

PUMICE (Bims) STONE IN AGRICULTURE



Physical features is part quality of environment. Breathing and water absorption capacity is most important feature in plant breeding environment. Plant roots need to have air for respiration. Air is basic needs on metabolic procedures of alive organism. Insufficient oxygen and breathing make plant roots fainted especially to plants, become slow growing, to sensitize against cold and diseases. At the same time, root cells and microorganism needs to have fresh air to pass over carbon dioxide by diffusion from roots to out of surface of soil during respirations. Absorption water in environment ought to plant growing and physiological procedures. Therefore it is more important that water must be everlasting and sufficient.

Water absorption and respirations are basically main function of porosity. Porosity has big and small spaces. Big spaces are more important for drainage and small spaces are more important for water absorption. If Air spaces in soil would be decrease from %10 then plant growing become very slowly. Respiration porosity must be at least %20-25. This result can increase in hothouses to % 45 cause of plant roots need to have more oxygen and to churn out carbon dioxide. When respiration would increase then water absorption will decrease. But while plant growing you must prefer to more irrigate against bad respirations.

Environment physical features can be change therefore it is not stability conditions. Environment physical features as density mass volume and porosity can appear most important things by reason of that granules dimension size distribution in soil. It is another factor effective to those features which are tighten. Tightening can affect to increase density volume mass and affect to decrease big spaces distribution. This means that it must choose to acceptable granule dimension size in environment and furthermore it is very important thing which materials must be stable against changes by occurred to tightening in the course of time.

Pumice (Bims) is material to more use widely in plant breeding. It is unchangeable form which are chemical and physical features in which case pumice (Bims) can enable to use plenty of times. It is more lightweight than soils so easy process into, easy shipment and it is very easy to use in same places too. There are many pumice reserves plant in Turkey and in many places of world. Pumice (Bims) of world manufactured in 2002 as 13 x 106 meter tones. Turkey are manufacturing roughly 1,5 x 2 x 106 meter tones.

This researches made for Pumice stone (Bims) are located in somewhere in Turkey to explain and show respiration and water absorption capacity how potential to use in agriculture. Therefore;

- All area's Pumice Stones (Bims) reserves of Turkey are more available to use in plant breeding which features are respirations and water absorptions.
- To use thin and same granule size dimensions in soil effect to decrease respirations and increase water absorptions. If Rough materials would be use, then it is effect to increase respirations and decrease water absorption capacity. Anyhow if mixtured materials would be use in soil that it can easy effect to reach equability good results for water absorption and respirations. There are more available to use mixtured materials instead of solid granule dimension size materials.
- It is more important to use mixtured materials in hot houses which can effect to reach well conditions of respiration to plant root there it is prefer to use mixtured material in hot houses.

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