

## Garner US Enterprises

### Stage 2

Conventional systems use either glass baby food jars or rigid plastic containers. Both units employ loose fitting caps. The inherent problem with loose fitting caps is the potential risk of infestation by dust or lab mites. These organisms are very difficult to see and, until they become a serious problem, may go undetected. The problem lies with the movement of the mites from one vessel to another creating contamination of all the units because the mites track bacteria and mold spores from one container to the next. The loose fitting cap also allows for the evaporation of water from the media creating media that becomes more concentrated over time (2 to 3 weeks) and necessitates the transfer of cultures within 6 to 8 weeks. In drier climates this may be even more frequent. The fact that baby food jars are round makes for a less efficient use of space. The reusable nature of the containers also creates a need for washing facilities and personnel as mentioned previously in the Stage I section.

In Stage 2, a 2-chamber Star\*Pac™ is used. This configuration allows for more efficient transferring of plant material and for more efficiency in the filling stage of media preparation. The greatest single advantage of the Star\*Pac™ system is that it is impermeable to invasion by mites. Once the Star\*Pac™ is sealed nothing goes in or out, thereby eliminating the risk of infestation by mites or other potential external contaminants. This advantage makes the movement of sterile cultures from one place to another very easy and feasible. The fact that the Star\*Pac™ system is made from a plastic film that has very low water vapor transmission rates allows cultures to be kept for longer periods without transferring. This is advantageous when working with products that are very seasonal. These items can be left on the shelf without care for as long as 6 to 8 months depending on the plant type. If using cold storage, crops can be kept for as long as a year. This saves labor and material cost associated with maintaining cultures. The Star\*Pac™ also allows more cultures to be placed in a given area than cultures propagated in jars. As already mentioned, the disposable nature of the Star\*Pac™ eliminates the need for washing glassware.