

## Many open issues on diffuse greenhouse coverings

Cultivating under diffuse greenhouse covering has prospects, but many questions are still unanswered. This emerged from the forum session 'Samenwerken aan Vaardigheden', which was organised at the beginning of November by Wageningen UR Greenhouse Horticulture in Bleiswijk. This subject catches the full attention of the horticultural industry.

Gert Jan Swinkels, researcher at Wageningen UR Greenhouse Horticulture, explained to the attendees that in order to make a good comparison of the various glass types, a perpendicular measurement is not sufficient. A hemispheric measurement is required to get a true comparison of the transmissions. He also indicated that there is still no adequate norm for measuring haze. Jan Ruigrok from TNO explained in his presentation the consequences for greenhouse constructions if diffuse glass is selected. A decisive factor for every type of glass is the finishing of the edges. If the edges are uneven or have small scratches, the glass will break faster.

### Added production

Jan Janse, also from Wageningen UR Greenhouse Horticulture, reported on tomato experiments under diffuse light that were undertaken during the past year in Bleiswijk. This study showed that a greenhouse with diffuse coating (Redufuse) had an additional yield of 4% and in a greenhouse with diffuse glass, the additional yield was approximately 8%. Initially, Redufuse in too high a concentration was applied and after three weeks it was replaced by a more diluted layer.

Grower Frank de Koning and Hendrik Jan van Tellingen, researcher from Botany who experimented at the greenhouse of grower Pieter van Gog, talked about their practical experiences. In terms of production, these were positive in the summer and somewhat less in the winter. The climate in the greenhouse was definitely different than in greenhouses with standard glass. It felt much cooler (especially in the morning). During warm days, the greenhouse with diffuse glass was more pleasant. An argument was also made to measure the heat transmission of the glass and to consider this factor in addition to diffusion and transmission.

### Questions

Many questions came up during the forum discussion. An important factor for growers is to see whether the extra investments (glass, protective cover or coating) are justifiable. This leaves suppliers and research institutes with yet many challenges, such as the question of what effect diffuse light has on various crops in the vegetable and ornamental sector