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Document Title:	Producing Quality Homemade Popcorn		
Notes:	Example Standard Operating Procedure (SOP)		

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1 Approvals

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2 Purpose

This procedure outlines the equipment, materials and sequential steps needed to produce quality popcorn in a domestic kitchen.

3 Scope

This procedure applies to individuals with previous cooking experience who desire to produce quality homemade popcorn.

4 Responsibilities

Not applicable.

5 Definitions (Abbreviations)

5.1 Pot

Cooking container that can be used in conjunction with a range.

5.2 Popcorn Kernel (Kernel)

Special popcorn seed that, when exposed to heat, bursts open and transforms into popcorn.

5.3 Stainless Steel

Non-rusting, hygienic steel commonly used in cooking.

5.4 Count

Human-determined time interval approximating 1 second.

6 Safety Notes

6.1 Hot burners

Keep hands and flammable items away from burners. Use a lid, baking soda or salt to extinguish small fires. Call 911 or the local fire department for any fire emergencies.

6.2 Hot Oil

Hot oil can splatter, causing skin burns or fire. Handle hot oil carefully and keep oil away from direct heat sources.

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7 Equipment

7.1 Range

The range can be fueled by natural gas or powered by electricity. It must be capable of performing at the manufacturer's "HIGH" temperature setting. Access to a front large (e.g., 7-inch diameter) burner is required. Refer to Attachment 12.1.

7.2 Pot

A cooking pot with a handle and removable cover is required. The cooking surface material should be stainless-steel and have no visible pitting, charring or deep staining. A capacity of 3.5 quarts with a height and radius of 4.0 inches is recommended. A similar-sized pot with a height close to 4 inches can be substituted, if necessary. Refer to Attachment 12.2.

7.3 Measuring Cup

A measuring cup with a minimum capacity of 1 cup is required. Measurement gradations at quarter-cup intervals should be accurate and visible. Refer to Attachment 12.3.

7.4 Holding Cup

A holding cup with a capacity of 1 to 3 cups is required. Refer to Attachment 12.3.

7.5 Butter Knife

A knife capable of cutting butter is required. Refer to Attachment 12.3.

7.6 Wooden Spoon

A 6- to 12-inch long wooden spoon is required. Refer to Attachment 12.3.

7.7 Table Spoon

A stainless-steel table spoon with a capacity of approximately 1 tablespoon is required. Refer to Attachment 12.3.

7.8 Serving Bowl

A serving bowl with a capacity of at least 2-times the pot capacity is required. Refer to Attachment 12.3.

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8 Raw Materials

8.1 Popcorn Kernels

Visibly plump white or yellow popcorn kernels are required. The kernels should be vacuum-packaged by the manufacturer or supplied in an air-tight container. Enough kernels are needed to cover the bottom of the pot in a single layer. For a 4-inch radius pot, approximately 0.5 cups of kernels are needed. Refer to Attachments 12.4 and 12.5.

8.2 Oil

Corn, safflower or canola oil may be used. The volume of oil needed is equivalent to the volume of kernels used. Refer to Attachment 12.5.

8.3 Butter

Real salted butter, preferably in stick form, is required. The volume needed is one-eighth (i.e., 12.5%) the volume of kernels used. Ensure the butter is within its expiration period. Refer to Attachment 12.5.

8.4 Salt

Granular salt is required. Approximately 4 finger pinches of salt are needed for each 0.5 cups of kernels used. Note: 1 finger pinch \approx 0.0125 teaspoons. Refer to Attachment 12.5.

9 Consumable Items

9.1 Paper Bag

A single clean brown paper bag is required with a minimum capacity of 4-times the pot's capacity. Refer to Attachment 12.6.

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10 Procedure

10.1 Preparation

- 10.1.1 Lay out all equipment, raw materials and consumable items on available counter space.
- 10.1.2 Pour enough kernels from the primary container into the pot to completely cover the bottom with a single layer of kernels. Refer to Attachment 12.7.
- 10.1.3 Pour the kernels from the pot to the measuring cup and make a note of the kernel volume.
- 10.1.4 Transfer the kernels to the holding cup.
- 10.1.5 Measure out the oil with the measuring cup using the same volume noted as the kernels.
- 10.1.6 Place the paper bag on the floor next to the range. The top should be fully open, easily accessible and stable. Fold the top edges of the bag inward, as needed.

10.2 Production

- 10.2.1 Turn on the closest large burner to HIGH. If electric, wait until heating element glows red.
- 10.2.2 Place pot, without its cover, on the range. Wait 30-counts until the pot bottom becomes hot.
- 10.2.3 Transfer the oil from the measuring cup to the pot and wait 30-counts.
- 10.2.4 Add 3 kernels to the center of the pot and cover.
- 10.2.5 Listen carefully. After the first kernel pops, quickly lift the cover on one side and transfer all the kernels. Cover the pot.

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- 10.2.6 Begin moving the pot on range in a back and forth motion: 2 inches back and 2 inches forward each second.
- 10.2.7 After 10 to 20 pops, lift the cover to one side once per second. One hand should be on the pot handle and the other on the lid handle. The steam that is released from the kernels must be allowed to exit the pan.
- 10.2.8 Continue the back and forth motion and the lifting of the cover until you begin to hear a significant decline in the popping rate. When the popping rate dips below 2 to 5 pops per second, remove pot from heat, lift off cover and pour into paper bag. If the popcorn is starting to push open the cover, move the cover up and keep slight pressure on the popcorn to avoid spilling out of the pan.

10.3 Seasoning

- 10.3.1 Place the hot empty pot on a cold (i.e., off) burner.
- 10.3.2 Lift the bag and shake it 6 times in an up and down motion to mix the popcorn. Avoid spillage.
- 10.3.3 The volume of butter is equal to one-eighth of the kernel volume used. Cut required butter with the butter knife and add to the warm pot.
- 10.3.4 Move butter around with the wooden spoon until it is completely melted by visual inspection.
- 10.3.5 With the table spoon, scoop the melted butter from the pot and drip it evenly over the popcorn in a circular motion. After each dispensed tablespoon, shake the bag 3 times. Avoid dumping large amounts of melted butter in one area of the bag.
- 10.3.6 Repeat Step 10.3.5 until there is less than 1 tablespoon of butter remaining in the pot.

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- 10.3.7 Slowly pour the remaining butter directly from the pot into the bag in a circular motion. Shake the bag 3 times.
- 10.3.8 Pour 2 to 5 cups of popcorn from the bag to the pot. Move the popcorn around with the wooden spoon and return the popcorn to the bag.
- 10.3.9 The amount of salt needed is 4 finger pinches for each half-cup of kernels used. Note: 4 finger pinches = 0.125 teaspoons. Add 2 finger pinches of salt to the bag and shake the bag 3 times.
- 10.3.10 Repeat until you add the required amount of salt.

10.4 Consumption

- 10.4.1 Carefully transfer popcorn from the paper bag to serving bowl.
- 10.4.2 Dispose the bag and enjoy your quality, good-tasting popcorn. A half-cup of popcorn kernels yields approximately 4 servings.
- 10.4.3 For leftovers, cover serving bowl and store at room temperature for up to 72 hours. Ensure popcorn is completely cool before covering.

11 References and Acknowledgements

Mr. Donald Freymann is responsible for demonstrating the utility of a paper grocery bag in the production of homemade popcorn.

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12 Attachments

Example photos are provided for clarification purposes only.

12.1 Range



12.2 Pot



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12.3 Measuring Cup, Holding Cup, Butter Knife, Wooden Spoon, Table Spoon and Serving Bowl



12.4 Popcorn Kernels



12.5 Oil, Kernels, Butter and Salt



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12.6 Paper Bag



12.7 Single Layer of Kernels



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