EFFECT OF VERMICOMPOST ON ALGAL GROWTH

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ABSTRACT: Algae are simple plants that reproduce vegetatively by single cell division or fragmentation of colonies. Algae formation on pots and plug trays absorbs nutrients meant for plants and creates a barrier making it difficult for water to penetrate to the root zone. This will affect the quality and aesthetics of plants. Chemical algaecides kill algae in much the same way that weed killers kill undesired plants in your yard. Unfortunately, many the chemicals in algaecides do not target the algae specifically and can harm or kill any aquatic plants in your pond. Though some algaecide treatments will not kill your plants, they may stunt plant growth or have other negative effects. The extermination of algae is a problem, the methods to control algae can be expensive, cumbersome, environmentally unfriendly or all of these.The present paper aims at studying the effect of vermicompost on the algal Growth in plants.nine pots were taken and different herbs namely, Menthalongifolia,Coriandrumsativum and Hibiscus cannabinuswere grown in them out of which three were treated with common algaecide, three with vermicompost and three were left without treatment.It was observed that the plants which were treated with vermicompost were not effected by the algaeand the plants which were treated with algaecide also did not show the presence of algae but the plant growth was stunted whereas the pot which were left untreated showed growth of algae and very less growth of plants.

KEYWORDS:**Algae,vermicompost,growth,algaecide**.

INTRODUCTION:

Algae is a type of plant with no stems or leaves that grows in water or on damp surfaces.It reproduces vegetatively and also has a sexual cycle that produces zoospores. Spores are transmitted through water, air and mechanical movement and will germinate under the right environmental conditions. Algae most often develop when excess nutrients, usually caused by over-fertilization, are present, as well as the existence of excess moisture and light. Since Alga is an indicator organism, that means conditions are favourable for other plant disease pathogens to become established when it is present. It is also a breeding ground and food source for pests. It also causes a reduction of the germination rate of seeds and the growth. It results in reduced development of the seedlings, and there may also be an alteration to the quality and the productivity of crop plants.

Chemical algaecides kill algae in much the same way that weed killers kill undesired plants . Unfortunately, many of the chemicals in algaecides do not target the algae specifically and can harm the plants as well. Though some algaecide treatments will not kill your plants, they may stunt plant growth or have other negative effects. The chemicals are also hazardous to animals as well. It can be found on pots, potting media surfaces, soil, and even all over plant leaves and stems. Pots can be treated with some chemicals but they are very toxic to plants.Algae are a challenge to plant nutrition as they use water and fertilizer meant for plant growth, and an irrigation challenge because a dense algal mat can make water penetration impossible.

Algaecides like Simazine work by penetrating the organism and destroying the food producing (photosynthesis) cells. Simazine is a long lasting chemical and the frequent use of this substance is not recommended. Simazine will affect plants in the same way as it affects algae.

Vermicompostis the product of the composting process using various species ofearthworms, to create a mixture of decomposing vegetable or food waste, bedding materials, and vermicast. Vermicompost contains water-soluble nutrients and is an excellent, nutrient-rich organic fertilizer and soil conditioner It is used in farming and small scale sustainable, organic farming. Vermicomposting has gained popularity in both industrial and domestic settings because, as compared with conventional composting, it provides a way to treat organic wastes more quickly. It also generates products that have lower salinity levels that are therefore more beneficial to plant

The study focuses on the effect of vermicompost on algal growth in plants.

METHODOLOGY:

Effect of vermicompost on Algal growth

Nine pots were taken and different herbs namely *Menthalongifolia,Coriandrumsativum* and *Hibiscus cannabinus* were planted in them . Out of the nine pots three were treated with algaecides commonly available in the market, three were treated with vermicompost and three were left untreated to grow naturally.The plants were allowed to grow for a period of three months and the results for the formation of algae were observed.

RESULTS:

EFFECT OF ALGAECIDE AND VERMIVOMPOST ON ALGAL GROWTH.

Name of the Plant	Effect of Algaecide		Effect of Vermicompost		Naturally growing plant	
Menthalongifolia	On plant	On algae	On plant	On Algae	On Plant	On Algae
	Reduced growth of plant almost nil	No formation of algae seen	Plant grew with strong stem and roots	No formation of algae seen	Growth was less	Green coloured algae were found all over the top of the soil
Coriandrumsativum	Reduced growth	No formation of algae seen	Growth was good	No formation of algae seen	Growth was less	Green coloured algae were found all over the top of the soil
Hibiscus cannabinus	Stunted growth of plant	No formation of algae seen	Plant grew tremendously with much stronger root and shoot	No formation of algae seen	Growth of plant tremendously reduced.	Green coloured algae were found all over the top of the soil

DISCUSSION:

Plants are prone to algal infections when more amount of moisture or less sunlight is provided. The most common method to remove the algae from the pots is to sanitize the pots by removing the plants washing the pots and then treating them with chemicals.Thisis a tiresome work and takes a lot of time. The other method is to spray the algaecides a mix them with the soil which is again a process harmful to plants.

In the present study, the focus was on a product which is more environmental friendly and easy to use without any harmful effect to the plant.As Vermicompost contains water-soluble nutrients and is an excellent, nutrient-rich organic fertilizer and soil conditioner it was used in the experiment to know its effect on algal growth as well.

The plants grown with vermicompost showed much better results in the form of increased plant growth and no algal formation.The plants grown with algaecides showed no signs of algae but the plant growth was stunted. The plants which were left untreated showed very less growth of plant and increased growth of algae on the top of the soil.

CONCLUSION.:

Thus the use of Vermicompost for algal growth for plants is a much better and safer options than the other alternatives.

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