



ECONOMIC IMPORTANCE OF FARMER FRIENDLY WEED *AMARANTHUS SPINOSUS* L. IN NON IRRIGATED AGRONOMIC PATTERN OF SATARA DISTRICT

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Abstract:

Amaranthus spinosus L. is a member of family Amaranthaceae is widely distributed throughout the tropics and warm temperate regions of Asia from Japan to Indonesia to India, the Pacific islands and Australia as a weed in cultivated as well as uncultivated lands. In Indian traditional system of medicine and Ayurveda *Amaranthus spinosus* L. is used as digestible, laxative, diuretic, stomachic, antipyretic, improves the appetite, biliousness, blood diseases, burning sensation, leprosy, bronchitis, piles and leucorrhoea. Its extract is used for its anti-inflammatory properties, effect on hematology, immunomodulatory activity, anthelmintic properties, antidiabetic, antihyperlipidemic and spermatogenic. (Mishra *et al*, 2012). In Maharashtra it is commonly known as “Kate Math” or “Deth” as it is utilized as leaf vegetable when young and tender stem vegetable at time of flowering. In Satara district it is commonly known as “Dhesa” where whole stem along with roots is used as vegetable. It is most common food throughout Satara district in non irrigated and low rainfall zones. It is also a common vegetable in Narayangaon and other suburban cities of Pune district where *Amaranthus spinosus* L. is used as stem vegetable on sacred occasions called “Mahal”.

Keywords: *Amaranthus spinosus*, weed, agronomic etc.

Introduction

In Maharashtra agriculture is gaining benefits of modern agriculture as a result of acceptability of farmers to innovative techniques. Efforts of state governments have lead to development of many agricultural zones by providing technology and agro literacy. Major regions in state are proved to be benefited with cumulative efforts of farmers and government agencies. This scenario is more or less similar all over Maharashtra except some non-irrigated regions. Present work aims to study Agronomic pattern of Satara district in non-irrigated and low rainfall zones. Several regions like Maan, Khatav and Khandala are facing similar tribulations which have forced to adapt environment friendly patterns of agriculture. The agro economy for these regions depends on first shower of Monsoon and winter. This pattern has made many farmers utilize some weed crops as a gift of nature. Present survey aims at study of a farmer friendly weed *Amaranthus spinosus* L. and its economic contribution from local market. *Amaranthus spinosus* L. is an annual growing to 1 m (3ft 3in). It flowers in August, and the seeds ripen in September. The flowers are monoecious and are pollinated by Wind or self. Leaves are eaten raw or cooked as leaf vegetable. The leaves contain about 3.88% protein, 1.1% fat, 9.38% carbohydrate. They are very rich in Vitamins A & C, rich in vitamin B1. (<http://www.cabi.org/isc/overview>).

Amaranthus spinosus L. is well known weed in Maharashtra. Most of the times this weed is eradicated but not thrown away, rather it is used as a fresh leaf vegetable. Many farmers from Khandala block let the weed grow along with their crops and sell them in weekend bazaar (local market). It serves to be economically beneficial for minor farmers.

Material and methods

Site of study – Agriculture zones of Khandala Block, (Pargaon) Dist Satara. Near about 56 farmers from 5 zones were selected for following survey.

Duration – following survey was carried out for two years (2011-12 and 2012-13) during Monsoon and growth span of selected weed plant.

The local villages that reported conserved *Amaranthus* growth was surveyed for last two years. Farmers with non-irrigated traditional farms and minor land were mostly sort out. Data from farmers engaged in *Amaranthus* growth was acquired from Grampanchayats and several other local sources. Meetings were held regularly with several farmers and group of farmers. More than 5 weekly markets were surveyed for studying market value of the edible weed. Financial calculations were made on basis of input cost and market values.

Result and Discussion

Mostly the farmers of non-irrigated zones rely on conventional farming of legumes and grain crops like ground nuts, beans, chickpea, cowpea, green gram, black gram, sesame, bajara and jowar. These farmers used local seeds of previous harvest. These crops served as livelihood food throughout year and sometimes depending on production extra produce was sold to market. *Amaranthus spinosus* L. was used as reliable and healthy food during vegetative phase of the plants. This weed is considered as a healthy seasonal food. These plants do not require any cultivation cost as it is a weed with huge number of minute seeds propagating very easily during monsoon. It is reported that common bean cultivars are inhibited by allelopathic effect of some *Amaranthus* species Rouhollah *et al.*, (2012), therefore these weeds are not conserved in some modern agricultural practices. Even if these plants are weeds they do not affect growth of crop plants as they are regularly uprooted for food and market value. During growth period along with other leaf vegetable like spinach and trigonella it is sold in local market with nearly equal price as they are equally nutritional or even more sometimes. In other studies conducted by Patil and Patil (2000) The use leaves, tubers/rhizomes, bulbils, fruits, seeds, flowers, etc of wild plants and common weeds serve as complementary diet in times of scarcity of food during famines. The study by Sasi *et al.*, 2011 observed that the tribal communities fulfill their food deficiency by supplementing wild food plants in their daily diet. Common weeds prove to be an interesting resource in small to medium-sized human settlements where they may provide supplementary food. In large cities, suburban populations may also profit from edible weeds Martha *et al.*, 1999. It is also reported that some wild Mediterranean plants used as traditional food are an extraordinary source of antioxidants Paola (2011).

In spite of nutritional importance of some common weed species they are less looked and cultured. It certainly deserves more attention to determine wider domestication possibilities and optimum cultivation practices. Jansen, (2004). A common solution on such problems may be promotion of traditional farming, but the trend of economic development in farming has shown deduction in natural and traditional farming as reported by Bhosale, (2013) and Kanade and Bhosale (2013).

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