



# SAFEPOD SYSTEM



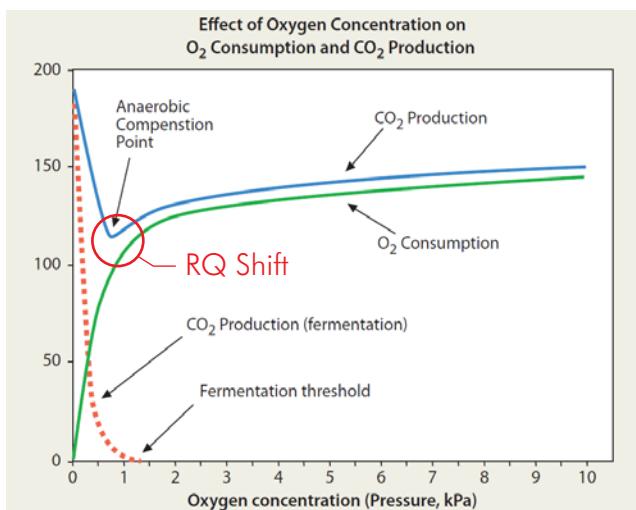
*SafePod at the SCS Research Lab*

The patented SafePod system from SCS creates a chamber comprised of representative samples of fruit inside a larger CA storage, allowing the operator to test for the optimal storage regime of the actual produce to be stored without the potential risk of damaging the entire CA store. The units have high-resolution built-in analyzers and an automatic RQ (respiration quotient) measuring system, all of which tie back to our highly popular and remotely-located SCS6000 controller. We even offer a variant of the system called LabPod, which adds the ability for the unit to regulate its own  $O_2/CO_2$  whether or not the surrounding environment is under CA. A smaller, miniPod, is also available for smaller scale testing operations and applications.

The process is simple. When loading a room, pull a few samples of fruit from each bin as you load/lot, filling the totes inside the SafePod. The SafePod is then placed inside a bin or left separate of the bin stacks inside the CA storage. The built-in, remotely operated SCS Electric Slide Valve on the bottom of the SafePod is opened and the fan is activated. The fruit inside the SafePod automatically pulls down with the rest of the room. When desired, the SafePod valve can be closed, creating an air-tight and completely independent chamber within the larger CA store, free of any outside influences. This leaves the storage operator the opportunity to experiment on samples of the exact fruit in the larger storage without risking the investment of the entire room. After an indication of stress on the fruit is noticed, simply raise the  $O_2$  levels by a tenth of a percent or two until the desired results are achieved and the indications of stress disappear.

Once the desired levels are dialed in using the SafePod, the entire storage can then be pulled down to match. The valve on the SafePod is then opened, marrying the SafePod and larger CA storage atmosphere. Never before has it been so easy, and more importantly relaxing, to find the optimal levels for the fruit you've grown. The operator can then repeat the entire process, testing the sample of fruit at 7 or 30 day intervals, in search of optimal storage conditions, each time collecting respiration data and finding possible lower levels as the fruit matures.

The collected data is now easily accessible for customers on the SafePod website, [app.SafePodCA.com](http://app.SafePodCA.com). Your unique username and password will give you access to all of your stores with SafePod units. The data displayed on the website is customizable, with the option to compare your store(s) to industry averages by region. The SafePod is truly a value add for any and all CA applications.



## FEATURES

- ▣ Patented Technology - U.S. Patent No. 10143210, Canadian Patent No. CA2746152
- ▣ Experiment with ULO/DCA without the risk
- ▣ Respiration Index for Room Ranking (Patent Pending)
- ▣ Create an Independent Environment, even within a Larger CA Room
- ▣ Test Using Representative Samples from the CA Room
- ▣ Integrated Analyzers & Remote SCS6000 Controller
- ▣ Reduces Operating Costs through Energy Savings
- ▣ Customized Website Interface for Your Data

**SafePod™**

[www.SafePodCA.com](http://www.SafePodCA.com)



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Warehouse operators, University researchers, and competitors are looking for their Low Oxygen Limit (LOL) in apple storage rooms. After years of testing, it has become evident that Respiration Quotient (RQ) is the leader in this arena. The SafePod adds another level of security by only letting the fruit in the SafePod be at risk during these critical intervals. During these intervals, the SafePod offers a respiration indicator in mL/kg/hr of CO<sub>2</sub> produced. The SafePod has allowed researchers to key in on these respiration values, leading SCS to compare these results as the Respiration Index. Respiration is a means of knowing whether achieving levels in the room at the LOL are helpful to fruit quality or not. LOL is often the target for optimal CA conditions, however lower isn't always better. The difference in respiration between several tenths of a percentage may be negligible. With SafePod monitoring the fruit's respiration, the operator is able to graphically see this difference, or lack thereof, and appropriately adjust the regime up to perhaps reduce atmospheric generator energy, machine runtime, and ultimately fruit stress, all of which heavily influence final fruit quality, weight, and especially flavor.

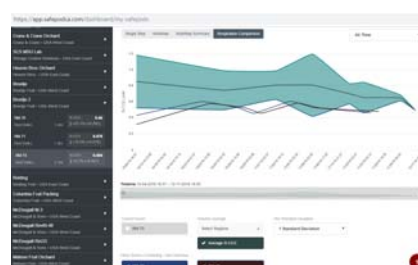
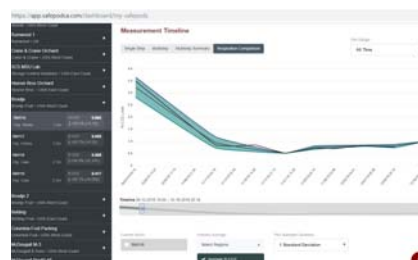
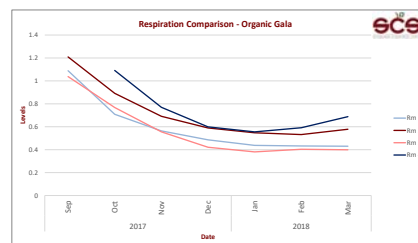
Having an respiration index assigned to samples, and thus rooms, offers operators a quantifiable ranking of similar varieties to dictate room opening intervals. Rooms with higher respiration are more active for a variety of reasons, but ultimately need to be marketed before similar, but lower ranking rooms.

Respiration becomes apparent and addictive for all types and numbers of CA stores. In both conventional and organic stores, the warehouse operator can determine if, for example, the respiration after achieving 1.25% O<sub>2</sub> for a period of time is any different than the respiration of the same fruit at 1.85%. If the respiration is similar at either O<sub>2</sub> level, that fruit, from this year, at this temperature is respiring at a rate unchanged by the lower O<sub>2</sub>. As a result, energy savings can be achieved by running less N<sub>2</sub> into the room than would be required to maintain that lower setpoint, but relax knowing 1.85% is offering equal benefit.

Coupled with its automated software, the patented design of the SafePod allows for periodic determinations of the LOL and respiration without the affect of extraneous contaminants to the results. Alternative methods that sample entire rooms have "noise" of refrigeration causing pressures on the room, Scrubbing, N<sub>2</sub> flushing, and venting, all of which are contaminants. The isolation offered, only by the SafePod, results in true and consistent readings, calculated by known kgs. of fruit in the SafePod and O<sub>2</sub> consumption. This data is uploaded continually to a virtual web server and available via app.SafePodCA.com.

An added function built into the SafePod software is a SafePod Control Setpoint. If research and experimentation is the primary focus, then a lower oxygen setpoint can be set and kept inside the SafePod. Low oxygen stress levels can be tested and controlled for a period of time. Normal observation and evaluation of the fruit can be performed after the storage period, and an optional Senzytec2 kit, now available in North America through SCS, can be used to verify fruit quality. This kit tests for low oxygen damage in the fruit itself.

For even greater versatility, SCS offers a special LabLease program designed for researchers. The SafePod's ability to maintain its bubbletight seal while sharing temperature with the encompassing room allows it to become a laboratory chamber with incredible ease. Built-in ports allow the operator to attach a nitrogen source, pull down the pod within minutes, and then monitor levels just like a traditional chamber, all without any additional pumps or unnecessary equipment. Contact us today to learn more about how the SafePod can easily help you achieve custom, and thus best, results for your fruit.



*Seasonal Respiration Tracking Data in Excel (Top) & Web Examples Showing Variance in R-CO<sub>2</sub> (Middle) and RQ (Bottom) for Specific Breeds Based on Accumulative Customer Data by Region*



*SafePod in Position in Doorway of CA Room*



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