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Improvement and Exploration of Experimental Methods for Soil Aggregation Analysis

Longfei Xia[1,2,3,4,5], Jing Wei[1,2,3,4,5]

[1] Institute of Land Engineering and Technology, Shaanxi Provincial Land Engineering Construction Group Co., Ltd., Xi'an 710075, China

[2] Shaanxi Provincial Land Engineering Construction Group Co., Ltd., Xi'an 710075, China

[3] Key Laboratory of Degraded and Unused Land Consolidation Engineering, Ministry of Natural Resources, Xi'an 710075, China

[4] Shaanxi Provincial Land Consolidation Engineering Technology Research Center, Xi'an 710075, China

[5] Land Engineering Quality Testing of Shaanxi Land Engineering Construction Group Co., Ltd., Xi'an 710075, China

Abstract

In order to improve the teaching efficiency and deepen the students'understanding of the experimental content, the teacher should strengthen the improvement of the experimental method and enhance the enthusiasm of the students to master the basic experimental skills. At present, the improvement of soil agrochemical analysis has been paid close attention to the relevant educators, more and more researchers began to put into the relevant research, this paper mainly for soil material analysis methods and the experimental improvement measures to explore the two aspects, Hope for China's related scientific research work to provide some help.

Keywords

Soil; Agrochemical Analysis; Experimental Method.

1. Introduction

By exploring a large number of experimental methods for soil agrochemical analysis, it is possible to clearly.

In order to enhance students' understanding of the experimental content, teachers need to improve the experimental procedures and steps to effectively ensure that the experiments are carried out in a timely manner.

In order to enhance students' understanding of the experimental content, teachers need to improve the experimental process and steps to effectively ensure the accuracy of the experimental results.

In order to strengthen students' understanding of the experimental content, teachers need to improve the experimental procedures and steps to ensure the accuracy of the experimental results. Through the experimental operation can deepen the students' understanding of theoretical knowledge, improve the operation level and hands-on ability.

The experimental operation can deepen the students' understanding of theoretical knowledge, improve the operation level and hands-on ability, and also enhance the cooperation between the team.

Since the 21st century, some colleges and universities have taken soil agrochemical analysis as an independent professional course for teaching.

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Since the 21st century, some colleges and universities have made soil agrochemical analysis as an independent professional course for teaching, but it inevitably has some deficiencies, which greatly reduces the teaching quality and efficiency.

The quality and efficiency of teaching is greatly reduced, therefore, relevant educators need to take necessary measures against the shortcomings of this experiment.

Therefore, relevant educators need to take necessary measures to improve the deficiencies of this experiment.

2. Precautions for Experimental Operation

2.1. Strengthen the Experimental Pre-study

Before all experiments are conducted, the relevant personnel need to have a comprehensive grasp of the basic principles of the experiment, the specific steps and so on. In general, experimental operators need to study in advance for the experiment, and write a relevant report, so as to have a systematic grasp of the specific steps of the experiment, rather than according to the information required for mechanical operation. In addition, the preview of the experiment can make the operator understand the difficulties and problems of each experimental step and pay more attention to them in the actual operation process, and at the same time solve the problems found in the preview to improve the efficiency of the experiment.

2.2. Use of Emerging Technologies

With the rapid improvement of China's scientific and technological level, strengthening the application of emerging technologies in experimental programs can effectively simplify the experimental steps and improve the accuracy of the experimental results, for example, through infrared spectroscopy, researchers can accurately understand the composition and content of the elements in the samples, and efficiently and accurately achieve the experimental purpose. Compared with traditional experimental methods, the application of new technologies can reduce the use of chemical substances, reduce costs and achieve the purpose of environmental protection. In addition, the application of new technologies can also improve the intelligence and automation of the operation process, reduce the workload of researchers, and create benefits for experimenters.

2.3. Emphasize the Experimental Process

In the operation of experimental programs, most researchers pay too much attention to the results of experiments, but neglect the normality and standardization of the experimental process. In the process of experiments, experimental operators need to check the equipped instruments and equipment, and through early debugging and inspection, they can find out the existing problems and hidden dangers, and ensure the effectiveness of the use of instruments and equipment. In addition, the laboratory operators should carefully clean the internal environment and equipment to maximize the elimination of all kinds of impurities, so as to avoid impurities mixed into the samples. In the laboratory analysis, the laboratory operators should make preparations according to the possible situations to ensure the safety and effectiveness of laboratory analysis. The test and analysis results of each group of samples and important process information should be backed up to ensure the accuracy of the test and analysis results of the samples and the evaluation of soil environmental quality, and the secondary analysis can be carried out by professional personnel to find out the problems and deficiencies in the laboratory analysis process in time and carry out early scientific treatment. The laboratory report can well reflect the researchers' understanding and summarization of the experiment, and the accumulation of good experimental methods and the development of good operating habits can lay a solid foundation for the smooth development of the researchers' future scientific research work. Therefore, it requires the researchers to take the initiative to

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think, discover problems and solve problems in the process of the experiment, which not only can effectively bring into full play the autonomy and motivation of researchers, but also can make their thinking get a great deal of autonomy and motivation. This can not only effectively utilize the autonomy and enthusiasm of researchers, but also enhance their thinking to a great extent.

3. Improvements in Experimental Methods for Soil Agrochemical Analysis

3.1. Measurement of Soil Organic Matter

The degree of soil fertility and its organic matter content has a very close connection, therefore, strengthen the improvement of organic matter measurement methods for the development of China's agriculture plays a very important role, efficient and accurate measurement of land element content can provide a certain basis for the formulation of fertilizer programs to ensure the healthy growth of plants, and to lay a certain foundation for the development of China's agricultural economy. At present, China's measurement of soil organic matter is generally the use of excess concentrated sulfuric acid under the action of oxidizing agents, the use of ferrous sulfate solution for titration, because the experiment needs to be carried out in a specific temperature range, so the control of temperature is a major difficulty in the experiment, and the cleaning of the experiment is also more difficult, so in the improvement of the experiment, often the use of boiling water heating instead of the traditional oil bath heating, use of the decoction oven can make the heating more uniform and the steps are simpler.

3.2. Measurement of Soil Boron

At present, our country for the measurement of boron element generally use curcumin method, which is mainly due to curcumin for boron sensitivity is far greater than other chemicals, but it also has certain shortcomings, the operation of this method is more cumbersome, and low efficiency, high requirements, the experiment should be carried out in anhydrous environments, and in the experimental process, temperature, humidity, and time and other conditions need to be controlled within certain range, otherwise it will have a greater impact on the experimental results, therefore, in recent years, China has begun to devote to the improvement of boron determination methods, in the modern experimental methods, generally use the methylimine colorimetric method, which is mainly used in the determination of boron using methylimine - boric acid complexes, the method of the procedure is simple, easy to operate, and high efficiency, therefore, the method has been widely used in soil agrochemical analysis of the relevant experiments, and achieved good results. Therefore, this method has been widely used in the experiments related to soil agrochemical analysis and achieved good results.

3.3. Determination of Calcium and Magnesium in Soil

In general, the soil contains a certain amount of calcium ions and magnesium ions, calcium, magnesium ion content will be to a large extent on the degree of soil fertility, therefore, the relevant agricultural staff need to carry out certain measurements of calcium and magnesium content in the soil, so as to develop a more targeted and scientific fertilization program. At present, China's commonly used measurement method is generally centrifugal leaching spectroscopy, which needs to be repeated through 3 to 5 times to get accurate experimental results, therefore, the procedure of this method is more complex, and time-consuming, low efficiency, in this method, the number of samples measured is relatively small, while the consumption of measuring material is more, which makes the experimental cost greatly increased, therefore, the relevant researchers need to the experimental method to be improved. experimental method to make certain improvements. The use of EDTA for experiments can effectively simplify the experimental steps, save the experimental time and reduce the cost, therefore, this method has been vigorously promoted and applied.

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4. Conclusion

In conclusion, the improvement of the experimental methods for soil agrochemical analysis enables researchers to master more skills and methods, and at the same time simplifies the experimental steps, improves the experimental efficiency, reduces the experimental costs, and provides a great convenience for scientific research and makes the experimental results more accurate. Therefore, in any field or experiment, researchers should strengthen independent thinking and analysis of experimental methods, and constantly realize experimental methods. Therefore, in any field and any experiment, researchers should strengthen independent thinking and analysis of experimental methods, constantly realize the perfection and improvement of experimental methods, and contribute to the progress of scientific research.

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