

Abstract:

A nursery comparison with four different rose varieties was carried out as a follow-up from a previous comparison with one variety. Some of these four rose varieties reacted in the same way to a parameter related to plant growth, but there were also exceptions. A high relative humidity was correlated with a shorter vase life in 'Bianca', but a longer life in 'Red Berlin' roses. A high light level was positively correlated with vase life, in all varieties. A higher temperature corresponded with a longer vase life in 'First Red' but a shorter vase life in 'Bianca'. A greenhouse experiment in which three varieties were grown at various vapour pressure deficits (VPD) showed that the higher the VPD (the dryer the air) the longer the vase life. The transpiration rate of the cut rose stem during the first day of vase life correlated well (negatively) with the length of vase life. We observed crispy (desiccated) leaves in many of the roses, as the experiment was done during winter. We checked the effects of the osmotic value of the vase solution on the number of desiccated leaves. In deionised water the problem was the least, but here also some leaves became eventually crispy, indicating that the rate of water uptake was unable to compensate for the very high rate of transpiration.