Macro e micronutrientes do solo pdf

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N is present in the atmosphere in the form of N2 is one of the most common elements on Earth. However, in the event of plant uptake, the element must be corrected. Fixing N can be done in an industrial manner, through the Haber-Bosch process, where mineral fertilizers are sold by industry are manufactured. In addition, N can also be corrected naturally by several organisms, through so-called biological fixation N. Several factors, such as the time of application, the amount of fertilizers and interaction with other methods of soil management and crops, directly interfere with the effectiveness of nutrient use by plants. Phosphorus, a little mobile element of phosphorus (P) in the soil is also secreted as one of the most important nutrients for cereals. Its addition to the field by fertilization has been the goal of several studies, since the nutrient is small mobile in the soil. One of the main problems faced in plant nutrition in relation to P is its fixation in the soil. When an element is adsorbed on the surface of clay, it becomes an inaccessible form for plants, which is often determined when analyzing soil fertility, which leads to overestimation of its contents. For this reason, although P is required in a small number of plants, it is one of the elements most used in crops. How can a vegetable diet help you? Knowledge of plant nutrition, soil fertility and organic matter management is fundamental to the use and use of management and fertilization techniques to achieve as much efficiency as possible. With the world's population, the need for food production is growing. Since deforestation for conversion into agriculture is a major environmental problem in Brazil, productivity has been seen as the most appropriate solution. Good knowledge of soil science in general allows an agricultural specialist not only to provide a large yield, but also to conduct sustainable agriculture. Do you know the more important aspects of plant nutrition for agriculture? Share your experience with us. Soil macros and trace elements are required by plants in larger and smaller quantities, which are fundamental to their growth and development. Fertilization through flora and soil is a process in which nutrients are used to provide some nutrient deficiency in any part of plant tissue, are elements that have a positive effect, their deficiency can lead to significant losses in yields of final crop productivity. Thinking about this, Nutriceler has developed the Comboceler line and maxif's high-tech fertiliser line, which provide micronutrients and micros quelatados with amino acids, rapid plant absorption fertilizers and translocation, transporting to the point of demand a plant that supplies any deficit and reflects good performance. Kata and fertilization provide plants with the nutrients they need to develop fully. Soil is a harmonic set that includes air, water, minerals, organic matter and living creatures that, despite some variables, will provide an environment for plant growth because of its ability to provide air, water and nutrients to its roots. The purpose of dredging and soil fertilization is to provide plants with the environment and nutrients necessary for their full development. For this to happen effectively, you need to know a few steps. First, it's soil analysis. In the possession of the results, acidity must be corrected by dredging or gestures and only then the use of fertilizers is made depending on the need of each of them or the grouping. The nutrients needed by plants are classified into two groups: macronutrients and trace elements. Macros are those consumed in large quantities, being nitrogen, phosphorus, potassium, calcium, magnesium and sulfur. Required in smaller quantities, but also necessary, are micro, zinc, boron, iron, copper, manganese, chlorine and molybdenum, mainly. According to the professor, Eduardo Elias Silva dos Santos, in the training course of the gardener, developed by the PPC - Center for Technical Productions , these nutrients are directly related to the presence of water in the soil because fertilizers dissolve in it to be absorbed by the roots. This means that the effectiveness of fertilization largely depends on irrigation. There are several types of fertilizer. They can be chemical or organic. Chemical fertilizers are mineral origin and are represented in the form of salts. Organics contribute to much less and slow release of nutrients, contributing to the evolution of soil structure. Most commonly used in gardening is paddock and chicken manure, which are low in prices and have good efficiency, says a teacher, consultant and specialist in horticulture and landscaping. K: Ariadine Morgan LEGAL NOTICE This content can be published freely, in full or in part, in any media, electronic or print, provided that it contains a link referring to www.cpt.com.br. Your comment has been successfully submitted! Please be aware that the answer will be published as soon as possible as soon as you are moderated. Thank you for your participation. © Depositphotos.com/ooGleb Few people know that nutrients are divided into two groups: trace elements and macronutrients. Nutrients are essential for nutrition and the body's location, as they help living beings perform their basic functions. To do this, they act directly on the functioning of metabolism through food. Nutrients are divided between trace elements and macronutrients, and organisms require a certain amount of each group. In addition to humans and animals, plants also need nutrients that are absorbed from the soil - usually enriched naturally or artificially. The main macronutrients for the body, macronutrients are proteins, carbohydrates and lipids. Carbohydrates are the key to energying cells, while proteins build muscle tissues and lipids provide energy and form biological membranes. See some foods that contain macronutrients: Carbohydrates: fruits, bread, pasta and tubers like potatoes; Proteins: eggs, meat, milk, derivatives, legumes, olives; Lipids: vegetable oils, oil seeds and avocados; The body of living beings needs a lot of macronutrients. If you have a diet with the food above, the person will have what they need from this group. On the other hand, the plant needs elements provided by two subgroups of soil macronutrients: the main (nitrogen, phosphorus and potassium) and secondary (calcium, sulfur and magnesium). Micronutrients are vitamins and minerals responsible for many of the body's reactions. There is a huge variety of vitamins such as vitamins A, C, D, E, K and B-complex, while the most calcium, phosphorus, potassium, iron and zinc. A person should consume micronutrients daily so that so to have a diet considered balanced. The diet is considered healthy should be rich in cereals, vegetables, vegetables, legumes and assorted meat. But consumption must be balanced to avoid excess micronutrients. See the function of each element of trace elements in the human body: Calcium: works in the formation of bones and teeth; Copper: boosts immunity by helping to form red blood cells; Iron: oxygen is transported; Phosphorus: produces energy; Magnesium: it is found in the muscles, bones and blood clotting, improving the immune system; Potassium: acts on cells; Sodium: Acts on metabolism; zinc: acts by forming bones and muscles. Contact Fragmaq Do you want to know our equipment and services or share any tips on sustainable development? Fill out the form and submit your request. Our team is on hand to hear from you. According to Adelaideo Santos the success of agriculture is the result of the sum of several factors in which proper plant nutrition takes a fundamental role. The assurance that the fields of cultivation receive adequate levels of nutrients needed for plants, combined with good agronomic practice, is a guarantee that the crop will work well with high productivity. The main elements of plant nutrition are the main macronutrients: nitrogen (N), phosphorus (P) and potassium (K), secondary macronutrients: Sera (S), Calcium (Ca) and Magnesium (Mg), micronutrients: Bor (B), Chlorine (Cl), Copper (Cu), Iron (Fe), Marganets (Mn), Molybdenum (Mn) (Mn) All of them perform the most important functions for the development of plants and the scarcity of only one of them can disrupt the normal development of crops and, as a result, their production. Having basic knowledge of secondary macronutrients (e.g. their importance, the symptoms caused by their deficiency, their soil behaviour and their available sources) combined with knowledge of adequate nutrient levels and the needs of each crop can help in targeting fertilization more appropriate for each reality, with better benefit to the farmer. The first element to be addressed is sulfur, which is important because it involves the production of proteins that help plant growth, resistance to cold, attacking pathogens, growing vigorous roots and seed formation. Its deficiency mainly causes chlorosis in younger leaves, the formation of smaller leaves, winding its edges, reducing flowering and boiling in legumes. Of Sulphur is available in soils, only the anionic form of SO42 is absorbed by plants, and this makes up only 5% of the total amount of sulfur found in the soil. It is because of the negative load that it is not attracted to the surface of soil clay and organic matter, except for certain acidic conditions. It stays in the soil solution and moves with the water contained in it and thus can be easily leached. Some soils accumulate sulfur in the bowels where there is more positive loads, making nutrients available to crops with a deeper root system. Due to the high mobility of the soil and factors such as: mineralization of organic matter, soil erosion, intense precipitation and soil pH, sulfur has become a nutrient that limits yields. The use of sulfur depends on the need for plants and the presence of an element in the soil. Recommendations range from 10 to 30 kg S per hectare, and can reach 50 kg of ga-1 in some crops. The main sources of sulphur are: elementary sulfur, calcium sulfate (gypsum or phosphogy-16% S), simple superphosphate (10-12% S), ammonium sulfate (22-24% S), potassium sulfate and magnesium (22-23 % potassium sulfate (15-17% S), magnesium sulfate (12 14% S), ammonium sulphonytrato (13 15% S) and partially acidified phosphates (0-6% S). Calcium is an extremely important nutrient in plant nutrition, as it is responsible for plant stiffness, in addition to being associated with the development and functioning of roots, leaf formation and translocation and storage of carbohydrates and proteins. Since it is a structural component of cells, their presence in enzymatic activity or flow through the flam is virtually non-existent, and little of it is redistributed in the plant. As a result, its symptoms of deficiency appear in organs and younger parts such as apic yolk, chlorosis and internecine necrosis in the younger leaves. Due to the low mobility of the soil and plant, the absorption area is summarized only at the ends of the radiccell, which can still be reduced in the presence of other cats (3%, MGs and NH4). The cathinal form (Ca2) is something that is absorbed by plants as well as present in the soil, but its presence may depend on the degree of saturation in the stock exchange complex, its association with other colloidal cations, and is associated with the material of the soil source, textures and organic matter content Limestone and gypsum are the main sources of calcium (limestone - 49% CaO, Magnesian limestone 39% CAO, 39% , plaster 26% Cao), as well as soil air conditioners. In addition to these, there are which contains calcium as a simple superphosphate (18-20% Cao), triple superphosphate (12% Cao), thermophosphate (30% CAO), among others. The need for calcium varies greatly in different types and can alternate from 10 to 200 kg ha-1. Dicotayledon plants tend to be more demanding in calcium than monocotayledons. The last secondary macronutrient to be addressed, not least of the above, is magnesium. It is present as the central atom of the chlorophyll molecule and, in addition to playing a fundamental role in the process of photosynthesis, it participates in processes associated with the synthesis of starch, protein, fats and vitamins. It is also involved in cation-anion balance, in regulating turbidity in plant cells and is still part of the composition of pectin as a structural element of cell walls. The residue of magnesium is very mobile and circulates in the xylem and flame vascular system. Due to the high mobility in the thoma, it is easily transferred from old leaves to places of intense metabolic activity, such as young stems, as well as in the formation of reserve organs such as grains, fruits, etc. Its presence in the soil depends on its texture and the content of organic substances, which are responsible for the ability to sway in the soil. Soils with a high clay content have a higher absorbent capacity than sandy soils, but their release of the exchange complex tends to yield to the need for crops, requiring additional sources of magnesium to meet the needs required by plants. Such sources can be found mainly in sulfates, carbonates, oxides, chlorides and nitrates. They vary depending on the nutrient content and solubility that controls the availability of nutrients for plants. These two factors determine the use of different sources of magnesium in agricultural systems. Carbonates and oxides are forms that are low-soluble in water and must react with acids to release magnesium, while the sulfate forms are very soluble. The sulfur, calcium and magnesium discussed in this matter are part of a series of nutrients needed for plants to develop with their maximum potential, their equilibrium relationships combined with their dynamics in the soil represent the fertility of the soil. Aware of this information added to the knowledge of the available sources of nutrients and the nutritional needs of each crop, the farmer is sure to achieve high productivity with maximum economic yield. 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