

Title Post harvest degradation of saponin content in powder of *Asparagus racemosus* tubers with different drying and storage methods

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Abstract

Due to marketing problems of medicinal plants in India, farmers store the powder of *Asparagus racemosus* tubers in different manners. The tubers of *A. racemosus* contain saponin as the main active constituent, which is very hygroscopic. Therefore, a suitable method of drying and storage of powder of *A. racemosus* tubers is needed, in which the degradation of saponin is minimal. Tubers were dried in an oven and in sunlight. After drying and grinding, powder of both drying methods was stored for 12 months in airtight bags and in open bags. Dry powder samples were analyzed for saponin content and moisture content at initial stage and subsequently at two months interval. There was a significant loss in saponin content of the powder stored dried with different methods. Average degradation in saponin content after one year was less under oven drying (43.9%) compared to sun drying (48.3%). Among the two types of packing, average degradation in saponin content after one year was less in airtight bags (41.4%) compared to open bags (50.8%). Oven drying followed by keeping powder in airtight bags was found to be the best method of storage due to minimum degradation in saponin content (39.5%). Average moisture content in oven drying was 1% less as compared to Sun drying (11.4%). Among two types of packing, airtight bags contain 1.5% less moisture content in comparison to open bags (11.7%). It was also observed that higher moisture content may be one of the reasons for higher degradation of saponin, which is very hygroscopic.