

## INSTRUCTIONS FOR PRODUCT COST CALCULATORS

### Introduction

These calculators allow you to simulate four common food processing scenarios:

- (1) building a small kitchen on your own farm  
(NCAT Commercial Kitchen On Your Farm.xlsx);
- (2) short-term periodic leasing of a commercial kitchen  
(NCAT Commercial Kitchen Hourly Rental);
- (3) long-term continuous leasing of a commercial kitchen  
(NCAT Commercial Kitchen Long-Term Lease); and
- (4) building a new commercial kitchen  
(NCAT Commercial Kitchen Build-Operate).

These scenarios correspond to a typical development process for a value-added operation. You might start small by selling to existing customers, then grow your business by selling to a larger, but still local customer base, mostly direct sales; then you might start selling your products through a distributor to a major retail grocery chain or specialty food store chain that has regional, statewide or even national customer bases.

You'll need basic familiarity with Microsoft Excel and these calculators require detailed input which you will have to compile about your product(s). You can only type in the cells that are shaded green or orange because the rest of the cells are locked. You should feel comfortable using these calculators with as many simulations/scenarios that you think are possible. You cannot break these calculators so don't hold back!

If you're using a full version of Microsoft Excel, you'll need to "enable editing" after opening the files. If you're using Excel Online you'll need to not only view the spreadsheet but click the "OPEN" button to be able to enter data.

### **NCAT Commercial Kitchen: On Your Farm**

This worksheet includes four tabs, three of which require you to enter data. Although you can fill the pages out in any order, you'll probably find it easiest to go through them in the order presented (left to right).

#### Introduction tab

Please read the Introduction tab before using this spreadsheet.

#### Facilities, Equipment & Regulatory Costs tab

This tab adds up the cost of all necessary equipment, facilities, permits, and so on. Start by filling in the green shaded boxes at the top. As you fill the green cells, you'll notice calculated values appearing in the yellow cells.

In the first green cell (near the top left), indicate whether you plan to do baking, canning, drying, or some combination of these. (Note that the term “canning” here includes not just cans but also jars, pouches, or other containers.)

The Estimated Facility Cost has been estimated initially at \$40,000. This should be changed as needed to reflect the cost of the structure you’ll use to house all the equipment listed on this tab. Maybe you already have a barn to use for your kitchen and it will only take \$10,000 to bring it up to your county health codes to get it operational. If so, you would change the \$40,000 to \$10,000 and the calculator will change all its calculations accordingly.

The other green shaded cells shown above the listing of kitchen items are self-explanatory. You do need to have something input into each of them to get the calculator to work correctly. As these cells are filled in, the calculator will calculate values in the yellow cells. These numbers will also be used in calculations on the other tabs within this calculator.

Next, enter cost estimates for all equipment items you need. The calculator shows 33 typical items with their approximate cost. You can edit the orange and green cells: changing the description, purpose, cost, or comments. You can even add up to seven items in the blank rows at the bottom (items 34-40). You can also eliminate items by deleting/clearing the data from cells, but you cannot delete the rows.

### Production Assumptions tab

On this tab, you will enter information about the ingredients of your products.

In the orange block on the far left called “Product Name”, list the products you want to analyze. Sample product names are provided and you can change or delete them. There is room for up to six products, although you can do as few as one. Your product names will auto-fill into the sections to the right.

In the green box below “Product Name”, indicate the percentage of a full year’s production capacity that you plan to produce each product. If the total exceeds 100%, you have exceeded the total capacity of the plant and you’ll get a warning. If you only have one product to analyze, the answer for that product would be 100%.

Moving to the right, you’ll see six boxes called “Ingredients & Other Variable Costs”, where you will enter the ingredients and other costs for each product. There’s also a space at the bottom for recording your assumptions and other notes.

You’ll need to estimate how many Employees are required to make one batch, how many units of the product you can make per batch, how many batches per day you can make and the total packaging costs for one unit of your product. If, for example, you are putting your product into a jar, the costs listed should include the jar, the label, the lid and that one unit’s share of the cost of the container that might be used to ship one case of the product.

You'll also need to make your best guess as to the Average Selling Price of your product. **Varying this estimated price may be the principal reason for many of the simulations you will do.**

The last number in this column, "Gross Margin for Production Year", is calculated by multiplying the Gross Margin per Day times the number of days of production you input into the second block on the previous Facilities tab.

If you have more than one product, fill out the "Ingredients and Other Variable Costs" sections for your other recipes.

#### Estimated Annual Pre-Tax Returns tab

The first four numbers you see (gross margins; facility & equipment expenses; utilities; and licenses, fees, permits) are calculated values from the previous tabs.

In the orange and green cells, estimate all other costs for producing, storing, and selling a year's output from your commercial kitchen. This includes sales staff salaries, set asides for damaged or returned product, machinery maintenance and repair, supplies, insurances, and other distribution and marketing expenses. There's space for ten expenses.

At the bottom, the number in the yellow cell, "Annual Pre-Tax Returns from Processing", shows what the products and facility you have described would contribute to your farm's gross income.

PLEASE NOTE: At this point, if you have still not assigned any money to pay yourself for managing this operation, do not consider this number a measure of Net Profit.