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HORT 315  
October 14, 2014  
Assignment 4

### Technology in the Floral Design Industry

Floral design businesses do not rely heavily on the use of technology to be successful. In the floral design industry, the advancement of technology is primarily utilized in the transportation and distribution of ornamentals.

Ornamental plants must be grown in climates which their anatomy is equipped to handle, but may be in high demand on another end of the country. With the use of various transportation, ornamental crops can be shipped around the globe in short periods of time. While air transport is typically the most preferred method of transportation, extensive research at the University of California, Davis highlights that it may not be the best choice. Modes of transportation that have a better way to control the temperature help to keep the flowers alive and fresher for longer. For example, a refrigerated truck would be a better method to regulate the cool temperatures that cut flowers need to be in to survive.

Most ripening fruits and plants will secrete ethylene gas, which leads to the eventual demise of these living organisms. Technological advances have allowed for ways to slow down and diminish the production of ethylene in flowers, so they are able to live longer. A process called "pulsing" can be beneficial to the vase life of cut flowers. This is done by standing the flowers in a low temperature sugar solution for less than 24 hours and then transitioning them to a specially formulated feed, which inhibits the production of ethylene gas.

The packaging of flowers is another aspect that has developed with the progression of technology. Many distributors will bunch their flowers together in cardboard bundles and then package them in sturdy rectangular cardboard boxes, which are strategically stacked in transport and distribution to keep them from being smashed and damaged. The task of doing this by hand would be time consuming and require mass amounts of labor, but with the help of machines which bundle and package these delicate plants, they can be harvested and shipped in a timely manner.

Because of their delicate nature, many ornamentals are still picked by hand, and it is expected that in the future, specialized machines will be manufactured to pick these plants without damaging their structure. Currently, tools called "commas" can be used in the harvest of chrysanthemums to prevent stooping, and special collars are used to pick up roses as single stems instead of in bunches.

Refrigeration is another important factor in the preservation of cut flowers. Cold temperatures help to inhibit the production of ethylene and other gases which kill or shatter (abscisic acid) the

flowers. In an experiment conducted by UC Davis, it is shown that a flower stored in 0 degrees Celsius will still be alive and well after a 15 day period, whereas higher temperatures caused their death. Whenever you walk into a grocery store, observe the flowers that are placed in just water containers, as opposed to those that are kept cold in refrigerators. The ones in the water are not as fresh, they make stoop a little, and contain dead spots or saggy petals. The refrigerated ones will look more fresh and beautiful. This may be why the more expensive flowers and bouquets are kept in fridges while the other bunches of flowers may be left out in the open for a couple days.

All of these technological factors contribute greatly to the worldly recognition of exotic ornamental plants, however none of this would even be relevant if there wasn't a way to order these plants and have them in a timely manner. Distributors may use websites and online ordering systems to communicate the availability of their crops and let their loyal customers buy them from the comfort of their own home or business. Specifically, the Los Angeles Flower District has a website where distributors can be contacted and flowers can be ordered with ease from around the world.

Social media contributes greatly to distributing flowers to customers as well. We live in a society that is constantly on the go, and convenience products are welcomed with open arms. Someone may want to order their loved one a bouquet of flowers but may be too busy to go to the florist and pick them out. An alternate option would be to make a quick google search for "flowers" only to find thousands of accounts, websites, and ordering systems for floral design companies from around the world. They are able to choose the flowers, arrangements, and add ons, pay, and have them delivered, all without looking up from the computer.

With the advancement of technology and convenience being an important factor for all of society, I anticipate many changes in the distribution of cut flowers. Machinery will become more prominent in the planting, harvesting, and distributing of plants. People's jobs will begin to be replaced by specialized products which will be able to delicately handle each specific plant.

## References

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Edit Citation

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