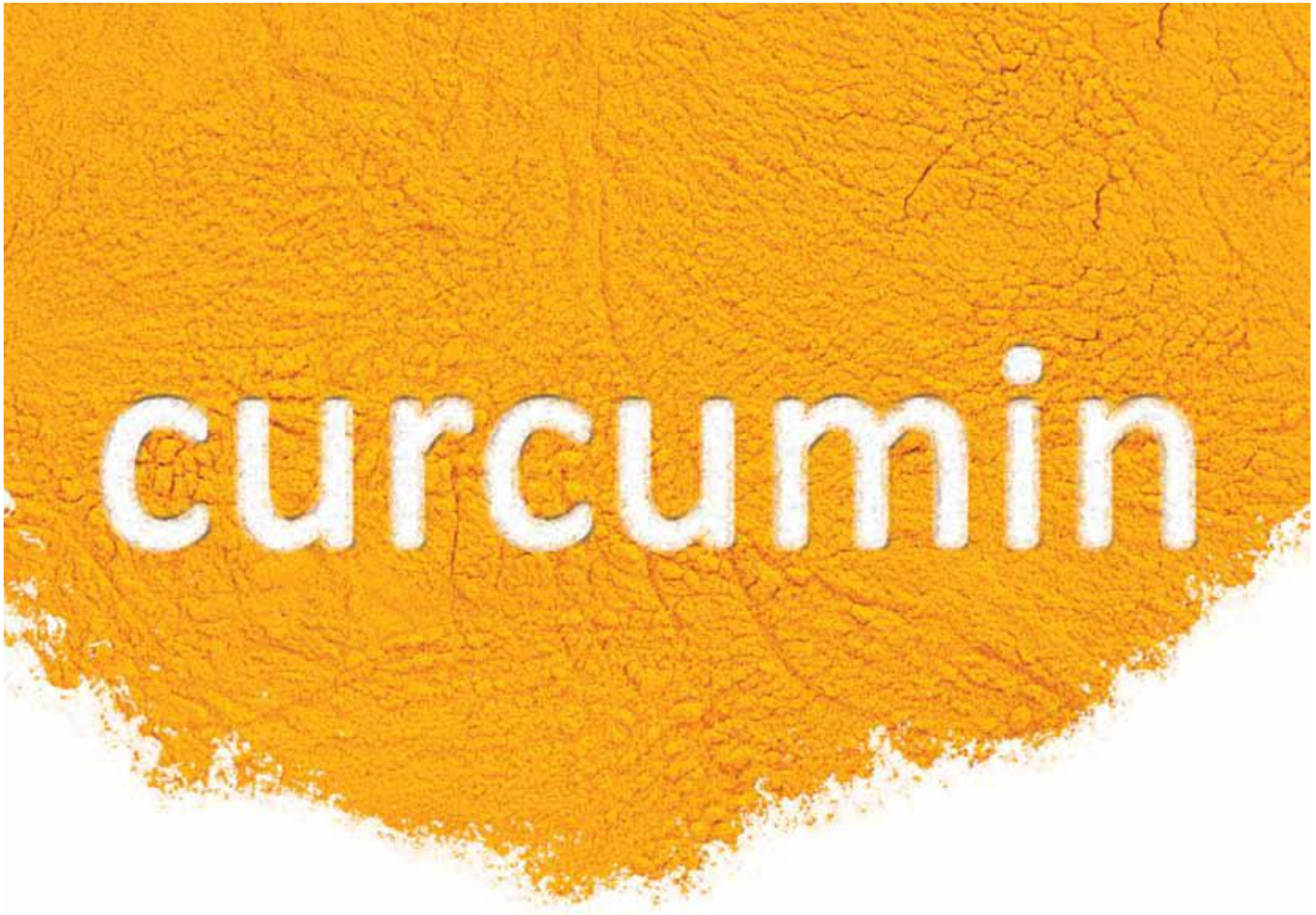


## The Case for Curcumin



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Interest in naturally occurring substances for medical applications is growing rapidly. One of these substances is curcumin, a major active ingredient found naturally in turmeric. Turmeric is a bright yellow-orange spice prepared from the rhizomes (spreading roots) of the south Asian plant *Curcuma longa*. It is commonly used to make curries and color mustard.

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Curcumin's use as a natural medicine began in Indian Ayurveda. The antibacterial, antifungal and antioxidant properties of turmeric account for its use as one of the earliest food preservatives. Other traditional Ayurvedic uses included the treatment of conjunctivitis, acne, skin wounds, ringworm, eczema, hemorrhoids and other skin conditions. It was burned and inhaled to loosen mucus in the lung. Orally, turmeric was used to treat colds, arthritis, intestinal tract disorders, toothache, poor circulation and anemia, and as a reproductive tonic for both men and women.

Turmeric has also been found to have anti-inflammatory properties. Chronic inflammation is now well recognized to be a primary component of virtually all chronic degenerative diseases, such as arthritis and heart disease, and is an inherent part of the pathology in a host of others including cancer, allergies, insulin resistance/diabetes and even bone loss.

Many contemporary studies have been done on curcumin and its health benefits. See the accompanying chart for a list of its medicinal properties and the types of study used for each.

### **Dosage issues**

There are problems with tapping into the potential benefits of the curcumin in turmeric because the parent herb has only about 5% maximum curcumin. Curcumin is also poorly soluble in water, which limits its absorption from the intestinal tract. However, work is actively ongoing to develop processing methods to produce curcumin of very small particle size, encapsulated in a water soluble carrier. Emulsification in fat also enhances absorption. However, these preparations are not commercially available.

Extrapolating from experimental data on curcumin, it could take as much as 8 to 16 ounces of turmeric to deliver an effective dose to a horse. However, while curcumin is well studied and has proven properties, it is not the only biologically active compound in turmeric. Beyond historical use information, we have no data comparing effects of feeding ground whole turmeric versus isolated curcumin.

### **Curcumin and equine melanomas**

Anecdotal reports from horse owners suggest turmeric may have beneficial effects on melanomas at dosages below what would be predicted by their curcumin content alone. Melanomas are a common tumor of predominantly older gray horses. The predisposition is genetic, but growth may be triggered by hormonal changes as horses age.

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Equine melanomas are not malignant like the human variety, and are classified according to their microscopic appearance. Some bear a close resemblance to a type of human mole under the microscope while others appear more aggressive. It has been found that inflammation and reactive oxygen species/free radicals play a pivotal role in spread of these tumors.

Three horses with prominent and/or growing and spreading melanomas were given 1 to 3 ounces/day of ground turmeric. In all cases, the growths shrank and the spread was stopped. Since the behavior of melanomas is unpredictable, this small number of reports cannot rule out the possibility that the growths would have quieted down or shrunk on their own. However, it's an intriguing starting point and hopefully future research into the use of turmeric or curcumin will include the horse and equine specific issues.

As a final note, while an individual may have an adverse reaction or allergy to any substance (including drugs), curcumin in other species has proven extremely safe with no side effects even at dosages equivalent to 80 grams of turmeric for a human, or 329 to 480 grams (11.6 ounces to 16.9 ounces) for a horse. This is an excellent track record and also puts turmeric at the top of the list as a nutraceutical of interest for horses.

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