



Field: Agriproduction

ALTERNATIVES TO MINERAL FERTILISATION: ORGANICS AND BIO FERTILISERS



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Test

1. In Integrated Production/Farming:
 - a) Is not allowed the use of mineral fertilisers;
 - b) Enhance chemical fertilisation;
 - c) **Should develop a fertilisation program.**

2. Principles of Conservation Agriculture are:
 - a) **Minimal soil disturbance and permanent soil cover and crop rotations;**
 - b) Permanent soil cover and use of organic fertiliser;
 - c) a and b are false.

3. The essentials elements for plants development are classified in?
 - a) Micronutrients;
 - b) Macronutrients and traza;
 - c) **Micronutrients and macronutrients.**

4. Where are taken up the nutrients to supply the plants and crops needs?
 - a) The air;
 - b) **The soil, water, air;**
 - c) The wind.

5. About nutrients:
 - a) **Yield is limited by the nutrients which are in short supply;**
 - b) Limiting nutrients use to be nitrogen, phosphorus, calcium and boron;
 - c) a and b are true.

6. What is the factor which determine an equilibrium between inputs and outputs of nutrients in agricultural systems?
 - a) **Nutrients balance;**
 - b) Soil fertility;
 - c) organic fertilisation.

7. The chemical characteristics of a mineral fertiliser are defined by:
 - a) The manufacturing process;
 - b) The concentration and chemical form of the nutrient;
 - c) The origin of the feedstock.

8. About mineral fertilisers:
 - a) Inorganic compound primary nutrients always are composed by three elemental nutrients;
 - b) Ammonium sulphate is an inorganic straight primary fertiliser;
 - c) Inorganic secondary nutrients support to soil enough amount of born, copper, manganese...

9. Organic fertilisers:
 - a) Are manufactured from vegetable and animal debris;
 - b) Are classified depending on the primary nutrient content and the origin of organic feedstock;
 - c) a and b are true.

10. Organic-mineral fertilisers:
 - a) Obtained by a mixture of inorganic and organic fertilisers and sometimes with peat, lignite or leonardite and always manufactured prior the application;
 - b) Improve the amount of organic matter and nutrients in soil;
 - c) Are grouped on nitrogen fertilisers, phosphorous fertilisers, ternary fertilisers and binary fertilisers.

11. Green manure crops:
 - a) They are cultivated plants incorporated into the crop usually among orchards lines or between two mainstream crops;
 - b) Its main function is to provide a complementary nutrition during crop rotations;
 - c) a and b are true.

12. Environmental impacts to nitrate leaching, eutrophication, greenhouse gas emissions is associated to:
- a) Pollution Control;
 - b) Mineral fertilisation;
 - c) Bio-fertilisation.
13. Bio-fertilisers:
- a) Are made from composted organic matter;
 - b) Are made from one or more live microorganism;
 - c) Are a mixture of mineral compounds, microorganism and vegetable debris.
14. What kind of fertilisers improve the ability of plants to assimilate nutrients from microorganisms?
- a) Biofertilisers;
 - b) Mineral-organic;
 - c) Inorganics.
15. Basic principles of soil management for sustainable agricultural systems are:
- a) Replenish nutrients removed, build-up of weeds, pest and diseases, no increase soil acidity and toxic elements and control soil erosion;
 - b) Replenish nutrients removed, maintaining physical conditions, no build-up of weeds, pest and diseases, not increase soil acidity and toxic elements and control soil erosion;
 - c) Replenish nutrients removed, maintaining physical conditions, not increase soil acidity and toxic elements and control soil erosion.
16. About fertilisers choose the right option :
- a) The releasing of nutrients in organic fertilisers is quicker than chemical fertilisers;
 - b) The rate of application of organic fertilisers is very exact;

c) Organic fertiliser presents lower risk of toxic build ups chemicals and salts than chemical fertiliser.

17. About fertilisers choose the FALSE option :

a) Organic fertilisers are easily leachable;

b) Chemical or mineral fertilisers neither improve soil structure nor promote life or soil health;

c) For organic fertilisers the best realising of nutrients happen in warm and moisture soils.

18. On bio-fertilisers:

a) The N-fixation process depends on specialized microorganisms as rhizobium and the relationship between these microorganisms and plants are known as mycorrhiza.;

b) On mycorrhization the plant donates C to the mycorrhizae in exchange for a greater ability to use native soil resources;

c) a and b are true.

19. Which practices can be used for sustainable managements (long term) in agricultural systems related to fertilisation?

a) Using organic fertilisers and bio-fertilisers instead mineral;

b) crop rotation;

c) a and b are true.

20. why is important to analyse crop soils, plants and water in good management of fertilisers?

a) To know physical, chemical and biological properties to supply;

b) It is not important;

c) To know the main elements composition.

Note: the correct answer are in red.