

# Organic and Inorganic Fertilizers

**Azhar Mahdi Abdul Sahib\***

*Cent. of Date Palm Researches University of Basrah, Iraq*

**\*Corresponding author:** Azhar Mahdi Abdul-Sahib, Cent. of Date Palm Researches University of Basrah, Iraq



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## Opinion

Like any other living organism, a plant needs to receive adequate quantities of requirements for the life cycle. Water, nutrients, CO<sub>2</sub>, light ..., etc. Although many variations in the types and amounts of these requirements among different organisms and plants are present, potted plants need for adequate water is essential. Pots have limited space to grow which should be considered when managing growth media. Water supply and fertilization. Nowadays, many kinds of fertilizers are available as each of them has its own different characteristics. Organic fertilizers are natural materials that have an origin tracing back to plants for example household waste, crop residues, woodland litter, green manure, livestock manure, compost are used for plants fertilization. Fertilizer use is an important practice to increase crop production and improve soil fertility. Therefore, the use of soil fertility enhancing amendments to supply essential nutrients in crop production is important. As well as the nutrient supply from soil organic matter, crop residues, wet and dry deposition, and biological nitrogen fixation, synthetic or inorganic fertilizer is a primary source of essential nutrients in crop production. Organic fertilizers offer a very possible option as they are available in or near the farm at little or no cost at all. For example, if a farmer has livestock, then livestock manure can also be used as a fertilizer and that is free of cost. Fertilizer use and application is labor intensive for organic. This saves time, cost, and efforts. In addition to the above issues, using these natural materials in fertilization process has very unique advantages as this will finally may reduce pollution and the recycling methods recently

has been improved specially after organic agriculture or organic farming known as ecological farming or biological farming, which is an agricultural system that uses fertilizers of organic origin such as compost manure, green manure, and bone meal became favorable to many communities for its important features as one of the most important steps for "back to nature".

Regarding organic fertilizers, large quantities are needed for the desired effects, a large amount of labor is required for harvesting and preparing manure, the quality is not always very good and has to be combined with expensive inorganic fertilizers, etc. Organic materials are such that the release of nutrients to the crop is affected by the decomposition rate and timing of the use of the fertilizer. They are usually applied by methods known as broadcasting, spot application, and banding, the application is usually by hands. If organic fertilizers are used for a long time, there is the possibility of increased soil organic matter, higher soil biological activity, reduced erosion, increased yields and better water infiltration and aeration. If handling is proper, the effectiveness is further increased. Inorganic fertilizers (mineral fertilizers) usually come from the extraction of mineral deposits by some processing and contain phosphate, lime, rock, potash, etc. They can also be manufactured industrially such as urea. The use of these fertilizers in appropriate growth stage, methods, and dosages may improve crops growth and yield. The inorganic fertilizers immediately release nutrients that are required by the crops. The crops respond best to the fertilizer if the soil has a high, inherent

fertility level. However, inorganic fertilizers have been known to reduce the fertility of the land in the future. In the case of mineral or inorganic fertilizers, hands or specialized equipment can be used. Other than that, the methods used are quite similar but have some slight variations. Inorganic fertilizers are not always the best option as they are not always available and accessible, especially in remote areas where most farms are located, they are very expensive and not affordable for the average farmer, their seasonal application is a must and they have a higher risk in extreme seasons, that is, when rainfall is either too low or too high.

When fertilizers, organic and inorganic (commercial fertilizers) are not managed accurately, they can affect plant and animal life (including humans) negatively. Some of these influences include algae blooms causing the reduction of oxygen in surface waters, pathogens and nitrates in drinking water, and the release of odors and gases into the air. Chemical fertilizers contain phosphates,

nitrates that can be the main reason behind water pollution. Environmental nitrogen and phosphorous add to the process of Eutrophication, which improves the water surface with nutrients. The trophic status of lakes is related to the nutrients and growth of organic matters of the lake. The effect of Eutrophication is that there is an richness of algal bloom. Some may have some idea of groundwater contamination and other environmental effects, but not anything in depth. Most people are not aware, using chemical fertilizers do have their hidden dangers about which most people may not know, for example, that an extreme amount of nitrogen in the soil can kill off fish in nearby bodies of water. To understand these effects, we need to know exactly what chemical fertilizers are and how they work. Finally, there must be a balance in everything, and there must be complete knowledge and clear calculations before choosing the appropriate type and quantity of fertilizer, and do not forget to take into account other priorities regarding the environment and environmental pollution.

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Azhar Mahdi Abdul Sahib. Biomed J Sci & Tech Res



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