

Assessment of adulteration of certain medicinal plants in significant trade in central India

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The project provides a valuable tool for those who depend on macroscopic assessment techniques for assessing raw produce quality of medicinal plants. This technique will encourage others to incorporate this simple, yet highly effective technique. The research project aims at suggesting appropriate ways and means to combat problem of adulteration/substitution in commercially traded medicinal plants i.e. Aonla (*Emblica officinalis*); Musli (*Chlorophytum* spp.); Satawar (*Asparagus racemosus*); Bach (*Acorous calamus*); Baibirang (*Emblia tsejarum-cottam*)etc. Information was collected through questionnaires from various stakeholders like collectors, middleman, traders, manufacturers to get an idea about current harvesting practices, value addition, processing, storage and marketing of selected medicinal plants. The selected study area Katni (MP) Dhamtari (CG) and Nagpur (MH State) is one of the major trading center for medicinal plants in central India. Results of the present study indicate that selected raw medicinal plants were adulterated both intentionally & unintentionally in the Katni & Dhamtari study area. Immature root/tuber/fruit collection and unsustainable harvesting practices observed in all selected species. Some of the traders were involved in malpractices like coloring of raw material, mixing of similar looking species as well as using infected & old material of same species. Baibirang, Safed Musli and Aonla were found to be the commonly adulterated species. Based on the Katni & Dhamtari market sample analysis, it was observed that on an average 15-20% raw material was adulterated (by mixing of other than genuine species, chaff matter & soil etc.) except Bach.

The research findings suggest measures to prevent adulteration in the local herbal markets. Primary Collectors - the harvesting levels and the sustainable harvesting practices should be known before initiating wild collection. While collecting tubers/roots etc. some tubers should be left for future regeneration. Parts that are not required or are decomposed and any foreign matter such as soil or weeds should be removed during harvesting. Handling of the plant material such as cleaning, drying and storage, should be carried out by trained personnel. Suppliers and traders should be trained and educated about the WHO standards.