

In Clover Flow[®] urinary tract support for cats, clinical data

Urinary tract infections (UTIs) are a common problem for felines and can result in painful, abnormally frequent urination as well as cystitis and kidney stones. In Clover, a leader in clinical pet supplementation has developed Flow, a supplement formulated with natural dandelion leaf, cranberry extract, marshmallow root and yucca root to promote healthy pH, bacterial balance, kidney health and inflammation management.

Vaccinium oxycoccos (cranberries) contain the active ingredient proanthocyanidins, which prove useful in treating bacterial UT infections (1)(3). The proanthocyanidins inhibit the adherence of *E. coli* bacteria – the most common cause of UTIs – to the inner walls of the urinary tract (2)(4). Cranberry also acts as powerful antibacterial successfully inhibiting *E.coli* production as much as 50 percent (7) as well as several other strains of bacteria (6)(5). Clinical research shows these two mechanisms of cranberries decrease the possibility of a UTI contraction.

Another common problem for cats is recurrent cystitis, including struvite crystals and stones. This condition can be linked to a UTI or occur by itself. Both versions have the same symptoms as a UTI. These crystals and stones often develop in alkaline urine. The acidity of cranberries balances the pH of the urine making it less likely that crystals or stones will form (8).

Taraxacum officinale (dandelion) leaves can be used as a diuretic to increase the flow of urine and eliminate fluid in the body(9). This function helps to flush out harmful bacteria in the urinary tract and works to prevent UTIs. Dandelion can also help relieve false sensations of urgency that accompany a UT infection (2).

Althaea officinalis (marshmallow root) is used to inhibit bacterial growth in the urinary tract and clean the bladder (10). Additionally, it acts as a demulcent to soothe irritated kidneys and the urinary system by coating the relevant tissues with a protective layer (10)(11). This occurs because marshmallow contains a high percent of mucilage (10)(2), which works to form a film over the mucous membrane of the urinary tract, relieving minor pain and inflammation (11).

Yucca root contains phenolics that act as antioxidants, which suppress the free radicals that stimulate inflammatory responses (12)(14). Furthermore, the saponins in yucca have been shown to possess anti-inflammatory functions (12)(13). Both these properties can help reduce irritation and pain management.

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