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AMERICAN
BOTANICAL
COUNCIL

FILE: ■ Herbal Tea
■ Rooibos (*Aspalathus linearis*)
■ Honeybush (*Cyclopia intermedia*)

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RE: Review of the Bioactivity of South African Herbal Teas

McKay DL, Blumberg JB. A review of the bioactivity of South African herbal teas: rooibos (*Aspalathus linearis*) and honeybush (*Cyclopia intermedia*). *Phytother Res.* 2007;21:1–16.

Herbal preparations prepared by steeping or heating crude plant materials have been used for centuries by healthcare providers. However, such practices are based more on folklore than on research-based evidence. The bioactivity of some of these herbal preparations appears to be derived from secondary metabolites, such as polyphenols. Polyphenols are the most widely distributed class of phytochemicals and are known to have antioxidant, antiatherosclerotic, anti-inflammatory, antimutagenic, antitumor, and antiviral activities. The results of observational studies have shown that diets rich in plant-based foods and beverages are associated with a lower risk of chronic conditions, such as cardiovascular disease and some cancers. Though more research is still warranted, the putative health benefits of drinking black and green tea (*Camellia sinensis*) are widely supported by a large body of basic research and several clinical studies. However, much less information is available regarding herbal teas (tisanes). The scientific literature addressing the potential health benefits of two "emerging market" herbal teas from South Africa—rooibos (*Aspalathus linearis*) and honeybush (*Cyclopia intermedia*)—is reviewed.

This review summarizes, in both narrative and tabular form, phytochemical and nutrient content, in vitro and animal studies, chemopreventive potential, immunomodulating activities, and the adverse reactions to both teas. In brief, rooibos and honeybush both contain various flavonoids and other phytochemicals. The primary constituents of rooibos are flavan-3-ols, flavones, dihydrochalcones, proanthocyanadins, and phenolic acids. The primary constituents of honeybush are isoflavones, coumestans, inositols, and xanthones. The only known compounds common to both plants are eriodictyol and luteolin. Rooibos is the only known natural source of aspalathin and one of the only two known sources of nothofagin. Despite the differences in the phytochemical profiles of the two plants, in vitro and animal studies have shown that extracts from both plants have antioxidant,

chemopreventive, and immunomodulating activities. In vivo studies of the potential health effects of rooibos and honeybush have been conducted almost exclusively in animal models. No known controlled clinical trials of either plant have been published in English language peer-reviewed journals. Only two studies of the health effects of rooibos have been conducted in humans, and no studies of the health effects of honeybush in humans were identified.

Herbal tea consumption has increased in recent years at a rate of 15-20% annually, primarily because health-conscious consumers have been searching for food products that will improve their quality of life. The purported health claims of many commercial teas do not appear to be "fully substantiated," i.e., the claims are not based on sound research-based evidence. For example, the health benefits of rooibos and honeybush have not been well researched; therefore, these claims "are not truly warranted." Nonetheless, the absence of adverse reactions to the ingestion of these teas and the apparent bioactivity of their constituents indicate that additional research to elucidate possible health benefits is warranted.

—*Brenda Milot, ELS*

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