

# A taxonomic study on rainy season weeds in Maitha block of Kanpur dehat district

■ NIKHIL AGNIHOTRI

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## Author for correspondence :

**NIKHIL AGNIHOTRI**  
Shri Deen Dayal  
Kushwaha  
Mahavidyalaya,  
Sambhalpur, KANPUR  
(U.P.) INDIA  
Email : [nikhil.azolla@gmail.com](mailto:nikhil.azolla@gmail.com)

**ABSTRACT :** Weeds are self-grown unwanted plants which grow out of place and time. Presence of weeds creates many problems like decreased crop production, reduced crop quality, loss of animal products, loss of animal health, harmful effect on human health, adverse effect on industrial areas, aquatic ecosystem etc. They are self-grown plants which occur in gardens, fields, agricultural lands, roadsides, moist and water logged places especially in rainy season. Present study is based on taxonomic enumeration of rainy season weeds of Maitha block of Kanpur Dehat district. A total of 56 rainy season weeds belonging 50 genera of 30 families were identified and analyzed with their botanical names, families, local (Hindi) and English names, habits and habitats etc.

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The plants that grow by themselves in the agricultural lands, gardens and on the roadsides etc. are called weeds. In fact, a weed is a plant which grows where it is not required to grow (Parcker, 1968). In plant kingdom, weeds are not classified in any particular group. Instead, any plant which grows in any place as an undesired one comes in the class of weeds. For example, *Achyranthes aspera* L. (Chirchita), *Eclipta prostrata* Hassk. (Bhringraj) and *Solanum nigrum* L. (Makoi) are very important medicinal plants but in crop fields they occur as troublesome weeds. Similarly, *Saccharum spontanium* L. (Kans) is a very effective plant to bind certain erosive lands, but occurs as a serious weed in crop fields and gardens (King, 1966 and Agnihotri and Dubey, 2011).

While growing with agricultural crops, weeds cause various problems in crop yields such as increasing the production cost of agro-products, decreasing the productivity and

quality of crop yields. Several scientists have reported that presence of weeds cause 15-30 per cent reduction in production of wheat and 30-35 per cent reduction in rice. Presence of weeds decreased the crop quality in many ways. Contamination of crop grains with weed's seeds decreases the quality of grains as well as sometime creates poison. The vegetable and fruits are discoloured and de-shaped in the high presence of weeds (Hoim *et al.*, 1977 and 1979). Quantity and quality of leafy vegetables is reduced up to a great extent due to the presence of weeds. If animals consume the fodder grown with weeds, the taste of their milk, their meat and other animal products is altered. Similarly, weeds such as *Xanthium strumarium* L. (Bada gokhru), *Achyranthes aspera* L. (Chirchita) etc. cause sores in the mouth, skin, tails and trunks of animals once nipped. *Lantana indica* induced acute photo-sensitivity and Jaundice in cattle. *Parthenium*

**Table 1 : Taxonomic studies on rainy season weeds in maitha block of Kanpur dehat district**

Sr. No.	Botanical name of plants	Family	Local / Hindi (English) names	Habits
1.	<i>Abutilon indicum</i> , L. Sweet	Malvaceae	Kanghi (Country mellow)	Perennial Under shrub
2.	<i>Acalypha indica</i> , L.	Euphorbiaceae	Kuppi (Indian acalypha)	Annual herb
3.	<i>Achyranthes aspera</i> , L.	Amaranthaceae	Chirchita / Latjira / Apamarg (Prickly chaff flower)	Annual herb
4.	<i>Ageratum conyzoides</i> , L.	Asteraceae	Uchanti (Goat weed)	Annual herb
5.	<i>Amaranthus spinosus</i> , L.	Amaranthaceae	Jangali chaulai (Prickly amaranth)	Annual herb
6.	<i>Amaranthus tricolour</i> , L.	Amaranthaceae	Chaulai / Laal Saag (Amaranth/Chinese spinach)	Annual herb
7.	<i>Argemone mexicana</i> , L.	Papaveraceae	Satyanashi (Mexican poppy)	Annual herb Wild
8.	<i>Aristolochia bracteolata</i> , Lam.	Aristolochiaceae	Kiramari / Kiramar (Worm killer)	Annual herb
9.	<i>Basella alba</i> , L.	Basellaceae	Poya (Creeping spinach)	Annual herb climber
10.	<i>Boerhavia diffusa</i> , L.	Nyctaginaceae	Bishkhapra (Hog weed)	Annual herb
11.	<i>Cannabis sativa</i> , L.	Cannabaceae	Ganja (Marijuana)	Perennial under shrub
12.	<i>Capparis deciduas</i> (Forsk.) Edgew.	Capparidaceae	Karil (Caper)	Annual wild herb
13.	<i>Cassia occidentalis</i> , L.	Caesalpiniaceae	Kasaumbi (Stinking weed)	Annual herb
14.	<i>Cassia tora</i> , L.	Caesalpiniaceae	Chakwad / Pammar (Sickle Senna)	Annual herb
15.	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Bemg sag (Asiatic Penny Wort)	Annual herb
16.	<i>Cleome viscosa</i> , L.	Capparidaceae	Hur hur (Wild mustard)	Annual/perennial herb
17.	<i>Coccinia indica</i> , W. and A.	Cucurbitaceae	Jangli kundru (Kovai fruit)	Trailing herb
18.	<i>Commelina benghalensis</i> , L.	Commelinaceae	Kankavva (Day flower)	Annual herb
19.	<i>Convolvulus pluricaulis</i> , Choisy	Convolvulaceae	Shankhahuli / Shankhpushpi (Common Convolvulus)	Annual herb
20.	<i>Cuscuta reflexa</i> , Roxb.	Convolvulaceae	Amarbel / Akashballi (Dodder)	Annual climber herb
21.	<i>Cynodon dactylon</i> , (L.) Pers.	Poaceae	Doobh ghas (Bermuda grass)	Annual or Perennial herb
22.	<i>Datura metel</i> , L.	Solanaceae	Dhatura (Throne Apple)	Perennial under shrub
23.	<i>Echinochloa colonum</i> , L.	Poaceae	Jungli Chaval (Wild rice)	Annual wild herb
24.	<i>Eclipta prostrata</i> , Hassk.	Asteraceae	Bhringraj (False Daisy)	Annual herb
25.	<i>Euphorbia hirta</i> , L.	Euphorbiaceae	Dudhi (Pill bearing spurge)	Annual herb
26.	<i>Ipomea aquatica</i> , Forsk.	Convolvulaceae	Kalmi shak (Swamp cabbage)	Annual herb climber
27.	<i>Ipomea nil</i> (L.) Roth	Convolvulaceae	Kaladana (Morning glory)	Annual climber
28.	<i>Ipomea pestigridis</i> L.	Convolvulaceae	Ghiabati	Annual herb climber
29.	<i>Lantana indica</i> , L.	Verbenaceae	Barr, Kuri (Lantana)	Perennial under shrub
30.	<i>Lathyrus aphaca</i> , L.	Papilionaceae	Jangli matar (Yellow vetchling)	Annual trailing herb
31.	<i>Launaea asplenifolia</i> , L.	Asteraceae	Tikchana (Launea)	Annual herb
32.	<i>Leucas aspera</i> , spreng	Lamiaceae	Halkkusa / Gooma (Thumble)	Annual herb
33.	<i>Lindenburgia indica</i> (L.) O. Ktze.	Scrophulariaceae	Ashgand (Lindenburgia)	Annual herb
34.	<i>Marsilea minuta</i> , L.	Marsileaceae	Chaupatia	Annual aquatic weed
35.	<i>Ocimum basilicum</i> , L.	Lamiaceae	Dona barua / Ban Tulsi (Wild Ocimum)	Annual herb
36.	<i>Oxalis corniculata</i> , L.	Oxalidaceae	Khatti buti / Chaupatia (Indian Sorrel)	Annual herb
37.	<i>Parthenium hysterophorus</i> , L.	Asteraceae	Gajar ghas (Congress grass)	Annual herb
38.	<i>Peristrophe bicalyculata</i> , L.	Acanthaceae	Atrilal	Annual herb
39.	<i>Polygonum barbatum</i> , L.	Polygonaceae	Nari (Khot weed)	Annual herb
40.	<i>Ranunculus sceleratus</i> , L.	Ranunculaceae	Jaldhania (Cow foot)	Annual herb
41.	<i>Rumex dentatus</i> , L.	Polygonaceae	Jangli Palak / Lalbiwi (Common Rumex)	Annual herb
42.	<i>Saccharum spontanium</i> , L.	Poaceae	Kans (Tiger grass)	Perennial under shrub
43.	<i>Setaria gluca</i> , L.	Poaceae	Bandara (Cat tail millet)	Annual herb
44.	<i>Sida cardifolia</i> , L.	Malvaceae	Bala (Common sida)	Annual herb
45.	<i>Solanum nigrum</i> , L.	Solanaceae	Makoi (Black night shade)	Annual herb
46.	<i>Solanum xanthocarpum</i> Schrad and Wendl.	Solanaceae	Kateli (Spinous solanum) (Yellow berried night shade)	Annual herb
47.	<i>Sonchus brachyotus</i> , L.	Asteraceae	Dodak (Common Sowthistle)	Annual herb
48.	<i>Spergula arvensis</i> , L.	Caryophyllaceae	Gensua (Corn spurrey)	Annual herb
49.	<i>Stellaria media</i> , L.	Caryophyllaceae	Gandal (Chick weed)	Annual herb
50.	<i>Tinospora cardifolia</i> Willd.	Menispermaceae	Giloe, Amrita (Tinospora)	Annual or Perennial climber
51.	<i>Tribulus terrestris</i> , L.	Zygophyllaceae	Chhota gokhru	Annual herb
52.	<i>Tridax procumbens</i> , L.	Asteraceae	Tridax daisy	Annual herb
53.	<i>Trifolium alexandrinum</i> , L.	Papilionaceae	Barshem (Egyptian Clover)	Annual herb
54.	<i>Typha elephantina</i> , L.	Typhaceae	Hathi ghas/Patawar	Perennial under shrub
55.	<i>Vernonia cinerea</i>	Asteraceae	Banjira (Centratherum)	Annual herb
56.	<i>Xanthium strumarium</i> , L.	Asteraceae	Banokra / Bada Gokhru (Ditchbur)	Annual herb

*hysterophorus* (Gajar ghas) causes various diseases in animals. Weeds also cause many diseases in human beings. *Parthenium hysterophorus* (Gajar ghas) and *Rhus* species cause many ailments such as fever, asthma, various types of skin diseases etc. Once they grow in water, aquatic weeds repulse and decline the quality of water. They hinder navigation and fishing. Water flow in irrigation canals is slowed down. Some weeds like *Lantana indica* L. (Barr) that grow in industrial sites and airfields are potential source of fire hazards. They weaken the railway tracks and air strips, electric poles (Agnihotri and Mohan, 2007 and 2010). Dry weeds are basically responsible for forest fires. Some weeds like *Lantana* catch fire in summers even when they are green (Jain and Choubey, 1969 and Agnihotri *et al.*, 2005).

A number of weeds are economically important. They are used as herbal drugs. Some of them are used as raw material for several forest based industries. The present study deals as taxonomic enumeration of rainy season weeds in Maitha block of Kanpur dehat district.

## EXPERIMENTAL METHODOLOGY

Several field survey trips were organized in two rainy seasons of 2010 and 2011 in Maitha block of Kanpur dehat district. This block represents urban, rural semi-rural and remote areas as well. Twelve rural, sub-rural and remote areas were taken under the consideration in this study. Out of these Baghpur, Raasat pur, Arshad pur, Maitha, Shivli, Pratap pur, Malik Pur, Divan, Devipur, Aaungi, Haridia nala etc. are among the main areas of survey. At least 3 samples of each plant species (weeds) were collected. These weeds were identified on the basis of morphological characters. After identification, a survey report was prepared with the help of available literature. All these weeds were classified with the help of classification of Hutchinson as well as Bentham and Hooker. Photographs of identified plant species and voucher specimen are vaulted with the researcher.

## EXPERIMENTAL FINDINGS AND DISCUSSION

All the identified rainy season weeds are arranged in the form of Table 1. This table deals with botanical names, families, local (Hindi) names, English names, habits and habitat. The study was conducted during two rainy seasons of 2010 and 2011. From the study, 56 plant species of 50 genera of 30 families were identified and

analyzed with their scientific name, local (Hindi) name, English name, families, habits and habitats. Out of these, 47 plant species were annual and 9 were perennial. 50 plant species of 28 families were dicot. Monocots and Pteridophytes were represented by single family each.

Asteraceae was the dominant family with 8 species followed by Convolvulaceae (5 species), Amaranthaceae, Solanaceae, Poaceae (3 species each). Among the rest Malvaceae, Euphorbiaceae, Capparidaceae, Caesalpinaceae, Papilionaceae, Polygonaceae, Caryophyllaceae and Lamiaceae represented 2 species each. Papaveraceae, Aristolochiaceae, Nyctaginaceae, Cannabaceae, Apiaceae, Cucurbitaceae, Commelinaceae, Verbenaceae, Scrophulariaceae, Oxalidaceae, Ranunculaceae, Menispermaceae, Basellaceae, Acanthaceae, Zygophyllaceae, Typhaceae and Marsileaceae were represented by single species each. Out of these *Ipomea* was dominant genera which represented 3 species followed by *Amaranthus*, *Cassia* and *Solanum* represented by 2 species. Most of the rainy season weeds are utilized as traditional, household, ethnic medicines. Many weeds are reported from the study area such as *Achyranthes aspera* L., *Cannabis sativa* L., *Boerhavia diffusa* L., *Datura metel* L., *Eclipta prostrata* L., *Spergula arvensis* L., *Sonchus brachyotus* L., *Cleome viscosa* L., *Coccinia indica* W. and A., *Cuscuta reflexa* Roxb., *Convolvulus pluricaulis* Choisy., *Cynodon dactylon* (L.) Pers. etc. are used as traditional, ethnic, folk or household remedies.

The present study may be helpful in the identification of some common weeds of rainy season. This may be useful for taxonomy of agriculture and other related topics and their researchers.

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