

## Garner US Enterprises

### Stage 3

Stage 3 is very similar to stage 2 in many respects. The main difference is that the length of time in culture is frequently much shorter than Stage 2. The risk for contamination is not as great since the cultures are destined for planting outside the lab and are not being used for re-multiplication. When cultures must be shipped in media, as is the case with many international shipments, jars or other rigid walled containers are costly to ship and pose many problems such as media leakage from the container, space inefficiency, and breakage.

When utilizing the Star\*Pac system for stage 3 cultures, plant materials can be shipped with ease due to the flexible nature of the container and the fact that it is sealed. This greatly reduces the shipping cost and risk when sending plants in culture. The gas permeability of the film also provides for a better plant product in many cases. The Star\*Pac™ film can be made into a wide variety of thicknesses with varying degrees of gas and water vapor exchange.

Stage 3 is a preparatory stage for transplanting material (Stage 4) into the greenhouse. Since plants that are grown in culture are grown in a 100% relative humidity environment, the leaves do not develop normally. This creates a plant that must be carefully acclimated to the ambient atmosphere outside of the culture container. By utilizing Star\*Pac™ with greater gas and water vapor transmission rates the plants can be pre-acclimatized to the outside environment, which can greatly reduce the losses typically associated with Stage 4 acclimatization.