Obviously, the linear dependence of seedling emergence upon penetration number is valid only for the range of 0 to 80. The critical wax penetration number was about 27.5. Therefore, the 27.5 wax penetration number can be used as a first approximation to predict the wax hardness through which plants can penetrate the crust when no gap existed between soil and surface crust. It is quite possible that air and soil temperatures, type of plant, moisture status, depth of planting, fertility, and other growth factors may influence the relationship (Figure 1) between seedling emergence and wax penetration number.

Richards and Loomis (1961) developed a system that worked for low rates of moisture content, but the system required frequent checking of soil moisture. Moisture can be extracted from soil by means of a vacuum system. The system is filled by connecting a vacuum to the short tube at the top of the cylinder (Figure 1) and drawing water from the reservoir. The system is then sealed and the water in the cylinder and in the soil can come to equilibrium. The soil will come to the desired moisture content. A more rapid method of bringing it to equilibrium is to use a porous cylinder arrangement described in the present note. The porous cylinders used have a porosity of 1.4 microns, and surface crusts can be sealed with a sealing compound.

The porous cylinders used have a porosity of 1.4 microns, and surface crusts can be sealed with a sealing compound. The sealing compound should duplicate field growth factors and seal the crust. It eliminates the need for surface watering. It is a liquid that has been used successfully to meet the need for moisture tension control in greenhouse experiments. Many methods for self-irrigating pots have been tried, but due to their limited success few are used. Richards and Loomis (1961) between seedling emergence and wax penetration number.


Bourget, S. J., Finn, B. J., and Nielsen, K. F. Technique to determine water use at very low tensions. A system similar to the one developed a system that worked for low rates of moisture content, but the system required frequent checking of soil moisture. Moisture can be extracted from soil by means of a vacuum system. The system is filled by connecting a vacuum to the short tube at the top of the cylinder (Figure 1) and drawing water from the reservoir. The system is then sealed and the water in the cylinder and in the soil can come to equilibrium. The soil will come to the desired moisture content. A more rapid method of bringing it to equilibrium is to use a porous cylinder arrangement described in the present note. The porous cylinders used have a porosity of 1.4 microns, and surface crusts can be sealed with a sealing compound. The sealing compound should duplicate field growth factors and seal the crust. It eliminates the need for surface watering. It is a liquid that has been used successfully to meet the need for moisture tension control in greenhouse experiments. Many methods for self-irrigating pots have been tried, but due to their limited success few are used. Richards and Loomis (1961) between seedling emergence and wax penetration number.