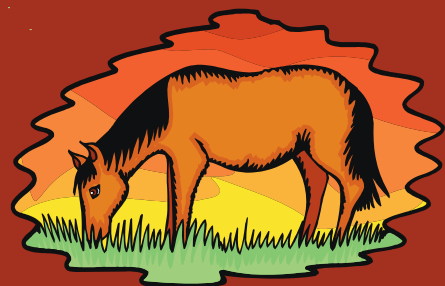
These days many of us are using natural and effective remedies on our animals and ourselves. They often do not have the side effects of their synthetic brothers and often (although not always) are non-swabable in racing or competition drug tests. This is certainly true of capsaicin. It must be the most effective topical pain relief available that will not swab positive. So how exactly does it work?

You could term it 'fighting fire with fire' as the very quality that causes your mouth to burn is exactly what helps with pain relief. Capsaicin binds to a pain receptor in the body called VR1 (vanilloid receptor subtype 1). This neuron gives the same effect as excessive heat or abrasion would, but creates a burning sensation without physically damaging the tissue. When chronically exposed to capsaicin the neurons are depleted of neurotransmitters (like dcapeptide and substance P), which reduces the sensations of pain and neurogenic inflammation. When capsaicin is taken away, the neurons recover. As capsaicin depletes the level of substance P in the blood stream it is very effective in the management of arthritis of the older horse and has been used for years in the treatment of humans with arthritis. I have met a number of older people who swear by capsaicin for treating their arthritis.

So capsaicin is ideal for pain management in cases of arthritis, sprains, strains, sore muscles and splints of the horse. Because the neurons stop telling the brain about the pain, the inflammatory response can be limited which is useful when there are occasions such as tendon injury or swelling, when it is important to keep heat and inflammation to a minimum. It is also very useful for keeping an elite equine athlete at the top of their sport, free from the common aches and pains which can effect soundness throughout the season.

Capsaicin should NOT be used to mask pain from a serious injury and will not work on severe pain. However it can be a very useful aid for horse owners for minor leg problems, rehabilitation from injury, and also as a wash for 'tied-up' horses. After a number of years of searching for a topical cream or wash containing capsaicin, it has now become available to the New Zealand equine industry in the form of a wash called Heat Out, produced by Animal Health Direct Ltd. As far as I know, Heat Out is the only equine formulation which primarily contains capsaicin. Widely used in the USA, Australia and the UK for some time, it is about time New Zealand owners/trainer/riders had the access to this amazing ingredient capsaicin.

Interestingly, researchers from the Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai Medical Center, in collaboration with colleagues from UCLA, recently found that capsaicin caused human prostate cancer cells to undergo programmed cell death or apoptosis. For more information regarding this research contact Russell Vanderboom Ph.D on vanderboom@aacr.org



I am passionate about using capsaicin for both rehabilitation and peak performance, and have been familiar with its benefits for some time - if you would like to discuss anything in this article further please do give me a call or email (details below)

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