



1. Intact rose flowers with and without pink pigmentation
2. Detached petals with and without pink pigmentation
3. Tissue pieces with and without pink pigmentation. The tissue pieces were placed in culture media in order to grow any biological organisms arising from the pigmented tissue, such as fungi and bacteria.

Results

Our results showed that botrytis blight incidence in whole flowers and petals of cut roses with and without pink pigmentations were not statistically different. Neither intact flowers, individual petals, nor tissue pieces with pink pigmentation revealed increased Botrytis blight incidence compared to non-pigmented flowers, petals or tissue pieces from flowers grown in the same beds and greenhouses lacking pink pigmentation. In other words, these results demonstrate that pink pigmentation in the form of round spots or lines along the petal margins is not associated with *B. cinerea* infection.

Additionally, when Botrytis blight occurred in the petals with pink pigmentation, the symptoms did not commonly evolve from the pink pigmentation areas, and when the infection did occur in pink pigmented petals, symptoms most often started in parts of the petal other than the pink area. For example, for the detached petals experiment, only two of the total 72 pink pigmented petals evaluated showed botrytis blight development starting over the pink pigmentation. In the other 70 pigmented petals, Botrytis blight developed in different locations in the petal or did not develop.

The majority of cultured tissue samples yielded no biotic activity, however 15 unique microorganisms were isolated from flower petals, including *Cladosporium* sp., *Alternaria* sp., *Fusarium* sp., *Penicillium* sp., *Botrytis* sp., *Epicoccum* sp., and different bacteria species. These culturable fungi and bacteria were more likely to occur in pigmented petal compared to non-pigmented petals. This observation is likely a result of opportunistic fungi taking advantage of already damage tissue. Weakened plant tissue, such as abnormal pigmented spots and edges, may facilitate penetration and colonization of these opportunistic fungi which are otherwise not pathogenic. The opportunists isolated are not known to be economically important pathogens of rose although they may cause losses at the ports-of-entry if mistaken for botrytis.

The cause of pink pigmentation in the rose tissue is still unknown, but the pigmentation appears to have an abiotic cause, not a biological organism such as Botrytis. Growers report that the frequency of pink pigmentation increases during the time of year when botrytis infections are increasing. It is possible that a phytotoxic response to chemical applications is involved, because these pink pigmentations appear more frequently when the number and frequency of fungicide applications increase. Additional research needs to be conducted to determine the actual cause of pink pigmentation.

The need for communication

We are currently in the process of publishing our results in a scientific journal. These results also must be communicated throughout the industry so that flowers are not unnecessarily destroyed due to the misdiagnosis of pink pigmentation. Numerous industry and extension reports for rose pathogens also inaccurately display pink pigmentation images as signs of botrytis infection. Efforts must be made to correct these inaccurate reports.