

EDITORIAL

Soiless cultivation means advance in flower production

MÁRKILLA ZUNETE BECKMANN CAVALCANTE ⁽¹⁾

Floriculture has always been considered a promising business, characterized by having one of the highest rates of remuneration per area produced, being practiced in small areas and by production in relatively short cycles and high added value. By looking at the maintenance or prospects the expansion of this sector, there is a need to be in line with the advances in plant production and to guarantee improvements in the quality of the flowers and ornamental plants cultivated and also attending the increasingly demanding consumers. Historically, flower cultivation, especially cutting, has been carried out directly in the soil, using nutrient solution (water + nutrients) that over the years has caused problems in the soil, such as salinity and may become unproductive. With the advancement of substrate science, cultivation has been adopted in containers filled with this material, which alone is not sufficient to promote quality production and there is a demand for advances in crop improvement and efficiency. Whereas floriculture is an agricultural activity based on the use of natural resources (water, energy, soil, climate), technology and agricultural inputs (fertilizers and agrochemicals), more than 20 years ago, European authorities have looking for possibilities which concerns the use of technologies in plant production allowing crops with minimal negative impact on the environment. This resulted in drastic changes in irrigation systems and fertilization of ornamental plants. In Brazil the protection of the environment related to ornamental plants production has become a political and development discussion only in recent years. There is a need to investments in scientific research and development of new technologies to ensure the sustainable production of floriculture.

Given the above and considering the need for the production of flowers and ornamental plants of high quality, more and more the soilless cultivation becomes a reality for this production that are highly demanding in water and nutrients. These can be defined as systems, where the plants are cultivated outside the “natural” soil, that is, without contact with the soil profile. It is considered a closed system, known as a recirculating solution system (RSS), in which part of the nutrient solution, after draining the surplus, returns to a reservoir allowing its reuse. Two main groups of recirculating systems can be distinguished: those with drain water reuse and those with subirrigation, such as ebb and flow. The advantages of these systems firstly can be derived from the reasons of their introduction: ecology and economy. The economy stems from the efficient use of water and nutrients, however, the requirement of this resources by plants must be satisfied periodically due to the plant growth. The construction and supervision of the technical and computer installations could result in major problems if no intervention is performed quickly; and also the possibility of the spread of diseases due to the use of water and mother plants without quality and substrate contamination-free. Even so, scientific research shows that both systems can be used for ornamental plant cultivation. Based on trends, floriculture may require drastic changes in cultivation practices to make the sector environmentally and economically more viable over time, which implies adaptation of knowledge and skills currently not present, especially for the smallholder producers. Advances in flower and ornamental plants production should be developed to maximize crop yields, but also ensure their sustainability.

⁽¹⁾ Editor of Ornamental Horticulture in the area Plant Science. Professor, Universidade Federal do Vale do São Francisco (UNIVASF), Colegiado de Engenharia Agrônômica, Petrolina-PE, Brazil. markilla.beckmann@univasf.edu.br