

## THE WEEDS OF THE CULTIVATED FIELDS OF GUJARAT STATE

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### ABSTRACT

An attempt was made to explore some of the prosperous districts — Ahmedabad, Kaira, Baroda, Broach, Surat and Bulsar of Gujarat State with a view to collecting and identifying the weed species prevalent in the cultivated fields. Critical field observations in all the seasons, during the last 15 years, revealed that certain weeds are invariably found in or associate themselves with tobacco fields, other set in cotton fields, whereas certain remaining species are noted in fields of rice and pulses. The chief invaders are the members of the families compositae, graminaceae, papilionaceae and euphorbiaceae.

### INTRODUCTION

At present India is in need of more harvest from each acre of land. But the cultivator has to face heavy losses caused by the weeds. In order to overcome such losses, effective suppression of weeds is essential without any further delay. Hence, the first and the needful step towards this direction is the identification of the weed species. The present paper lists common weeds of the cultivated fields, which the author could actually collect or observe in some of the prosperous districts, viz., Ahmedabad, Kaira, Baroda, Broach, Surat and Bulsar of the Gujarat State; the centres were surveyed for field observations for more than 15 years. The common field crops of Gujarat are : cotton, tobacco, rice and pulses. The flora of these cultivated fields includes herbaceous or even shrubby plants, rather weeds which are abundant and common everywhere and sometimes form a dominant feature of the vegetation of the spot.

After a careful scrutiny, it has been observed that certain weeds are invariably found in or associate themselves with tobacco fields, other set in cotton fields, whereas certain remaining species are noted in fields of rice and pulses. The listing of all these weeds may be summarised in a tabular form indicating their flowering periods and area of distribution.

Species	Flowering period	Distribution in other districts
(1) Weeds of tobacco fields (Kaira district)		
<i>Abutilon indicum</i> Sweet	May — November	—
<i>Amaranthus viridis</i> Linn.	August — September	—
<i>Asphodelus tenuifolius</i> Cav.	January — March	—
<i>Chenopodium album</i> Linn.	January — April	Baroda, Broach and Surat
<i>Chloris virgata</i> Sw.	August	—
<i>Euphorbia draconculoides</i> Lamk.	August	—
<i>Euphorbia hirta</i> Linn.	Almost throughout the year	—
<i>Orobancha aegyptiaca</i> Pers.	October	—
<i>Orobancha cernua</i> Loefl. Var. <i>nepalensis</i> DC.	December—February	—
<i>Pavonia zeylanica</i> Cav.	November	—
<i>Sopubia delphinifolia</i> (Roxb.) G. Don	August—October	Baroda, Broach and Surat
<i>Trianthema portulacastrum</i> Linn.	April—August	- Do -
(2) Weeds of cotton fields (Baroda, Broach and Surat Districts)		
<i>Acanthospermum hispidum</i> DC.	August—September	—
<i>Amranni baccifera</i> Linn.	November	Ahmedabad and Bular
<i>Anagallis arvensis</i> Linn. var. <i>coerulea</i> (Schreb.) Griseb. et Godt.	October—March	- Do -
<i>Apluda mutica</i> Linn.	June—October, occasionally to April	—
<i>Argemone mexicana</i> Linn.	Most of the year	—
<i>Aristolochia bracteata</i> Retz.	June—September	—
<i>Bergia odorata</i> Edgew.	March—November	Bular

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<i>Borreria stricta</i> (Linn. f.) Schum.	November	Ahmedabad and Bulsar
<i>Caesulia axillaris</i> Roxb.	September-January	-Do-
<i>Cassia abeus</i> Linn.	December	-
<i>Cassia argentea</i> Linn.	September-December	-
<i>Chenopodium album</i> Linn.	January-April	Kaira
<i>Chrozophora prostrata</i> Dalzo.	May-June	Ahmedabad and Bulsar
<i>Cleome gynandra</i> Linn.	July-November	-
<i>Coldenia procumbens</i> Linn.	August-October	Ahmedabad and Bulsar
<i>Convolvulus microphyllus</i> Sieb, ex Spreng.	June-February	-
<i>Cressa cretica</i> Linn.	July	-
<i>Crotalaria medicaginea</i> Lamk.	June-October	Ahmedabad and Bulsar
<i>Cynodon dactylon</i> (Linn.) Pers.	July-October	-
<i>Cyperus bulbosus</i> Vahl	August-September	-
<i>Digera muricata</i> (Linn.) Mart.	July-December	-
<i>Eclipta prostrata</i> (Linn.) Linn.	June-December	-
<i>Evolvulus alsinoides</i> (Linn.) Linn.	June-December	-
<i>Hibiscus lobatus</i> (Murr.) O. Kuntze	September-October	Bulsar
<i>Merremia emarginata</i> (Burm. f.) Hall, f.	July-October	-Do-
<i>Ocimum americanum</i> Linn.	August-November	-
<i>Phyllanthus fraternus</i> Webster	June-September	Ahmedabad and Bulsar
<i>Physalis minima</i> Linn.	August-September	-
<i>Polygala erioptera</i> DC.	May-September	Bulsar
<i>Sida spinosa</i> Linn.	October-April	Ahmedabad and Bulsar
<i>Sopubia delphinifolia</i> (Roxb.) G. Don	August-October	Kaira
<i>Sphaeranthus indicus</i> Linn.	December-January	Ahmedabad and Bulsar
<i>Stemodia viscosa</i> Roxb.	September-March	-Do-
<i>Trianthema portulacastrum</i> Linn.	April-August	Kaira

1	2	3
<i>Tricholepis glaberrima</i> DC.	December-April	Balsar
<i>Tridax procumbens</i> Linn.	Most of the year	—
<i>Vahlia digyna</i> (Retz.) O. Kuntze	January-February	—
<i>Vernonia cinerea</i> (Linn.) Less.	July-October	Balsar

## (3) Weeds of pulses (Baroda, Surat and Balsar Districts)

<i>Ammannia baccifera</i> Linn.	November	Ahmedabad and Broach
<i>Bergia odorata</i> Edgew.	March-November	Broach
<i>Borreria stricta</i> (Linn. f.) Schum.	November	Ahmedabad and Broach
<i>Caesulia axillaris</i> Roxb.	September-January	-Do-
<i>Cenchrus ciliaris</i> Linn.	September	—
<i>Crotalaria medicaginea</i> Lamk.	June-October	Ahmedabad and Broach
<i>Hibiscus lobatus</i> (Murr.) O. Kuntze	September-October	Broach
<i>Melilotus indica</i> All.	January	—
<i>Merremia emarginata</i> (Burm. f.) Hall, F.	July-October	Broach
<i>Ocimum gratissimum</i> Linn.	July-October	—
<i>Polygala eriopetra</i> DC.	May-September	—
<i>Tricholepis glaberrima</i> DC.	December-April	—
<i>Vernonia cinerea</i> (Linn.) Less.	July-October	—

## (4) Weeds of rice fields (Ahmedabad, Baroda, Surat and Balsar districts)

<i>Aeschynomene indica</i> Linn.	October-November	—
<i>Ammannia baccifera</i> Linn.	November	Broach
<i>Anagallis arvensis</i> Linn. var. <i>coerulea</i> (Schreb.) Gren. et Godr.	October-March	Broach
<i>Bacopa monnieri</i> (Linn.) Pennell	August	—
<i>Borreria stricta</i> (Linn. f.) Schum.	November	Broach
<i>Caesulia axillaris</i> Roxb.	September-January	—
<i>Chrozophora prostrata</i> Dalz.	May-June	Broach
<i>Coldenia procumbens</i> Linn.	August-October	Broach
<i>Corchorus aestuans</i> Linn.	August-October	—

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<i>Corechorus olitorius</i> Linn.	September—October	—
<i>Crotalaria medicaginea</i> Lamk.	June—October	Broach
<i>Cyperus rotundus</i> Linn.	July—October	—
<i>Desmodium gangeticum</i> (Linn.) DC.	September	—
<i>Eragrostis</i> spec.	July	—
<i>Grangea maderaspatana</i> (Linn.) Poir.	April—July	—
<i>Heliotropium supinum</i> Linn.	September—November	—
<i>Heteropogon conortus</i> (Linn.) Beauv. ex R. & S.	July	—
<i>Indigofera prostrata</i> Willd.	August—October	—
<i>Leucas aspera</i> Spt.	July—December	—
<i>Melochia corchorifolia</i> Linn.	September—November	—
<i>Oxalis corniculata</i> Linn.	July—October	—
<i>Phyllanthus fraternus</i> Webuer	June—September	Broach
<i>Polygonum plebeum</i> R. Br.	May	—
<i>Saccharum spontaneum</i> Linn.	September	—
<i>Sesbania bipinnata</i> Fawc. et Rendle	September—October	—
<i>Sida spinosa</i> Linn.	October—April	Broach
<i>Sphaeranthus indicus</i> Linn.	December—January	- Do -
<i>Stenodia viscosa</i> Roxb.	September—March	- Do -
<i>Striga ephrasioides</i> (Vahl) Benth	July—October	—
<i>Sutera dissecta</i> (Del.) Walp.	December—February	—
<i>Tephrosia hamiltonii</i> J. R. Drumm.	June—November	—
<i>Triumfetta rhomboidea</i> Jacq.	August—October	—

## ANALYSIS

The field observations have helped the author to bring the following points to light :

- (1) The chief invaders are the members of the families compositae, gramineae, papilionaceae and euphorbiaceae.
- (2) It is interesting to note that none of the weeds, mentioned in this paper, is common in all the four fields of tobacco, cotton, pulses and rice.

- (3) Certain weeds are found only in one particular type of crop and are, therefore, listed here under their respective field crops (crop-weed association).

*Tobacco fields :*

*Abutilon indicum, Amaranthus viridis, Asphodelus tenuifolius, Chloris virgata, Euphorbia dracunculoides, Euphorbia hirta, Orobanche aegyptiaca, Orobanche cernua* var. *nepalensis, Paeonia zeylanica.*

*Cotton fields :*

*Acanthospermum hispidum, Aklada mutica, Argemone mexicana, Aristolochia bracteata, Cassia absus, Celosia argentea, Cleome gynandra, Convolvulus microphyllus, Cressa cretica, Cynodon dactylon, Cyperus bulbosus, Digera muricata, Eclipta prostrata, Eriocaulus alsinoides, Ocimum americanum, Physalis minima, Tridax procumbens, Vahlia digyna.*

*Fields of pulses :*

*Cenchrus ciliaris, Melilotus indica, Ocimum gratissimum.*

*Rice fields :*

*Aeschynomene indica, Bacopa monnieri, Corchorus aestuans, Corchorus olitorius, Cyperus rotundus, Desmodium gangeticum, Eragrostis sp., Grangea maderaspatana, Heliotropium supinum, Heteropogon contortus, Indigofera prostrata, Leucas aspera, Melochia corchorifolia, Oxalis corniculata, Polygonum plebeium, Saccharum spontaneum, Sesbania bipinnata, Striga euphrasiodes, Suteria dissecta, Tephrosia hamiltonia, Triumfetta rhomboides.*

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