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Research Article

Survey on the Utilization of Urban Waste Compost, Vermicompost, Fertilizer in Different Parts of Iran: A Library Study

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Abstract

Background and Purpose

According to the World Food and Grocery Association (WHO), between 34% and 63% of world agricultural production has been rising due to the use of fertilizers. Increasing the excessive use of fertilizers and the negative effects of these fertilizers on the environment and health of living organisms, especially humans, have challenged the countries of the world. Such as an increase in the number of types of cancer. So nowadays, it is necessary to replace chemical fertilizers with compost. It is believed that compost increases the yield of the crop and decreases soil erosion in different climates of Iran.

Materials and Methods

This research was a type of library study that was carried out using the library documentation and using existing documents and records on the basis of valid domestic and foreign websites. It is worth

noting that this research also examines the situation of manure and fertilizer use in the world and Iran. The state of production and use of compost manure has examined the challenges facing the country.

Results

170 million tons of pure fertilizer is consumed in the world, while its consumption in Iran is 800 thousand tons. Studies show that per capita consumption of chemical fertilizers in Iran is lower than the global average. According to the Organization of Plant Protection, the per capita consumption of chemical pesticides per hectare in the United States amounts to 1,000 and 500grams, Europe is 700grams, and Iran is only 530grams. According to the climate of Mazandaran, the variety of cultivation of products and the presence of various pests and diseases the province cannot completely remove or stop spraying on farms and gardens.

Conclusion

Finally, The knowledge of the proper use of chemical pesticides and timely use of it is at the heart of the promotion of the agricultural organization. The correct use of fertilizer and chemical pesticides should be taught to farmers.

Introduction

Human food security is one of the main tasks of the agricultural sector. For this purpose, many different genetic and managerial methods have been devised. In this regard, soil fertility and management of fertilizer use as one of the most influential management factors of interest to researchers and policy makers in the agricultural sector and has been named the key to sustainable agricultural production. According to the World Food Organization (FAO), 30 to 50 percent of agricultural production in the world is due to the use of various fertilizers. The average consumption of fertilizers (nutritional label) in the world is about 101kg per hectare and this amount is 89kg [1-5].

The use of fertilizers in Iran since the year 1320 began with the introduction of 11 types of chemical fertilizers, and since 1325, the Ministry of Agriculture has introduced fertilizers every year. At first there was a fairly good balance between the use of organic and inorganic fertilizers, but this balance did not last much longer so that in the past 25 years the increase in annual use of nitrogen and phosphate fertilizers was more than 10% and against the use of potassium fertilizers, organic matter And full fertilizers (micronutrient fertilizers) are almost forgotten. Currently, more than 4.4 million tons of fertilizers are consumed every year in the country, which represents an increase of about 100 percent compared to 2.25 million tons in 1996. On the other hand, each year, subsidies amount to 700 billion tons of state subsidies for the supply and import of fertilizers, which if half of this amount was spent on studies on sustainable agriculture or organic farming or the provision of complete chemical fertilizers with micronutrients, today it is We did not face environmental and health problems [6-9].

The use of organic fertilizers improves the soil structure and reaches the goals of "sustainable agriculture." In fact, soil is considered to be a living crop for agricultural experts, whose excessive use of chemical fertilizers and extraction of the product results in the reduction of its microorganisms, namely, death As a result, the soil of the patient decreases the quality of the product by decreasing food and moisture storage capacity, while organic fertilizers store moisture, increase essential elements and improve soil structure. The production of a healthy product and the less use of synthetic chemicals are directly related to the improvement of the quality of manufactured products and human health, although the use of fertilizers and chemical pesticides in some sources of information mistakenly is the only reason for an increase in the amount of cancer in the country, while That is not the case, and the average global consumption of nitrogen fertilizers in the world is 180kg/ha and in Iran it is 110kg [10-12].

At present, for various reasons, including the cost of fertilizer fertilizers, the use of fertilizers is about two million tons, which according to the cultivation area, the amount of nutrient per hectare is about 55kg, and in Australia 150, Belgium 354, Germany 220, Ireland 527, England 313, India 79 and the European Union 200kg/he. Fertilizer is one of the most influential factors in agriculture and food security of all countries [13]. Without this input, many farms will not be affordable because they will not have added value for farmers, and therefore there is no proper production. The task of estimating the country's need for agricultural fertilizers is borne by the Soil and Water Institute. After determining the need, the institution will refer to the relevant bodies for funding, one of these organs being executive departments related to the Ministry of Agriculture. The country's needs for fertilizers are approximately 4.5 million tons of fertilizer, excellent and biological fertilizers annually [14-16].

Unfortunately, what is distributed throughout the country and distributed among farmers is not more than 2.5 million tons. The fact is that we use less fertilizer in Iran than the global average and agricultural per capita. Fertilizers that are considered for agriculture include nitrogen, phosphorus, micro elements, high fertilizers and biological fertilizers. Regarding Iran's nitrogen fertilizers, it is self-sufficient, and we even have very good exports and petrochemicals produce a lot of urea. We have good products in the field of nitrogen fertilizers. Most of the fertilizers are nitrogen-containing, about half of the 4.5 million tons of fertilizer produced in the country [17,18].

Therefore, the purpose of this study is Toxins and chemical fertilizers are the main inputs of agriculture in agricultural production. In recent years, the consumption of these inputs has increased significantly. Excessive consumption of agricultural inputs, in addition to rising agricultural prices, has caused irreparable environmental damage to the global economy. In this library study, factors affecting the consumption of agricultural inputs including pesticides and fertilizers in 2017 were investigated at Sari Agricultural and Natural Resources University (SANRU).

Materials and Methods

This experiment was conducted in the research farm of Sari Agricultural and Natural Resources University under a completely randomized design in six months of library studies. This research was a type of library study that was carried out using the library documentation and using existing documents and records on the basis of valid domestic and foreign websites. It is worth noting that this research also examines the situation

of manure and fertilizer use in the world and Iran. The state of production and use of compost manure has examined the challenges facing the country.

Finding

An average of 27-30 thousand tons of fertilizer are consumed annually in the country. Poison technology in the country is inaccurate due to the fact that per capita distribution is less than that of the advanced world, which should be used optimally. In northern provinces, because of the ability to cultivate rice, urea consumption is instantly soluble in water, reducing its efficiency [19].

The pesticide research department of the Ministry of Jihad-e-Agriculture Research has reported that 20 to 22 thousand tons of agricultural pesticides have been imported annually from the country, of which 16 thousand tons worth $ 80 million are imported. According to FAO statistics, in 2010, Iran's agricultural production (without livestock and poultry and aquaculture) is about 85 million tons, so Iran produces more than 1% of world agricultural production, which results in one percent of inputs Agriculture in the world, including pesticides, should also be consumed, while the economic value of chemical pesticides in the world was $ 32 billion, with Iran's share of $ 118 million, less than one third of the total [20-22]. Agricultural Jihad has reported a decline in agricultural pesticide use in recent years, with a biological pest and ailments struggle, the currency exchange rate for chemical pesticides has fallen from $ 220 million to $ 80 million over the past two years [23].

Unfortunately, in recent years, agricultural producers in the country have increased the use of fertilizers per unit area instead of utilizing the knowledge of agricultural day to produce more. The illusion of increasing the yield resulting from the increased use of water and fertilizer in some parts of the country has led to the untapped use of water and fertilizer resources, so that the continuity of this, in addition to financial losses and the escalation of nutritional imbalances in the soil, are serious dangers In connection with the pollution of soil and water [24-26].

Unfortunately, because of the relative cheapness of chemical fertilizers and subsidies for single-crop fertilizers, agricultural producers have been unaware of the use of organic materials, so far as adding organic matter to the soil, which, in addition to improving physical and chemical conditions, has a very positive effect on The nutrition and solubility enhancement of most of the plant's nutritional elements is set aside by farmers [27]. Poor soil in most regions of Iran due to micronutrient organic matter and the lack of use of organic fertilizers over many years caused the soil to be unsuitable for root growth and yield loss. Nonetheless, fertilizers of urea and phosphate are used by farmers regardless of the type of soil and crop cultivated every year more than the previous year [28].

Meanwhile, in the 1400 agricultural development program, the country's agricultural production is to increase from 57 million tons to 160 million tons, and about two billion dollars will come from the country's export of agricultural products. According to the program, it is also expected that organic matter consumption is so prevalent in soils in the country that none of the soils have less than 1 percent organic matter, but it seems that achieving the above objectives in this way of water management and Fertilizer is almost impossible [29].

Excessive consumption of fertilizers and chemical pesticides has already caused a lot of damage to the environment and public health. According to reports from the northern provinces of the country, the use of pesticides and fertilizers in these provinces is several times higher than other provinces. Hence, the incidence of gastrointestinal and respiratory cancers in these provinces is several times the average of the country's average. According to the Director of Asia's Biomedical Research and Development (R&D), 34,000 people die every year in Iran, 90 percent of whom are residents of Golestan, Mazandaran, Gilan, and Moghan plain, as 50 percent of the country's pesticides and fertilizers use their fields. Gets However, an annual subsidy of $ 4 million subsidized by the government is paid by the government so that the use of chemical fertilizer in Iran is still several times the global standard [30-31].

The amount of urea is about 5.2 million tons per year, and phosphate is second only to cancer in the areas where the use of pesticides and chemical fertilizers is high. 90% of gastrointestinal cancers are located in areas where 50% of the chemical fertilizers are consumed, Golestan and Mazandaran are among these. Over the last few months, we have gained the first rank in the world of gastric cancer. The process of digestive cancers in the country is increasing, with at least a third of it being due to the use of fertilizers in agriculture [32,33].

Conclusion

It is evident that the average use of fertilizers in the country is lower than in the world average and in many developed or developing countries. Unfortunately, in some agricultural products and agricultural administrations there is a bad problem with fertilizers, which means that in some products, because of the profitability of fertilizers, it is used more and more, and the use of fertilizers in some crops is avoided. Therefore, the management of optimum fertilizer use through education and promotion can play an effective role in reducing the factors associated with over-consumption in some agricultural products. The academic community should, with the implementation of various programs and the production of knowledge and awareness, minimize the possibility of the production of healthy products and reduce such problems.

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