Introduction to the Workshop

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Establishment of horticultural crops grown from seed is a crucial phase of the production cycle. Obtaining a high percentage of uniform, productive plants from seed is one of the keys to successful production. Extreme temperatures, water deficits, and biological stresses, including pathogens and insects, may adversely affect germination and seedling establishment. To maximize performance, seeds often are treated with fungicides, insecticides, plant growth regulators, minor elements, nutrients, and inoculants. Precision planting techniques, increasing production costs, and the use of expensive hybrid seeds have placed additional emphasis on the performance of each individual seed. Horticulturists often are willing to pay extra for these treatments to protect their investment in seeds and to ensure the best stands possible.

The future of many chemical seed treatments is uncertain because of the high cost of product development and registration. Recent controversies over the environmental impact of agricultural chemicals and chemical misuse may diminish further the enthusiasm for the development of new chemical seed treatments. Biological control measures may offer an alternative to traditional chemical treatments. However, the commercial availability of these treatments currently is limited. More-efficient delivery of both chemical and biological seed additives is an important aspect of new seed treatment technology as well. Film-coating is an emerging technology that applies a colored, dust-free coating to seeds. Film-coating technology has the potential to be used in conjunction with both biological and chemical seed treatments to deliver effectively precise quantities of material with minimum impact to the environment or farm workers.

Three authorities on seed treatment technology participated in the workshop. Kyle Rushing provides an update on the status of new chemical treatments for horticultural seeds that are currently available or under development by the agricultural chemical industry. In contrast, Alan Taylor discusses biological seed treatments using *Trichoderma harzianum* for horticultural crops. Hossein Robani describes film-coating and discusses how this new technology may be used as a delivery system for horticultural seed treatments.

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