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ORGANIC PLANT BREEDING: SUBJECT REVIEW

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ABSTRACT

Plants are used agriculture that is organic at the moment and animal varieties that were frequently bred for non-agriculture organic unsuitable for organic cultivation. This viewpoint is incompatible with a utilizing a balanced solution a method agriculture that is ecological Crop types that have been grown naturally are needed. Expand the benefits of organic farming probable as well as its reputation. A first attempt at establishing an organic plant breeding concept.

Keyword: *agriculture, Organic, plant, breeding.*

INTRODUCTION

In contrast to non-organic farming, organic/biodynamic farming seeks to maximize reliance on naturally occurring biological systems. Agriculture that isn't natural agriculture, which is heavily reliant based to artificial outputs, such systems are less important. external inputs and biological material exploitation at all stages, right down to the sub-gene One of the most important consequences of this distinction is that the organisms ideal is better of a both y methods are vastly atypical One Crops, for examples, often known as invasive plants. As undesirable in organic farming as non-crop plants that contribute positively. Crops like this are; are managed by. Agricultural rivalry or mechanical methods .The positive contributions are less significant in non-organic farming, and weeds are typically managed with. Insecticides are used to kill plants. Investigations of various kinds conducted can be found throughout nerve pathways to identify which varieties are best suited to agriculture that is sustainable needs. This method is useful in the, in the near future but due to the limitations of non-organic breeding programs, it cannot fully articulate the potential of organic production systems. In the long run, it will be critical to create organic/body manically raised and chosen species and communities, in particular of functional reasons. Reasons, such as ensuring for agricultural processing, high efficiency is important. But also because of natural ideologies. Natural farming is currently unavailable. Although the main tools in use, plant and animal varieties were created within non-organic factors, which use methods that are incompatible with organic agriculture natural standards, they are considered entirely organic [1].

CROP RAISING THAT IS NATURAL:

Food security is a significant problem for humanity, and it occurs in a diverse global setting. In the one hand, there is a growing appetite for agricultural, i.e., the global race, which is expected to reach 9 billion in 2050, and its dietary changes, necessitates further food production, and at the same time, humanity is experiencing a growth in numbers. In some medical conditions that shorten life expectancy (type II diabetes, heart disease, etc.) [2]. In the other hand, there are causes that pose a significant danger to food security, such as climate change and the relentless pressure of pests and diseases, the global trends of which are among the most serious. As a result of the warming environment, infestations and infections are likely to change. There is a lot of discussion about how nutrition can be made. Despite the fact that there is widespread consensus that organic farming refers to crop production, can aspire to Even so, the principle of conservation has been established in a variety of forms [2]. It gets its name from the Latin word sustainer, which means "to sustain." "To preserve," "to support," " is the definition of sustainability. In an evolutionary way, barriers refer to the preservation of the entire ecosystem by preventing the environmental degradation supplies [3]. Food production programs, according to the American Public Health Association (APHA), are those that "supply nutritious resources to satisfy existing food demands while preserving healthy environments that will also provide food for coming generations with limited damage to the environment." People should have access to "healthful food that is available, open, and reasonable to all" as part of the food program. Natural and conventional farming (CF) programs are at the core of a raging debate, especially when pressing issues like nutrition security and sustainability are at stake. a topic of discussion Particularly when proponents of organic farming (OF) argue that this method is associated with sustainable agriculture or suggest that OF is now the only way to accomplish sustainable agriculture in their arguments. But that it has the potential to ensure national food security [4,5]. Other scholars have examined these claims in depth [8–10], and the methodological discrepancies among sustainable farming and OF have been highlighted [2]. Now also Broadway It's worth noting that CF takes into account low-input farming systems that are operated by resource-constrained farmers. This means that low-input/tech cropping systems are used in the as such "aging for



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CF." We believe this addition is important as most Of tourists think of CF as a high-input method, because of the organic agriculture. Gaining broadly adjusted strains is also one of the goals.

Natural Plant Biotechnology Methodology Recommendations

Considering the significance of natural plant genetics, a collection of established specifications for industrial plant biotechnology technique is necessary. A community led by Edith Lammerts van Bueren in the Netherlands has established an acceptable collection of basic principles (Lammerts by Bueren et al.). (Year 1999). In October 2001, the Louis BolK Institute, Platform Biologic, and ECO-(German Natural Plant Biotechnology Coalition(organized university a with organizations engage, mainly Europeans, to try to form a consensus about the methods of operation and potential creation in genetic engineering that is natural, in response to a request from the Dutch government. The goal was also to offer a list of proposals in broad strokes. The consensus was that the aim was to include a specific number of suggestions. Plants that improve organic farming's potential and biodiversity. A group led by Edith Lammerts van Bueren in the Netherlands created an acceptable collection of basic principles (Lammerts van Bueren et al., 1999). Louis BolK responded to a request from the Dutch government in October 2001. The Establishment, [6] Platform Biologic, and (European Consortium for Organic Plant Breeding) held a workshop with interested parties, mainly from Europe, to try to reach a consensus on Natural plant biotechnology methodologies and the future The aim was to deliver a draft list of guidelines to IFOAM at their next International Congress in Canada in October 2002. The general opinion was that the goal of environmental crop plants should always be to grow plants that lead to considerable and sustainability of organic agriculture. The Network and Center Biologic, and the Council of Europe Consortium for Industrial Crop Plants (hosted a conference with relevant parties, many from England, to try to find a resolution on techniques and the possibility of industrial organic agriculture. breeding. The goal was to present IFOAM with a draft collection of recommendations at their upcoming International Congress in August. Natural crop production should have been a systematic practice that takes into account environmental cross factors and focuses on productive crops that can develop a productive relation with living soil. Development can be used to create organic types. Techniques that adhere to this definition and are derived from accredited organic plant breeding programs. Techniques that do not value plant quality, especially those that work just below cellular level, are not allowed. Examples include GM, CMS genetic engineering without transformed cell genes, and protoplast mutation. Creation of F1 hybrids will be allowed as long as the F1 offspring are fertile. as well as the fact that the parent lines can be propagated organically. The cultivation of open-pollinated varieties, rather than hybrids, is likely to be encouraged within the biodynamic movement. DNA marker-assisted selection would be allowed as long as no GMOs or radiation were used to create the markers. Meristem culture would be allowed, owing to its critical position I Patenting breeding material would be prohibited due to the limitations it would impose on the free exchange of information between farmers and breeders. Natural seeds and planting material would be distinct from organic varieties. Breeding programs include organic seeds and planting material. Organic or non-organic, and that have been compounded or propagated under organic management for at least one generation. Any in vitro procedures will be permitted (but not, for example, GM). Traditional crops and natural crops should be separated to enable for a seamless lengthy change from the current incarnation, where few agricultural variety are possible but agricultural plant is readily available, to a point where organic varieties are the main justification of certified organic[15,6].

Breeding

The advancement of organic breeding programs can also open up new possibilities. Crop production for public health is one part of quality breeding should be included. Any natural antioxidants may have applications in the field medicine. Resistance to pathogens in addition to the nutrient content (high protein, for example). In organisms, certain bioactive compounds can be beneficial in infection tolerance. Non-organic breeding programs are rigorously geared toward genetic uniformity among the individual plants in a selected variety due to the current framework of variety legislation. This eliminates the possibility of variety to respond to local conditions maintaining variation between varieties to allow for a buffered response to variation in the local environment is much more important in organic breeding programs. The creation of organic breeding programs appears to be the most possible outcome. The implementation of organic breeding programs is most likely to result in greater distinction between organic Non-organic product plants should be avoided. It is also clear that a parallel advancement of animal the process of reproduction for organs is needed [9].

Organic farming, food supply, and the environment

Goal is to create integrated agricultural practices that are productive in any way. As a result, this strategy should focus on renewables extracted from crops. Tools that are used by adequate seed, of livestock, and nutrition science levels Because of the equitable use of information and knowledge of natural ecological mechanisms, OF should

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also include security from pests and pathogens. The well-known figure OF is distinguished by the fact that it grows crops without the use of artificial fertilizers or pesticides, as well as genetically modified organisms (GMO). As a result, OF supporters believe that these processes have a devastating impact on the environment by improving soil fertility, helping to combat climate change, and so on. Analysis has also shown that OF can help to mitigate crop residue losses, owing to the use of natural manure such as compost or stacked manure, which can result from the incorporation of farming and animal output. When analyzing the dynamics of soil nutrients both OF and CF, it has been discovered that the former will produce high the abundance, stock, and diversity of the latter. Carbon dioxide stocks and sequesters concentrations in the soil [11]. However, this function of OF alone is insufficient to reduce climate change because it does not address the problem of the greenhouse effect (GHG) pollution and does not allow for N₂O or other emissions resulting from farming production [11]. GHG emissions in OF are determined by the choice of agriculture are another feature of (OF) [12]. The evidence shows that this is not due to the higher inputs (65 %) of organic fertilizers per se in OF than in CF, but rather due to a cascade effect in which an increased microorganism activity decomposes the organic residues .By comparing all agricultural practices and studying ecosystems in crop rotations in the UK, they discovered that this rise in biomass is strongly associated with grain yield declines, regardless of the production system. This ensures that CF can be as abundant as OF while having lower crops, and that OF "per se has no impact (on ecosystems) other than by reducing yield and quality." by lowering crops and, as a result, growing ecosystems" As a result, "in greater ecosystems, OF is not an effective way to increase biodiversity and yield, but land saving can be [13].The benefits of OF to the world are numerous.

COMPOSITE CROSS POPULATIONS IN WHEAT Following AS

Creating corn hybrid pass communities is one method we've begun. Over the last half-century, there have been 20 excellent wheat varieties in Europe are being crossed in a variety of ways. The F₂ generation's population samples will be cultivated in a variety of organic over several generations to assess the degree and rate of population adaptation to the local climate. If the experiment is the content was effective created may be shown specifically or as a valuable genome sequence for potential crossbreeding. The specialty methods, complementarity, and reward should be able to render the populations highly, thanks to genetic variation. And nonorganic environments and quickly, In case of illness, dependable, pest, and weed control, as well as buffering against physical environment variation [16].

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My observation / Remarks:

- The Use of hybridization in the breeding of organic plants that has appositive effect.
- NO specific type of organic material that is used in organic plant breeding has been identified to address the issue in a practical way.
- Nutrition experts and the health organization recommend the use of organic food that contributes to reducing the percentage of cancerous polyps that is to reduce them for cancer Patients.
- Encouraging biological activity in the soil and protecting its quality due to the use of organic materials by proving nutrients to crop directly by proving nutrients to microorganism to the soil.

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