

A study of weed occurrence and crop association of Valsad district of South Gujarat

ALPESH B. THAKOR

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In Valsad district mainly wheat, rice, sugarcane, vegetables, fruits etc. are cultivated. Innumerable weeds grow in the fields of cultivated crops which are a serious problem as they compete with neighboring crops or plants of economic importance and reduce their yield. To understand the crop weed relationship present study is carried out on the weeds of Valsad. To make a survey of crops of the area, to identify and describe the weeds growing in the crops and to educate the local farmers.

A weed is the more aggressive, useless plant growing out of place which interferes with the crops especially the utilization of land and water resources and thus adversely affect human welfare. According to Beal (1910) "A weed is a plant out of place", Farmers Bulletin (1915), Development of agriculture, USA defines weed as a wild plant that has habit of intruding. According to Brenchely (1920) weed is a plant that grows so luxuriantly that it chocks out of all other plants that possess more valuable nutritive properties. Oxford English Dictionary (1933) defines weed as a herbaceous plant not valued for use or beauty, growing wild and regarded as cumbering the ground or hindering the growth of superior vegetation. Bailey and Bailey (1941) pointed out that a weed is an unwanted plant and therefore it is to be destroyed. Salisbury (1942), Webster (1948), Muenscher (1949) have given similar definition - "A weed is a plant out of place."

Valsad district is a southern part of the Gujarat state about 194 km. The area consists of hills and plain lands. The present investigation is an attempt to record the available weed plant of Valsad district. The floristic study was conducted in Valsad district during May 2007 to September 2008. 38 villages have been explored for the present study. A total of about 203 weed taxa growing in the different crops of the area. Customary methods were employed for field and laboratory work following Santapau (1955) in Botanical collectors manual. The nomenclature has been brought up to date in accordance with current researches and rules of international code of botanical

nomenclature(1972).

Name of the Weed plants, their Occurrences and Crops association are given below under Table 1.

The paper embodies the results of research work carried out for a period of 1 year (May 2007 to September 2008). During the survey, a total of 203 weed angiosperm plant species were reported. The dicot weeds dominate the crops of the area.

The most common weeds in all crops are: *Blumea eriantha* DC., *Cardiospermum halicacabum* L., *Chrozophora prostrate* Dalz., *Cocculus hirsutus* (L.) Diels., *Cynodon dactylon* (L.) Pess., *Cyperus compressus* L., *Haplanthus tentaculatus* Nees var. *tentaculatus.*, *Physalis minima* L., *Portulaca oleracea* L., *Sida alba* L., *Triumfetta rotundifolia* Lam.

The parasitic weeds which in habit the vegetables are: *Cuscuta chinensis* Lam., *Cuscuta reflexa* Roxb., *Ramphicarpa longiflora* (Arn.) Benth., *Sopubia delphinifolia* (L.) G. Don., *Striga angustifolia* (Don) Sald., *Striga asiatica* (L.) Kuntze.

Weeds are being controlled by different measures viz. hand weeding, tilling, mechanical and chemical i.e. herbicides. The local farmers were made conversant with vernacular names of the weeds, their merits and demerits as well as use of herbicides like 2-4-D, Glycel etc.

Abbreviation :

A : Abundant, C : Common, O : Occasional, R : Rare, - : Absent

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Correspondence to:

ALPESH B. THAKOR, Department of Biology, B.K.M. Science College, VALSAD (GUJARAT) INDIA