



## **SHELF LIFE STUDIES**

The objective of a shelf life study is to determine how long a food product remains fresh and safe to consume. Bearing in mind that the shelf life should consider, microbiological, chemical, and organoleptic and any other pertinent characteristics of the product under specific conditions of temperature and humidity.

Wynland laboratories can assist by performing microbiological analyses on the product as part of a shelf life study.

### **Determining Factors:**

1. At what temperature will the product be sold?
  - a. If samples will be sold refrigerated, then tests will be run refrigerated (Page 2)
  - b. If samples will be sold frozen, then tests will be run frozen (Page 3)
  - c. If samples will be stored at room temperature then there are two options, ambient (Page 3) and incubated (Page 4)
2. What length of time should the shelf life study be performed?
  - a. This is product dependent. What is the goal of your product?
  - b. What is the shelf life of similar products on the market?
  - c. Do you want to use preservatives?
3. What parameters should be tested?
  - a. What is the limiting factor in your product? i.e. mold growth, rancidity, flavor, texture?
  - b. Has your product ever been tested before?
4. Can you stop the test early?
  - a. Yes, you can stop testing whenever you like and no further charges will be assessed. Handling fee is however non-refundable.



**Starting a Shelf Life Study:**

1. How do I get started?

- a. Do you have your final packaging in place?

It is important to test the product in the packaging it will be marketed in, as it will give the most accurate shelf life results.

- b. Do you have your final formula in production?

Shelf life studies may reveal that changes are required in the product formula or packaging to create a more manageable shelf life for the product.

- c. If yes to a and b, contact Wynland Laboratories can assist with the microbiological testing of the final product.

2. How many samples do you need to send in?

- a. Typically, we need an individual sample, in the packaging you plan to distribute the product in, for each time point you want a sample analyzed plus an additional sample for initial screening. For example, if you were running a 12 month room temperature study, where we pull one sample once a month, we would need 13 samples, one for month 0, then one for each proceeding month.

**Refrigerated Samples**

This study will determine how long a sample will remain safe to consume while at refrigerated conditions. The frequency of the test is dependent on the product. Typically a sample will be pulled 1-2 times a week and can be tested for some or all of the following:

| Test                | Test Frequency   | Cost                        | Total Cost                          |
|---------------------|--|-----------------------------|-------------------------------------|
| Initial Food Screen | One time, at the beginning of study for all microbiological parameters | Depending on tests selected | Dependent on number of times pulled |
| Total Plate Count   | Once a week  | R66                         |                                     |
| Yeast and Mould     | Once a week  | R66                         |                                     |



Additional tests can be performed upon request for an additional charge. See Wynland Microbiology pricelist.

### Frozen Samples

This study will determine how long a sample will remain safe to consume while at frozen conditions. The frequency of the test is dependent on the product. Typically a sample will be pulled 1-2 times a week and can be tested for some or all of the following:

| Test                | Test Frequency   | Cost                        | Total Cost                          |
|---------------------|--|-----------------------------|-------------------------------------|
| Initial Food Screen | One time, at the beginning of study for all microbiological parameters | Depending on tests selected | Dependent on number of times pulled |
| Total Plate Count   | Once a week  | R66                         |                                     |
| Yeast and Mould     | Once a week  | R66                         |                                     |

Additional tests can be performed upon request for an additional charge. See Wynland Microbiology pricelist.

### Ambient Room Temperature

Room temperature studies have the ability to assess changes in moisture content, water activity, sensory characteristics, and microbiological growth. Wynland Laboratories will only assist with the microbiological testing of these samples.

Test Protocols:

A 12 Month Shelf Life (at ambient temperature) for some or all of the following tests performed. Total Samples: 13.

| Test                | Test Frequency   | Cost                        | Total Cost                          |
|---------------------|--|-----------------------------|-------------------------------------|
| Initial Food Screen | One time, at the beginning of study for all microbiological parameters | Depending on tests selected | Dependent on number of times pulled |
| Total Plate Count   | Once a week  | R66                         |                                     |
| Yeast and Mould     | Once a week  | R66                         |                                     |



Additional tests can be performed upon request for an additional charge. See Wynland Microbiology pricelist.

**Incubated at higher temperature**

Room temperature studies have the ability to assess changes in moisture content, water activity, sensory characteristics, and microbiological growth. Wynland Laboratories will only assist with the microbiological testing of these samples.

Test Protocols:

Typically, 12 Week Accelerated Shelf Life (Temperature: customer specific) for some or all of the following tests. Total Samples: 13.

| Test                | Test Frequency   | Cost                        | Total Cost                          |
|---------------------|--|-----------------------------|-------------------------------------|
| Initial Food Screen | One time, at the beginning of study for all microbiological parameters | Depending on tests selected | Dependent on number of times pulled |
| Total Plate Count   | Once a week  | R66                         |                                     |
| Yeast and Mould     | Once a week  | R66                         |                                     |

Additional tests can be performed upon request for an additional charge. See Wynland Microbiology pricelist.



**Shelf Life Handling**

1. A shelf life handling fee will be included with all shelf life testing, but only one shelf life fee will be charged per project.

- a. 1 to 6 time points R500 + analytical tests
- b. 6 to 12 time points R850 + analytical tests
- c. More than 12 time points R1000 + analytical tests

2. Products can be returned to client for additional testing.

|   |  |
|---|--|
| Client Name                                     |  |
| Product Name                                    |  |
| Required duration of Testing                    |  |
| Temperature of Testing                          |  |
| Expected Shelf Life                             |  |
| Tests agreed upon                               |  |
| Should samples be returned for further testing? |  |

|                  |  |
|------------------|--|
| Client signature |  |
| Date             |  |