

Identifying and Introducing the Soils of Faryab Province

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ABSTRACT

Soil is a natural body that is located on the surface of the earth and contains various mixtures of decomposed stone materials, minerals and decayed organic materials, which provides the right amount of water, air and minerals to plants. In short, it can be said that soil directly and indirectly plays an important role in improving the living conditions of living organisms. From the point of view of a farmer, soil is the place where plants grow, which is used by humans. According to an engineer, soil is a natural phenomenon on which all buildings are built.

The purpose of conducting this research (identifying and introducing the soils of Faryab Province and determining the pH and its nature) was to inform the farmers about the soils of Faryab Province, and the nature of the soils of this province was introduced to them, and also the proper use of the soils.

The research is citation and descriptive type; Then it was analyzed in the laboratory, and as a result of the laboratory analysis and interviews, it was found that the soils of Faryab Province are among the loamy soils and its nature is sandy loam, which is suitable for growing fertile plants.

Keywords- soil, pH of soil, Faryab province, identification of soil, type of soil.

I. INTRODUCTION

Since ancient times, the science of agriculture has been one of the most basic and important parts of natural sciences, which is considered one of the most important fields of science for now. As agriculture forms the foundation of a country, and soil is one of the most important parts of agriculture, human life is largely related to soil. And the importance of soil is how humans use it. Plants that grow in the soil, even though the basic necessities (food, clothing) are obtained from it, and at the same time, they also raise the building materials and other necessities of humans, the buildings of humans have a direct and indirect relationship with the soil, and their lives depend on the soil. so it is necessary for us that we have enough information about soil and its importance in agriculture so that we can use it correctly and maximally in agriculture and meet all our needs (3:45-46). With the increase in population and also due to the unlimited demands of humans and the increase in

residential areas, the soil is being polluted, and not observing the necessary conditions to preserve the soil and the yield of the soil, its indiscriminate use has caused many problems.

These problems did not stay away from Afghanistan and many developments have taken place. Also, the recent insecurity, the travel of the village people and the destruction of pastures as agricultural lands have taken place in Faryab province. that in the current situation, there is no reliable information about identifying and introducing the soils of Faryab province and determining the pH and its nature available to farmers and specialists. And ten points of Maimana city were sampled and the results were determined after laboratory research and interviews.

II. PRESENTING THE PROBLEM

Regarding the issue of identifying and introducing the soils of Faryab province and determining the pH and

its nature, no important and valuable scientific work has been made available to the noble people of Faryab province until now; Also, there is no research work of this kind in the library of the Agriculture Department. There is a lack of effective scientific and research materials on all the characteristics of the soil of this province, including the problems that have caused the issue of identifying and introducing the soils of Faryab province and determining the pH and its nature for Let's choose a research and also by explaining and describing the issue, the existing ambiguity around the issue will be completely removed.

III. RESEARCH PURPOSES

The purpose of research is a regular and original search to discover the truth, so the purpose of every research is to discover the truth about a specific issue. This research, which examines the identification and introduction of the soils of Faryab province, its basic purpose is the proper use of the soils of this province, which includes the following goals:

The main goals

- Identifying and introducing the soils of Faryab Province;
- Investigating the determination of pH and the nature of soils in Faryab Province;

Sub-goals

- Farmers' awareness of the soils of Faryab Province;
- The right way to use this soil

IV. THE IMPORTANCE OF RESEARCH

Research causes innovation and new development in a society. This research is about identifying and introducing the soils of Faryab province. Faryab is one of the provinces in the north-west, which has a moderate climate and mild weather in the spring with heavy rains and hot summers with a moderate temperature of thirty-six degrees Celsius.

According to the above material, it can be concluded that the importance and necessity of the current research can be examined and identified from two important dimensions:

The first dimension: the scientific dimension that can provide a scientific, accurate, and analytical look at the science of soil science and the introduction of the soils of Faryab province.

The second dimension: in fact, the practical dimension that the use of a scientific approach in identifying the methods of investigating and identifying the soils of Faryab Province and determining the pH and its nature will help the farmers and take an effective and efficient step towards the cultivation of agricultural products. The pH of the soil and the nature of the soil are very important for the plant harmony and if the farmers do not know about the soil of Faryab province, it will have negative effects, which will cause stunted growth of the plants and even cause the loss of the plant.

V. REVIEW OF PAST WORKS

Soil science, like other sciences, is changing and progressing, it has evolved significantly throughout history, with the discovery of new information, new ideas have replaced the old ideas.

Nearly four thousand years ago, a Chinese engineer named Yu classified soil according to color. Aristotle and Theophrates wrote their opinion three thousand years before Christ, flattening the green plants and mixing them with the soil like an animal paddle makes the soil stronger. The same type of Cleomela and Pliny wrote the ideas of Aristotle and Theophrates almost half a century after Christ. they had.

According to Najibullah Atai speeches , the general director of the Agricultural Research Institute, soil forms the basis of Afghanistan's agriculture, which provides us with food, fiber and fuel. Soil is the basis of the food production system, the origin of countless living organisms, the water purification system, and a natural storage for carbon and water.

Department of Soil Science Research, Agricultural Research Institute, in cooperation with Food and Agriculture Organization of the United Nations (FAO), conducted soil survey and electronic soil mapping in nine provinces including Kabul, Herat, Nangarhar, Bamyan, Khost, Kandahar, Balkh, Nimroz and Takhar in twenty-five The district has done. Based on the predetermined goal, a sample (Piloted) contains more than two million hectares of land, for the first time, the soil map of the center and provinces of Afghanistan based on a real survey has replaced the previous soil maps, which are based on the map of The world was completely destroyed and it is completely new and up-to-date.

In 1629, Van Helmont proposed the theory that plants are fed only through water. Also, in 1886, the Russian scientist Dokuchiev defined soil as follows: soil is an evolutionary body that is formed by the effect of the primary or main materials of soil (6: 111-112).

The farmers of Afghanistan were familiar with the soil since ancient times, all the farmers first prepare the suitable soil for the production of agricultural products and then plant the plants. Also, according to the research of the Agricultural Research Institute that has been conducted in relation to the average low rainfall in Afghanistan from It was a young soil and it is mostly young.

VI. RESEARCH QUESTIONS

Main questions

- 1- What types of soils are the soils of Faryab Province?
- 2- The soil of Faryab province is suitable for growing which plants?

Sub questions

- 1- What is pH?
- 2- What is the pH of the soils of Faryab Province?

VII. RESEARCH MATERIALS AND METHODS

Research type

In this research, the citation method and descriptive type have been used, and the studies on the subject were first collected in a library through books, magazines, and scientific articles, and then conducted in the field through laboratory research and interviews, and the results were discussed.

Sampling method and sample size

10 samples from 10 districts of Maimana city, and 28 soil samples from 14 districts of Faryab province, two samples from each district at depths of 20 cm, 30 cm and 50 cm in order to determine the pH and nature of the soil. was collected and laboratory activities were carried out in the laboratory to determine the pH and its nature.

The nature of the soils of Faryab province

According to the research conducted on the soils of four dozen districts and the city of Maimane, I came to the conclusion that most of the soils of this province are sandy loam and pH of Qalawi, it is suggested to the farmers and specialists that due to the growth of the agricultural products of plants that They are friendly and should be cultivated in these soils so

that more products are produced and it is of great importance to the economic growth of this province.

Agreement of plants in the soils of Faryab province

Faryab province is one of the agricultural and livestock provinces in the north with its vast areas and pastures. Approximately seventy percent of the residents of this province are engaged in agriculture and sell their extra produce to the market. According to the research conducted by the Agricultural Institute and the Food and Food Organization on the soils of this province, most of the soils of this province are Qalawi, and the variety of plants in the province grows more. And the city of Maimana has a great reputation, according to the soils that have been researched, it is the best soil for the growth and development of grapes.

Melon, fig, Behi, Char Maghz of Almar, Pashtankot, Gurzivan districts are also famous nationally and internationally.

Cereals such as wheat, barley, jowar, millet, tili plants, legumes are generally the main plants of the four districts of Andkhoi.

Laboratory and field research results

Laboratory results and determination of soil pH of fourteen districts and Maimana city, which were sampled from different depths and areas in the form of clay and blue samples, and later determined in the laboratory.

NO	Found Nature	Ph. Lalmi	Nature	Blue Ph	Areas (Maimana City)
1	Qalawi	0	Lumi-Kuli	7.2	Agriculture farm
2	Qalawi sandi	7.7	Sandi	7.5	First Area
3	Qalawi Kuli	7.9	Kuli	7.6	5 th Area
4	Qalawi sandi	7.8	Sandi	7.4	10 th Area
5	Khunsa Sandi	7.2	Sandi	7.2	7 th Area
6	Qalawi Lumi	7.8	Lumi	7.3	Second Area

Fourteen districts

NO	Found nature	pH. Lalmi	Nature	Blue pH	District
1	Khunsa Lumi- Kuli	7	Sandi	7.9	Pashtonkot
2	Qalawi Sandi	7.7	Kuli	7.8	Khowaja Sabz Posh
3	Qalawi Kuli	7.7	Sandi	7.3	Shirin Tagab
4	Khunsa Sandi	7.1	Sandi	7.6	Dawlat Aabad
5	Qalawi Sandi	7.6	Lumi	7.9	Andkhoi
6	Qalawi Kuli	7.5	Lumi Kuli	7.7	Qurghan
7	Qalawi Sandi	7.4	Sandi	7.4	Khan Char Bagh
8	Khunsa Sandi	7	Kuli	7.6	Qurmqul
9	Khunsa Lumi	7.2	Sandi	7.7	Gurzivan
10	Qalawi Sandi	7.6	Sandi	7.7	Belchiragh
11	Qalawi Kuli	7.7	Sandi	7.8	Kohistan
12	Qalawi Sandi	7.5	Kuli	7.6	Almar
13	Qalawi Sandi	7.9	Sandi	7.8	Qaisar
14	Qalawi Lumi	7.5	Sandi	7.9	Ghormaach

Findings Results

Faryab province is one of the northwestern provinces of Afghanistan, which has large agricultural areas that are conducive to the cultivation of agricultural plants. According to the research of the Agricultural Institute, Faryab province is mostly sandy and sandy. This province has fourteen units and each unit is different in terms of climate. In this province, the average amount of annual rainfall is about 350-550 millimeters. In this province, the farmers grow most of the wheat in irrigated lands. And Lalami is cultivated and it is considered a first-class product, according to the reports and researches of the Organization (FAO) conducted in the city of Maimana, most of the farmers are engaged in cultivating gardens and producing vegetables. the four districts of Andakhoi, Qarm Qol, Khan Charbagh and Qarghan, most of the land is cultivated in the form of lalami. In the absence of water, most of them cultivate wheat, and also medical and medicinal plants such as cumin, sprinkling, Sherin Boyeh, Heng, Mint, in their own form. You see, in Daulat Abad district, due to the salinity of the land, most annual crops such as pumpkins, watermelons, melons, and medicinal plants such as cow's tongue chicory, mountain violets, and chamomile flowers are grown in their own way.

The land in Garzivan district is mostly water, mostly wheat, potatoes and fruit orchards are cultivated, in Belcheragh district, saffron and garden products are generally cultivated, in Shirin Tagab and Juma Bazar districts, mostly grape vines, vegetables such as Roman eggplant, pepper, garlic, onions are grown, in Qaisar districts, due to the large land areas, most of the lands are in the form of water, and most of the vineyards and peaches are grown, and in Elmar district, due to the lack of water, most of the crops are grown. It is possible, in Kohistan district, most of the land is in the form of flats, generally wheat and legumes are cultivated.

In Pashtonkot district, most garden products, plantain, vegetables, fodder are grown. In Ghormach district, due to the vastness of the land and the availability of water, more fruits, vegetables, legumes, and grains are grown.

This scientific and research article, which is titled (Identification and Introduction of the Soils of Faryab Province), was completed using new and reliable scientific and specialized sources and references with the cooperation and guidance of honorable professors, who fortunately presented the following points as scientific findings.

First: The soils of Faryab Province, including young soils and pH of Qalvi, are sandy loam in nature, which is suitable for the growth and development of most plants.

Second: In Faryab province, the average annual rainfall is lower, therefore, potassium elements are mostly high in these soils.

Also, the research that was conducted on the soils of Maimaneh city and fourteen districts showed that the pH of most of the irrigated and irrigated lands is low (7.8) and its nature is sandy loam, which is suitable for most plants such as grains, vegetables, and fruit gardens.

VIII. CONCLUSION

Grains and vegetables mostly grow and develop slowly in clay soils, in brackish soils, which are more acidic, less plants grow and develop in these soils, these soils are mostly harmful for plants. Most fruits and legumes grow in neutral soils. Because the soils of Faryab province are among the young soils with alkaline pH and sandy loam nature, it is considered suitable for growing grains and other plants.

OFFERS

- 1- According to the research that has been done, most of the soils of this villa are alkaline, so plants that grow well in alkaline pH should be cultivated more in the province.
- 2- This research should be explained and its benefits made clear through holding seminars and workshops for farmers.
- 3- In the next part of the research, the government should provide financial assistance so that the research can be done in the right way.

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