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Weeds Beneficial Effects

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SUMMARY

Benefial weeds can accomplish a number of roles including fertilizing the soil, increasing moisture, living mulch, repelling pests, attracting beneficial insects and serving as food or other resources for human beings.Weed roots absorb nutrients and bring them up towards the surface of the soil where they are more easily accessible to other plants. Some weeds also produce carbon which can help with water retention and further increase nutrient levels and organic matter in the soil.

INTRODUCTION

Weeds are plants which are generally considered to be a nuisance and are mostly looked upon with disgust. In spite of all the difficlties caused by weeds, they can offer some beneficial properties particcularly when occuring at low densities. These aspects should be utilised in the farming system although this may make organic management more complicated and chemical systems. Some of the potential benefits of weeds are helping to conserve soil moisture and erosion, food and shelter can be provided for natural enemies of pests and even alternative food sources for crop pests, weeds can also be valuable indicators of growing conditions in a field for example water levels, compaction and pH and weeds can be an important source of food for wildlife.

Important features of the weeds

Weed seeds is that they grow faster and they also flower early. This leads to a profusion of seeds way ahead of the crop they infest. And so these seeds are unwarily transported to different places along with the crop produce and get distributed along the way. Weedshave an unusual quality of surviving in the most adverse conditions, high scattering ability and high rate of reproduction. Weeds also have an intrinsic capacity to germinate under varied conditions even though they are season-bound and germination takes place in certain seasons in regular succession. Yet they can take shape even after being dormant for a longer period. Weeds belong to the Angiosperm (flowering plants) category which has two further sub- classes: Monocots and Dicots. They can be further classified on the basis of their habitat; namely terrestrial and aquatic categories respectively. On the basis of their life, weeds are categorized as Annuals, Biennials and Perennials

Annual weeds: The annual types of weeds live and produce their seeds in a single growing season. **Examples:** *Ageratum conyzoids, Amaranthus spp, Chenopodium album* etc.

Biennial weeds: The biennials need two growing seasons to live and flourish. Both these of weeds grow through seeds. **Examples***: Melilotus alba, Eichorium intybus, Alternanthera achinata* etc.

Perennial weeds: Perennials live indefinitely and are propagated through vegetations too. Some of the better known perennials take their origins in the rhizomes, stolons, bulbs and tubers. There are two types of perennials weeds, namely the simple one and a creeping variety.The simple ones multiply and grow through seeds. On the other hand, the creeping perennial weeds are spread by creeping roots or the above ground stems and at times by the underground stems or rhizome. There are many opposing thoughts as to the usefulness or the nuisance value of the weeds. Some of the experts are more lenient towards these plants and it is amply clear in the last stanza of Gerard Manley Hopkins; poem Inversnaid when he says ‘‘what would the world be, once bereft of wet and wildness? Let them be left,O let them be left, wildness and wet; Long live the weeds and the wilderness yet.’’ Doug Larson has an indulgent outlook towards weeds when he says “A weed is a plant that has mastered every survival skill except for learning how to grow in rows. **Examples:** *Lantana camara, Cynadon dactylon,Imperata cylindrica* etc.

Weeds Beneficial Effects

No plant in the earth is completely worthless. Weeds have also some beneficial effects although they do much harm in different ways. The beneficial effects of weeds are as follows:

1. Most of weeds absorbs nutrient from the deeper layer of soil. When such weeds are incorporated in the soil, they add organic matter content of the soils. As a result, the fertility of plough layer from where plants absorb most of their nutrients is enriched.
2. Weeds help in controlling erosion by the soil binding effects of their roots and by forming a living mulch, which resist beating action of rain drops and sweeping action of wind. **Examples:***Agropyron repens,Cynadon dactylon* etc.
3. Weeds, when incorporated in the soil, increase the organic matter content of the soil. Organic matter is the essential constituent of arable soil.
4. Some weeds are used for green manuring and some aquatic weeds are used for composting.

- **Green manuring:** *Echinochloa colona, Cynadon dactylon, Argemon maxicana, Euphorbia hirta* etc
- **Composting:** *Eichhornia crassipes, Ipomea reptans* etc.

5. Some weeds are used as fodder for cattle and some weeds are used for vegetable purposes by human beings.

- **Fodder:** *Echinochloa colona, Chenopodium album, Cynadon dactylon, Melilotus indica, Avena fatua* etc.
- **Vegetables:***Chenopodium album, Amaranthus sp.* etc.

6. Weeds belonging to Fabaceae (leguminous) family can fix atmospheric Nitrogen biochemically in their bodies incorporation increases the Nitrogen content of the soil as well as fertility of the soil.
   Examples: *Algae, Fern (Azollasp)* etc.
7. There are some weeds that have medicinal value. As for example, *Cynadon dactylon, Croton sparsifloa,*etc are used in wound, cut Asthma, piles, etc, *Leucasaspera* is used against snake bite, *Calotropisprocera* is used to cure gastric troubles, *Phyllanthus niruri* to cure jaundice, *Striga, orobanchioides* is used to control diabetes and *Argemon maxicana* seeds are used to control skin diseases and *Abuliton idicum* is used to cure piles. A large number of weeds are used for different economic utilization. As for example, plants of *Saccharum sp, Impereta cylindrical, Typhoo elephantine* etc are used for making scents, *Eulatiopsis binate, Sansevieria roxburghiana* etc are used for making ropes and strings, *Andropogon sqarrosus, Phragmitiskarka* etc for making mats and screens.
8. Some weeds are used for biological fence of crop fields.
   Examples:*Saccharum spontanum, Agave sp,Opuntia dellini* etc.
9. Some weeds are used for various religious and ritual purposes.
   Examples:*Cynadon dactylon,Saccharum spontaneum,*etc.
10. There are some weeds that are incorporated in the soil to reclaim the alkalinity of the soil.
    Examples:*Argemon maxicana, Cynadon dactylon*etc.
11. A large number of weeds that are sod, turf and bush types of weeds are valued for protecting different types of bunds.
    Examples:*Cynadon dactylon, Saccharum sqarrosus, Dichanthium annulatum*etc.
12. *Chenopodium album* is vulnerable to leaf miner, making it a useful trapcrop as companion plant. Growing it near other plants, it attacks leaf miner which might have otherwise attacked the crop to be protected. It is a host plant to leaf miner, an insect which curly top virus to beet crop (*Beta vulgaris*).
13. Weeds (e.g.*Chenopodium album,Cynadon dactylon)* are used as mulch, to check the evaporation loss.
14. In north India, *Saccharum spontaneum* is used in breeding programme for developing the noble canes.
15. Aquatic weeds are useful in paper, pulp and fibre industry.
16. Weds like *Lantana camera, Amaranthus viridis, Chenopodium album, Eicchornia crassipes*are used for beautification. *Agropyronrepense* is used for soil conservation,whereas *Cynadondactylon, Saccharum sqarrosus, Dichanthium annulatum*etc. Is used stabilizing field bunds.
17. Weeds act as alternate host for predators and parasites of insect pests which feed on the weeds. For example *Trichogramma chilonis* feed upon eggs of castor semi looper which damage the castor plant.
18. Some weeds are used to identify the metals through satellite imageries.
    Example:*Acacia patens* **-** Iron**,** *Cotolaria cobaltica – Cobalt,Eichhornia crassipes* – Copper,Zinc, Lead and Cadmium etc.
19. Stems of *Cyperus pangorei* and *Cyperus corymbosus* are used for mat making while *Typha angusta* is used for making screens.
20. Weed is useful in manufacturing of agarbattis.
    Example:*Cyperus rotundus* etc.

21. *Cymbopogon citrates* and *C. Martini* are used for manufacturing of aromatic oil. Such as Citronella oil and Palmrosa respectively.
22. Used as vegetables: *Chenopodium album*, *Amaranthus viridus* and *Plantago* spp.

CONCLUSION

As it is well known that weeds are harmful to the main crops all the times but in context to use them as food and any other useful product. Therefore agriculturists and weediologists should pay special attention to identify beneficial weeds. They should take care to promote beneficial weeds and to preserve and propagate them, which are valuable as medicinal and for other uses. It is determined that weeds are valuable in the form of edible, medicinal and for other uses thus these weeds should be protected.

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