IJARST

International Journal of Advanced Research in Science and Technology

journal homepage: www.ijarst.com

ISSN 2319 – 1783 (Print)
ISSN 2320 – 1126 (Online)

# Diversity of Weeds in Rose Field in District Kasur Punjab Pakistan

***Ali Zeeshan,[1]Muhammad Zaib[2], Sehrish Ahmad[1], Humaira Akram[1], Samreen Qasim[1]***

*[1]Department of Biological Sciences University of Veterinary and Animal Sciences Lahore, Punjab, Pakistan.*

*[2]Department of Soil and Environmental Sciences, College of Agriculture, University of Sargodha, Punjab, Pakistan.*

*zaibch767@gmail.com[2]*

**ARTICLEINFO**

***Article history:***
Received 26 Sep 2023
Accepted 04 Oct 2023
Available online 16 Oct 2023

***Keywords:***
Rose,
Weed Flora,
Kasur flora,
Crop Yield of Rose,
Agricultural crop.

**ABSTRACT**

In Kasur district an experiment was conducted from 2020 to 2022 in rose field to check the presence of Weed Flora. To conduct this study, 12 locations were chosen, comprising Punjabi Saoda, Kachapacca, Sheikhum, Ghahlan, Jagowala, Pattoki Bypass and Nurseries, Changa Manga, Pattoki railway StationPadhana, Chunia, Nizampura. Five fields from each of the 12 locations were chosen for investigation. A quadrate measuring one metre square was used for testing. A binocular stereo scope was used to examine both macro and micro morphological traits. This study has revealed that most prevalent families of weeds are Poaceae and Asteraceae. This study has significant value for the development of rose industry for the welfare of country economy. This study has shown that the most prevalent of the weed family: Brassicaceae and the most widespread weed is belonged to Brassicaceaefamily.This study have great significant value to develop rose industry. While collecting the data, the researchers encountered numerous challenges that might have affected the study's findings. Since most peasants were uneducated, it was incredibly challenging for them to properly communicate with researchers.



## INTRODUCTION

Despite the frequent use of weed management techniques, weeds continue to exist in agricultural areas and pose a constant and widespread danger to crop yields. Insofar as the needs for soil, air, water etc. space, for the production of food ingredients and growth are the same for both weeds and crops, they are the competitors of crops. (Al-Yemeny, 1999, Zhao et al., 2006; Dunbabin, 2007). In addition to competing with crops for space, nutrients, moisture, and light, many weeds can have allelopathic impacts on those crops. (Khanh et al., 2005; Belz et al., 2007; Javaid et al., 2007) They secrete harmful materials from their existing and rotting sections, which restrict crop production. (Singh et al., 2005; Evidente et al., 2007). Various crop parasites may use weeds as hosts. (Oudejan, 1984

The development of a selected large traditional crops, such as grain, rice, maizeetc constitutes the majority of farming in the Province of Punjab. However, some growers in the Punjab region of Pakistan have shifted to different crops including ornamental plants. A member of the ROSAECEA family, the ROSE, has become a major floriculture product in Pakistan. The farmers in Punjab economically develop a wide variety of rose hybrids. The province's ROSE cultivation is concentrated in the district of Kasur. Very little understood about just the weed species connected with roses because they are a freshly developing flower product. To ascertain the prevalence and significance of species diversity in crop cultivation systems, weed studies are helpful. (Frick and Thomas, 1992).

Establishing objectives for extension and research services is made easier with the help of documentation of the types of grass species and their number of factors have contributed. (McClosky et al., 1998). With this goal in mind, collected. The data of the district Kasur's rose-growing regions were carried out in 2020 to 2022, respectively, to gather data on the existence and the distribution of various weed species inside the region's rose fields.

## Materials and Methods

### Research Design

Ten localities were chosen for the data collecting on weeds. These included,PunjabiPattoki Bypass, nurseries, Nizampura, Sheikhum, Changa Manga, Ghalan, Jagowala, Saoda, Kacha Paka, Padhana, Chunian.

### Collection of plant materials

In 2020 to 2022, fresh weed samples were obtained as research data from several fields of roses in Pakistan's District Kasur. In-depth field notes. Weed species its family name, blooming time, occurrence, plant

behavior, relative amount was taken with the plant specimens (Table-1). Weeds were collected from the rose fields in ten separate villages. Later, 20 fields were randomly chosen for sampling over various rose development phases. For each species, at 10 samples were collected.

**Drying and preservation**

Following collection, each specimen was wrapped in newspaper and carefully dried in an open air at ambient temperature with a presser. Following the normal procedure of the dried specimens were placed and conserved on normal sized herbarium sheets Judd et al. (2002).

**Identification**

The complete collection of specimens of weeds flora was subsequently put through testing. The vegetation of Pakistan was used to identify the weeds specimens (Stewart, 1972; Nasir and Ali, 1971–1995; Nasir and Rafiq, 1995), A binocular stereo scope was used to examine both macro and micro morphological traits.

**Limitations**

While collecting the data, the researchers encountered numerous challenges that might have affected the study's findings. Since most peasants were uneducated, it was incredibly challenging for them to properly communicate with researchers. Some of the information given by the producers may be inaccurate as a result of their inquisitive conduct regarding the study's objectives. Lack of knowledge regarding weeds, their uses, expenditures, and management may restrict the variety of data available.

**Basic information of collected weed species.**

| Weed species | Family | blooming time | Occurrence | Plant behavior | Relative amount |
|---|---|---|---|---|---|
| *Fumaria indica Pugsley* | Fumariaceae | March June | Rose field | annual herb | Common |
| *Solanum nigrum L.* | Solanaceae | July to September | Rose field and waste land | annual herb | Common |
| *Setaria glauca Beauv* | Poaceae | July and September | Rose field | Annual herb | Rare |
| *Rumex dentatus L.* | Polygonaceae | May Sep | Rose field | Annual (biennial | Common |
| *Verbena officinalis L.* | Verbenaceae | April-August. | Rose field | perennial herb | Common |
| *Mazus pumilus* | Scrophulariaceae | May to October | Rose field | Annual herb | Common |
| *Melilotus parviflora L.* | Papillionaceae | April to August | Waste land and rose field | Annual or biennial herb | Rare |
| *Malva parviflora L.* | Malvaceae | Mar--May | Rose field | Annual herb | Common |
| *Sagina apetala Ard.* | Caryophyllaceae | Jul or Sep | Rose field | Annual herb | Common |
| *Sonchus asper Vill.* | Asteracaea | June to August, | Rose field and unequal land | Annual herb | Common |
| *Cyperus rotundus L.* | Cyperaceae | March to July | Rose field | Annual, perennial herb | Rare |
| *Euphorbia pilulifera L.* | Euphorbiaceae | May–July | Rose field | Herb | Common |
| *Parthenium hysterophorus L.* | Asteracaea | October – March | Waste land and rose field | Annual | Common |
| *Amaranthus viridis L.* | Amaranthaceae | all the year round | Rose field | Annual herb | Common |
| *Coronopusdidymus (L.) Sm.* | Brassicaceae | July to September | Rose field | Annual or biennial | Rare |
| *UrochloapanicoidesBeauv* | Poaceae | Summer | Rose field and waste land | Annual, or perennial | Common |
| *Poa annua L.* | Poaceae | spring through early summer | Rose field | Annual or perennial | Common |
| *Lepidium apetalum* | Brasicaceae | May-October | Rose fields | Annual herb | Rare |
| *Eruca sativa* | Brasicaceae | April-June | Rose fields | Annual herb | Common |
| *Cirsium arvense* | Asteraceae | February–April | Wastelands & Rose fields | Annual or perennial herb | Rare |
| *Iphigenia logafontanesii* | Asteraceae | March and August | Disturbed soil & rose | Annual Herb | Common |
| *Phalaris minor* | Poaceae | September | Wast land and | Annual herb | Spare |

| | | | | | |
|---|---|---|---|---|---|
| | | –May | rose field | | |
| *Alopecurus myosuroides* | Poaceae | November –January | Rose fields | Annual herb | Rare |
| *Euphorbia helioscopia* | Euphorbiaceae | September –May | Rose field | Annual herb | Common |
| *Plantago lanceolata* | Plantaginaceae | Throughout the year | Wasteland and rose field | Perennial herbs | Rare |
| *Chenopodium murale* | Chenpodiaceae | April-August | Rose field | Annual herb | Rare |
| *Melilotus indicus* | Papalionaceae | Spring | Rose field | Annual herbs | Spare |
| *Polygonum plebejum* | Polygonaceae | Spring | Rose field | Annual herbs | Rare |
| *Alhagi maurorum* | Papalionaceae | April-October | Rose field and waste land | Perennial Shrubs | Common |
| *Cyperus rotundus* | Cyperaceae | March august | Rose field | Perennial herbs | Rare |
| *Foeniculum vulgare* | Apiaceae | March April | Rose field | Biennial | Common |
| *Anagallis arvensis* | Primulaceae | February–May | Rose field | Annual herb | Raer |
| *Calendula arvensis* | Asteraceae | March June | Rose field | Annual herbs | Rare |
| *Fagoniacretica* | Zygophyllaceae | Summer | Rose field and waste land | Shrub | Rare |
| *Thymelaea arvensis* | Thymelaeaceae | Late Spring | Rose field | Annual herb | Common |
| *Amaranthus viridis* | Amaranthaceae | April August | Rose field | Annual herb | Common |

**Some features of the existing Weed Flora**

***Fumaria indica* Puysley**
**Family Fumariaceae**
It is pale in color, diffused, light green, perennial plant. 2-3 pinnatisect leaves with whole, apiculate, sequential terminal segments. Flowers are 0.6-0.7 cm pale pink racemes with leaf opposites. Elongated, sharp, indented sepals. Fruit is 0.4 cm wide and subglobose. That plant can be seen growing alongside other annual weeds in damp areas of waste areas and all along the field margins in the winter season.

Figure 1: *Funariaindica*

***Solanum nigrum***
**Family Solanaceae**
It is dense or grassy plant that can reach a height of 1.25 metres. Its leaflets are either hairy or bald, and its stems have a rough feel. It has white star like flowers or produced in the forks of leaves.

Figure 2: *Solanum nigrum*

***Setaria glauca* Beauv**
**Family Poaceae**
Perennial, lightly tufted, 1 to 2 feet above ground, or occasionally dwarfed and no higher than a few centimeters. Culms that are geniculately moving up, soft or slightly irregular below the inflorescence, weak, 2-4-noded, simple or sparsely branched from underneath, with the topmost internode (peduncle) at size as long as one or significantly longer than that of the rest of the rhizome, lengthy, and the lower internodes typically more or fewer compressed.

Figure 3: *Setaria glauca Beauv*

***Rumex dentatus* L**
**Family Polygonace**

Perennial, (biennial), glabrous plant with taproot, verticalor fusiform. Stem: erect, branched in middle and mostly from base and slender like. Leaf, oblong, ovate, tapered ends, elliptical base. Inflorescence: terminal, open, interrupted, branches generally straight, ascending; whorls 10--20-flowered; pedicels 2--5 mm, thread-like, joints swollen. Flower:Deltate, inner perianth lobes, margins dentate, lanceolate. Fruit: dark red-brown.

Figure 4: Rumex dentatus

***Verbena officinalis* L.**
**Family Verbenaceae**

Herb, erect or critical and crucial, 1-3 feet in height. Juvenile stems and twigs are hairy, obtusely angular, and lurid, with a woody root. The opposing, sub sessile, oblong to elliptical leaves, sub coriaceous, and strigillose on the both sides. The base is attenuated to cuneate, the edge is lyratelypinnatifid and divided up into 3 to 5 segments. Bractslanceolate, apex obovate, ciliate, inflorescence panicled peaks 1-3 each node, zygomorphic, motile flowers.

Figure 5: *Verbena officinalis L*

***Mazus pumilus***
**Family Scrophulariaceae**

Annuals up to 30 cm in height, stems hairless or even with small hairs; bottom leaves typically lost during flowering; blooms primarily in top portion of inflorescence; center lobe of bottom lip shorter than peripheral lobes; wings of top lip rectangle shaped; calyx occipital oval, as long than tube, sharp; large capsule.

Figure 6: *Mazus pumilus*

***Melilotus parviflora* L**
**Family Papillionaceae**

Herbs, shrubs that are typically climbers that leaves are alternating, acute, simple, or complex; flowers that are hermaphrodite and zygomorphic, with papilionaceous corollas and 10 or 9 stamens; and fruits that have only one carpel. It is frequently known as the pea family. There are 375 genera in it. The desert plants, mesophytes, hydrophytes, and halophilic make up this family.

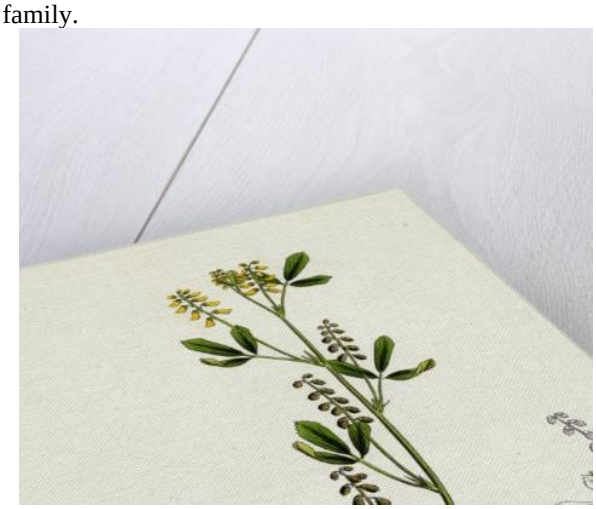

Figure 7*: Melilotus parviflora L*

***Malva parviflora L***
**Family Malvaceae**

The Malvaceae families of herbs, twigs, and tree branches have 1,500 species. Stell ate bristles and gelatinous sap are two other characteristics. Spike lets are abundant, as well as the leaves are alternating, straightforward, and typically pinnately veined. The actinomorphic and bisexual blooms are virtually always present. Five valvate, different, or basally connate sepals and five major petals, which are often dorsally adnate to the androecium, make up the perianth. The androecium is made up of a large number of monadelphous stamens with filaments that diverge apically and have one-celled anthers. The gynoecium consists of a single compound pistil with two or more

carpels, as well as one or more ovules in each of the two or more locules of the upper ovary and an equal number of styles.

Figure 8: *Malva parviflora L*

***Sagina apetala* Ard.**
**Family Caryophyllaceae**
Annual plants make up the Caryophyllaceae family; shrubs, lianas, and trees are rather uncommon. Nodes on the stems are frequently enlarged. The leaves generally exstipulate, opposite and simple. Solitary flowers or make up the inflorescence.

Figure 9: Sagina apetala Ard

***Sonchus asper* Vill**
**Family Asteracaea**
Although most Asteraceae species are herbaceous, certain species are shrubs and trees. Because of their distinctive inflorescence and other similar traits, like the unite anthers of the stamens, asteraceae species are typically simple to differentiate from other plants. Roots Asteraceae family members occasionally have fibrous root systems but typically develop taproots. Stems: Herbaceous, aerial, branching, tubular, covered in trichomes, and typically erect, although they can also be horizontal or rising. Leaves could be whorled, alternated, or opposite. They might be straightforward, although they're frequently conduplicate or rotatable, extensively obovate, and otherwise carved.

Figure 10: Sonchus asper Vill

***Cypreus rotundus L***
**Family Cyperaceae**
Cypreus rotundus L, often known as Purple Nut sedge, is an annual Eurasian sedge or invasive that resembles grass and is shiny green. It has an upright triangular stem that branches into triple stems of violet seedpods that resemble antennae. Fall is when trees die and return to the earth, while spring is when new shoots emerge from subterranean tubers.

Figure 11: *Cypreus rotundus L*

***Euphorbia pilulifera* L**

**Family Euphorbiaceae**

E. hirta belongs to the Euphorbiaceae family. It is a reddish or purplish, perennial, hairy plant with a thin stem and several branches growing from the bottom to the top. The opposite, elliptic-oblong, acute or dark green above it and pale below, 1.2 to 2.5 cm in length, purple-blotched in the center, and serrated at the margin leaves are found on plants.

Figure 12: *Euphorbia pilulifera L*

***Parthenium hysterophorus L***
**Family Asteracaea**

The herbaceous plant Parthenium hysterophorus L has numerous branches and is an erect short-lived plant that initially develops a basal cluster of leaves. It typically attains a height of between 0.5 and 1.5 m, although on rare occasions, it can reach as high as 2 m or more.

Figure 13:*Partheium hysterophorus L*

***Amaranthus viridis* L**
**Family Amaranthaceae**

Annual plant Amaranthus viridis L has an erect, pale green stem that can reach heights of 60 to 80 cm. The base sprouts several branches, and the leaves are oval in shape, measuring 3 to 6 cm in length by 2 to 4 cm thick with a petiole length of around 5 cm.

Figure 14: *Amaranthus viridis L*

***Coronopus didymus* (L.) Sm**.
**Family Brassicaceae**

commercially significant flowering plant family that goes by the names mustard. While some are shrubs, the majority are herbaceous plants. The leaves are stipule-free, simple and they develop alternately on stems or in rosettes. There are no bracts on the distal inflorescences. Up to four sepals or petals that alternate, 2 short freed stamens, and four longer available stamens make up the flower's structure. The fruit bears rows of seeds that are separated by a wall (or septum).

**Figure 15:** ***Coronopus didymus (L) sm***

***Poa annua* L**
**Family Poaceae**

One base barren floret has a palea. Lower barren floret lemma is elliptic,, 100% of spikelet length, membranous, pubescent or glabrous, eciliate on edges or setose on edges, cordate, and identical to higher glume. Obovate, dorsally flattened, indurate, Surface of the lemma rugose. Involute margins on lemma. Pedantic, mucronate, or awned lemma tip. Overall length of the middle (main) awn is 0.3–1 mm.

Figure 16: *Poa annua L*

**Poacea**
**Family Poacea**

The blade of leaf is only the midrib exposed, and it is flat, smooth, and slightly abrasive. The inflorescence is just an upright panicle that is three to ten cm in length and three to five cm in width, broadly triangular, free, and almost unilateral. It has a center point, two to three

delicate lateral branches, and a few spike lets at the terminal.

Figure 17: Poacea

***Lepiduim apetalum***

**Family Brasicaceae**

Leaves are typically basal and cauline , lanceol ate or petiolate, blade entire, undulate, denticulate, slightly curved, lobed margins entire, dentate, or pinnately separated. Racemes, either elongated or without fruit (often corymbose). upright to divaricate, narrow or stout fruiting pedicels. sepals (often deciduous, occasionally persistent) in flowers)

Figure 18: *Lepidium apetalum*

***Eruca sativa***

**Family Brasicaceae**

All leaves have a distinct odour and are rather plump, sparsipilose, or even less often, bare. Lyrate pinnatisect below leaves are present. The petals are obovate in shape, 15–22 millimeters long, and have dark purple or brown veins. The sepals are 9 to 12 mm in length.

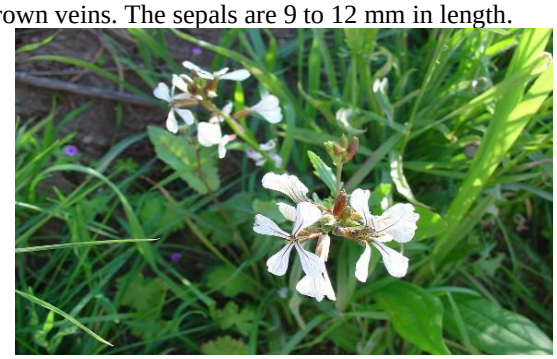

Figure 19: *Eruca sativa*

**Cirsium arvense**

**Family Asteraceae**

Cirsium arvense is indeed an upright annual rhizomatous thistle that typically grows to a height of 0.5 to 1.0 meters. It differs from other thorns in three ways. It has crawling horizontal root system. It has extensive clonal development. It has small dioecious blooms flower heads**.**

Figure 20: Cirsium arvense

***If loga fontanesii***

**Family Asteraceae**

It has woody stems, leaves develop at nodes slightly underneath an axillary bud and are frequently petiolate, consisting of a blades and stipe petiole.

Figure 21: *If loga fontanesii*

***Phalaris minor***

**Family Poaceae**

Herbs that can be annual to perennial. roots that are typically fibrous. The nodes of the stem are typically enlarged and solidly spherical. Alternate, mostly linear, parallel-veined leaves; normally open sheaths; membranous or hairy ligules at the base of the blade.

Figure 22: *Phalaris minor*

***Alopecurus myosuroides***
**Family Poaceae**
*An annual grass with tufts, Alopecurus myosuroides grows 10 to 80 meters tall (Naylor, 1972). The bottom of a leaf sheath is frequently purple, and the culms are frequently geniculate. The linear to lanceolate, glabrous leaves measure 3 to 17 cm in length, 2 to 8 mm in width, and contain a membranous ligule that can be up to 5 mm in length.*

Figure 23*: Alopecurus myosuroides*

***Euphorbia helioscopia***
**Family Euphorbiaceae**
Stem leaves were obovate 2.5 cm in length, and 0.5 to 1.5 cm broad. They are also glabrous. The distal 1/3 of the leaves are the widest, with a leaf's apex and petiole base both becoming narrower as it grows. Round, coarsely serrated, leaf apices are common.

Figure 24: *Euphorbia helioscopia*

***Plantago lanceolata***
**Family Plantaginaceae**
The plant is a perennial herb with rosette-like leaves and silky, fuzzy blossom stalks. The base leaves have 3 to 5 strong straight veins that are narrowed to a small petiole, and they are lanceolate, widespread or upright with few teeth.

Figure 25: Plantago lanceolata

***Chenopodium murale***
**Family Chenpodiaceae**
Simple, alternate leaves with an oblong to obovate or oblong form are rarely whole and are linked to a tall stalk. It is 1.5 to 8 centimeters long and 3 cm in width, which would be twice as long as wide. White flour just on bottom part, occasionally with green on the both. Clusters towards the stem's end and at the axils of the leaves.

Figure 26: *Chenopodium murale*

***Melilotus indicus***
**Family Papalionaceae**
Leaf: Oblanceolate to crescent, 1- to 2.5 cm long leaflets that are typically strongly dentate. Slender, compact inflorescence with an axis that is typically 1–2 centimeters when the flowers open. corolla 1.5 mm, calyx 1–1.5 mm; flower yellow Fruit: faint lines, 2--3 mm.

Figure 27: *Melilotus indicus*

***Polygonum Plebejum***
**Family Polygonaceae**
Woody herbs that protrude and have radiating branches and glabrous stems. Ochrea is chartaceous, white, and ciliate, and the leaves are alternating, up to 40 mm in diameter, oblong, sessile, and acute. Flowers are axillary, sessile, and number 3 to 7. Five oval, sharp, glabrous tepals. 5. Stamens Brown, triangular, sharp, glabrous, and 1.5 mm thick nut.


Figure 28: ***Polygonum Plebejum***

***Alhagi maurorum***
**Family Papalionaceae**
*Alhagi* maurorum is a delicately branched, perennially prickly shrub that typically reaches a height of 1 m.


Figure 29: ***Alhagi maurorum***

***Cyperus rotundus***
**Family Cyperaceae**
Similar to other Cyperaceae, the plant's base produces three-ranked leaves that are around 5–20 centimeter. The cross section of the flower stalks is triangular. The bisexual flower has three stamens, a pistil with three stigmas, and an inflorescence with 3 to 8 irregular spikes.


Figure 30: *Cyperus rotundus*

***Foeniculum vulgare***
**Family Apiaceae**
A perennial herb is foeniculum vulgare. It has hollow stems, is erect, pale green, and can reach the height of up to 2.5 meters. The leaves can reach a maximum length of 40 centimeters are finely divided, and have final segments that are fili form (threadlike) and 0.5 millimeters (164 mm) wide.


Figure 31: ***Foeniculum vulgare***

**Anagallis arvensis**
**Family Primulaceae**
The leaves are alternate or in whorls of three, simple, sessile, and have an oval lamina that is broad at the base, sharp at the tip, and completely margined. They are also glandular. The higher leaf axils are home to the single flowers. Their pedicel is higher than the leaf supporting it. At the bottom, the petals are united.


Figure 32: *Anagallis arvensis*

***Calendula arvensis***

An perennial or biannual herb, calendula arvensis grows from ten to fifty cm tall. The thin, hairy stem bears petioles with orbicular leaves on it.

Figure 33: ***Calendula arvensis***

***Fagonia cretica***

The leaves are three to four leaflets thick and have withered. The thorns on the plant are substantial and dense. Sometime before winter, flowers appear and are a faint red tint. The fruits feature a twisted shape, edges, as well as a hairy exterior.

Figure 34: *Fagonia cretica*

***Thymelea arvensis***

**Family Thymelaeaceae**

The leaf shape is opposite, elliptical to elliptic in shape, from a third to an inch long, 1.5 to 2.5 times as wide, with very small stalks just on lower leaves and stalk-less upper leaves, and they range in length from a third to an inch. Depending on the plant, the margins can be whole or coarsely scalloped. The uppermost leaves switch from alternating to opposite arrangement. Three to five veins rise from the leaf's base. Obtuse to rounded leaf tips

Figure 35: *Thymelea arvensis*

***Amaranthus viridis***

**Family Amaranthaceae**

Deeply veined, medium to light green, up to fifteen cm long leaves. The leaf stem is very long, and the base of the leaf is broad, tapering to a point. Spike-like, lateral and terminating racemes' with greenish flowers. The inflorescence is typically a thick spike, frequently with numerous branches.

Figure 36: ***Amaranthus viridis***

**RESULTS AND DISCUSSION**

The present study conducted on rose fields reveals that 50 weed species were present in fields and belonging to 20 families. Maximum species of Poaceae and Asteraceae families and then papillionaceae (3) and Brassicaceae with 3 species, Solanaceae (2), polygonaceae (2), Cyperaceae(2), Euphorbiaceae (2), amaranthaceae (2), and other families with one species were Fumariaceae, verbennaceae, scrophulariaceae, caryophyllaceae, plantagiaceae, chenopodiaceae, apiaceae, primulaceae, zygophyllaceae, and thymelaceae. The most occurring weeds in surveyed places were *Poaannua, Urochloapanicoides, Phalaris minor, and Alopecuriousmyosuroides.* This study based only on survey on the weed distribution in different fields, these weeds loses yield and quality of the rose. The quality and yield losses in rose due to infestation of these weeds are not known.The study findings will be useful for the recommending suitable weed control process in Rosa fields and others.

***Future work:***

These findings will be helpful for the identifications of weed flora in different rose fields of District Kasur. The control for the production of weed flora in rose plants in merit more study. This study is very helpful for the farmers who are harvested rose for business purposes and play role in economy of country.

**References**

1. Al-Yemeny, M. N. (1999). A checklist of weeds in AlKharj area of Saudi Arabia. Pakistan J. Biol. Sci. 2: 7-13.
2. Belz, R. G., C. F Reinhardt, L. C Foxcroft and K. Hurle (2007). Residue allelopathy in Partheniumhysterophorus L.-Does parthenin play a leading role? Crop Prot. 26(3): 237-245.

3. Dunbabin, V. (2007). Simulating the role of rooting traits in crop-weed competition. Field Crops Res. 104(1-3): 44-51
4. Evidente, A., M. F. Aparicio, A. Andolfi, D. Rubiales and A. Motta (2007). Trigoxazonane, aonosubstitutedtrioxazonane from Trigonellafoenum-graecum root exudate, inhibits Orobanchecrenata seed germination. Phytochemistry 68: 2487-2492.
5. Frick, B., and A. G. Thomas (1992). Weed surveys in different tillage systems in southwestern Ontario field crops. Can. J. Plant Sci. 72:1337-1347
6. Javaid, A., R. Bajwa, N. Rabbani and T. Anjum (2007). Comparative tolerance of six rice (Oryza sativa L.) genotypes to allelopathy of purple nutsedge (Cyperusrotundus L.). Allelopathy J. 20(1): 157-166.
7. Judd, W.S., C.S. Campbell, E.A. Kellogg, P.F. Stevens and M.J. Donoghue. 2002. Plant Systematics: A Phylogenetic approach. 2nd ed. Sinauer Associates, Inc., Sunderland, MA.
8. Khanh, T. D., I. M. Chung, T. D. Xuan and S. Tawata. (2005). The exploitation of crop allelopathy in sustainable agriculture production. J. Agron. Crop Sci. 191: 172-184.
9. McClosky, W. B., P. B. Baker and W. Sherman (1998). Survey of cotton weeds and weed control practices in Arizona upland cotton fields. Publication AZ1006"cotton: College of Agriculture, University of Arizona.
10. Nasir, E. and S.I. Ali. 1971-1995. Flora of Pakistan. Pakistan Agricultural Research Council, Islamabad.
11. Nasir, Y.J. and R.A. Rafiq. 1995. Wild Flowers of Pakistan. Oxford University Press, New Delhi
12. Oudejan, J. H. (1994). Agro pesticides, properties and functions in integerated crop protection. United Nations, Economic and Social commission for Asian and Pacific United nations Bangkok. pp.264-290.
13. Singh, H. P, D. R. Batish, J. K. Pandher and R. K. Kohli (2005). Phytotoxic effects of Partheniumhysterophorus residues on three Brassica species. Weed Biol. Manage. 5 (3): 105-109
14. Stewart, R.R. 1972. An annotated catalogue of vascular plants of West Pakistan and Kashmir. Fakhri Press, Karachi, p. 102.
15. Zhao, D.L., G.N. Atlin, L. Bastiaans and J.H.J. Spiertz (2006). Developing selection protocols for weed competitiveness in aerobic rice. Field Crops Res. 97 (2-3): 272-285