

RESEARCH ARTICLE

Weed Management in Organic Farming

Dr.A. Surendar^{1*} • M. Kavitha²

¹R&D Head, Advanced Scientific Research, Salem. E-mail: surendararavindhan@ieee.org

²Research Head, Advanced Scientific Research, Salem. E-mail: kavithavlsime@gmail.com

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ABSTRACT

An Agri-ecosystem is associate degree exceptional living surroundings for wild species of plants (weeds) however conjointly different organisms, like microorganisms, invertebrates and different higher organisms, which all, together with the crop diversity, build up the diverseness of agricultural lands. Diverseness is inextricably coupled with the availability of system services. High diverseness of microorganisms and predatory invertebrates will, for instance, bring positive ends up in the shape of biological gadfly management, organic matter decomposition rate, carbon cycle sweetening, Lately, the intensification of agricultural production, excessive water consumption and environmental pollution (mostly with pesticides and nutrient contamination) caused the loss of plant, invertebrate and vertebrate species on cultivable fields. The most aim of the strategy is to stop any species loss, conservation of their natural habitats and property use of diverseness of species. Plants occupy all-time low level within the biological process chain; so, conservation of their diverseness can enhance species richness of organisms at higher biological process levels.

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Introduction

Weed infestation is presently one in every of the foremost necessary factors limiting agricultural production, particularly in organic farming. Weeds cause loss of each yield quality and amount. The potential crop losses thanks to weed-crop competition will quantity to around thirty eighth and might be more than losses caused by pests (19%) and pathogens (15%). On the opposite hand, weeds area unit a crucial, integral a part of the agro-ecosystem as they're the premise of the organic phenomenon. Restricted abundance of weeds in agricultural production is generally thanks to use of herbicides and fertilizers however additionally thanks to agricultural practices that promote crop fight against weeds (indirect weed management practices like new forms of crops). Currently, some species that were ready to adapt to the intensive production conditions of standard agriculture area unit dominating the weed species community Organic farming is AN environmentally friendly various to standard farming.

Weeds area unit typically a serious threat in organic farming (OF) and it appears as a key bottleneck for a promotion of property organic plant production. Globally, close to concerning thirty eighth of potential crop yield is reduced by weeds and yield reduction is a lot of severe beneath OF systems thanks to prohibited in agrochemicals use. Chemical consumption rates area unit accumulated by five hundredth in 2003 as compared to beneath standard farming for a weed management. Unavailability of applicable weed management measures instead of the herbicides area unit the explanations behind it. Despite preventive, physical, biological and cultural measures area unit obtainable for weed management beneath an intensive tilling (physical measures) and different intercropping operations being typically active. Mostly, intensive manipulation of soil for weed management will increase soil erosions and losses of soil carbon from the soil.

Organic Farming

A survey with farm homeowners of winter cereal fields was conducted annually in November (after gathering of crops) to collect the small print of agricultural practices on

* Corresponding author: surendararavindhan@ieee.org

the fields enclosed within the study. Elite options of tested organic and standard farms. Organic and standard farms had similar agricultural areas. Organic farms enclosed within the study were slightly larger than the regional average. This was most likely thanks to the study squares (preselected nine angular distance study surface) choice criteria that promoted fields of larger space. Farms of each farming systems had similar quality of soils. The employment of some certified mineral fertilizers of natural origin is allowed in organic farming systems. However, the share of fields with natural mineral fertilization. The most distinction between organic and standard farms was the fertilization strategy. In total, 90.1% of standard and solely forty three.1% of organic fields were fertilized. A lot of fields were organically fertilized in organic than in standard farms. There were no organic fields with mixed organic and mineral fertilizers, while 21.0% of standard fields were treated with each organic and mineral fertilizers. The number of used mineral fertilization was considerably higher in standard farms. Plant protection merchandise (PPP) were used solely in standard farming systems. 90 % of fields were sprayed with surgical procedure, seventy nine of fields were sprayed with solely herbicides, whereas twenty sixth of fields were sprayed with pesticides or fungicides. The typical yield of winter cereals was considerably higher in standard farming systems than in organic farming systems

Spearman's correlation coefficients were calculated to see the influence and strength of the link between numerous environment and agro technical factors. For the analysis of the correlation, some survey information characterizing the environment and management strategy were elite, that might have an effect on the multifariousness of flora and soil seed bank, like space of the tested winter cereal field, variety of business crops cultivated (complexity of crop rotation), amounts of gas (N), phosphorus (P) and atomic number 19 (K) brought in at the side of mineral and natural fertilization, variety of mechanical and chemical treatments of weed infestation, grain yield and share of fields in farms that area unit lined with vegetation throughout winter amount (share of "green" fields).

Weed Management

Development of predator habitats area unit necessary for promoting weed seeds predation and gadfly management organic farming. Crop residues give surround and invite the range of helpful insects, birds and a large vary of invertebrates (e.g. earthworms, little rodents, birds, carbide beetles, field crickets etc.). Availability of appropriate habitats near the crop field's support for early formation of natural enemies. The sector managed below minimum tillage or zero-tillage holds the weed seeds on the soil surface that will increase the predation chance of weed seed. For example, plant louse may be an ideal of weed predator. What is more, nearer habitats conjointly support numerous helpful insects like parasitic wasps, woman beetles, and people predators maintain the crop gadfly populations below the economic threshold. Use of farm yard manure and alternative crop residues in organic farming systems add organic matter into the soil, whereas

improperly rotten organic matter might become supply of weeds. For example, one metric weight unit of manure contain forty two viable seeds of goosefoot and seeds will survive when passing from tummy of the animals and when storage. An addition of organic matter will increase the microbe activity in soil that probably will increase the weed seed decay. A mean 10-16% of seed of *Mimosa pigra* is lost with microbes and therefore the rate of weed seeds decay hurries up in comparatively hotter climate and the next temperature. Similarly, observed a decline in an exceedingly chickweed population over three years of poultry manure application. The residues on soil surface conjointly facilitate to keep up the next soil wetness by lower evaporations and maintain favorable condition for microbe populations and accelerate the microbe decay of weed seeds through protective them from excessive cold and extreme temperature.

Conclusion

Although outstanding, organic farming many essential problems stay to be resolved. To start with, there's a necessity for a lot of analysis. Recent analysis invalidates this prejudice, particularly within the context of in depth farming systems that characterize abundant of agricultural production in developing countries like Bharat. Additional analysis on this is often, however, still required. Presently the straightforward access to and enhanced development of native markets for the merchandise, native process potentialities, and export infrastructure square measure of explicit importance for organic farming. For this, the role of international establishments and trade policies has got to be mentioned in context of organic farming. The institutional setting for organic farming as associate degree adaptation and mitigation strategy additionally has got to be known, specially, on a world level. To achieve success, wider recognition of the potential of organic farming is required among bodies that presently primarily promote pure typical agriculture.

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