



**SOP: Preparation of sugar-soaked
cotton wool for feeding adult
mosquitoes in holding cages or
during transportation between
the laboratory and field.**

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Version	Date	Reviewed by	Institution
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Version Control¹

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Related documents

- I2I Best Practice SOP Library, 30 October 2020 (<https://innovationtoimpact.org/>)

1. Purpose

The purpose of this SOP is to provide instructions on the appropriate method for preparing 'sugar-soaked cotton wool' for feeding live adult mosquitoes. The following method helps reduce the risk of providing excess liquid to adult mosquitoes, which can increase control mortality by caused distention of the abdomen due to over feeding.

2. Materials and equipment

- Clean glass / plastic bottle (e.g., 1 Liter, with a screw cap top)
- Sugar source for feeding mosquitoes (high fructose corn syrup is recommended, but granulated sugar or honey may also be used)
- Measuring cylinder (approximately 200mL) or balance and weighing dish (depending upon whether using liquid sugar source or crystalline sugar)

¹ Historical versions of SOPs can be found on the I2I website (<https://innovationtoimpact.org/>)

- Clean paper towels
- Distilled water
- Cotton wool (natural cotton, new cotton wool balls are preferred)
- Laboratory grade disposable gloves
- Marker pen

3. Procedure

3.1. For the preparation of 1 liter of 10% sugar solution:

3.1.1. If using a liquid sugar source, then measure 100ml ($\pm 10\%$) using a measuring cylinder.

3.1.2. If using a solid crystalline sugar source then weigh 100g ($\pm 10\%$) using a balance.

3.1.3. Transfer the sugar source to a clean bottle.

3.1.4. Make up to 1 liter using distilled water. It may be necessary to use some of the clean distilled water to remove all the sugar source from the measuring cylinder or weighing dish.

3.1.5. Screw the lid onto the bottle and shake so as to ensure the sugar source is completely mixed / dissolved into the water.

3.1.6. Label and date the bottle as appropriate.

3.1.7. Store in a standard laboratory refrigerator.

3.1.8. Prior to use, remove from the refrigerator and allow to stand at room temperature for 10-15 minutes.

3.2. Method:

3.2.1. Put on a new pair of laboratory gloves.

3.2.2. Take a handful of cotton wool balls (or rough square of cotton wool approximately 3cm x 3cm) and hold them palm upwards in one hand over a sink.

3.2.3. Pour the 10% sugar solution over the cotton wool balls until they are all soaked with the solution.

3.2.4. Squeeze the cotton wool balls to remove all excess liquid.

3.2.5. Place the cotton wool balls onto a sheet of paper towel.

3.2.6. Roll up the paper towel so that the cotton wool balls are held within it.

3.2.7. Squeeze the paper towel with the cotton wool balls in gently to remove further excess liquid.

3.2.8. Unroll the paper towel.

3.2.9. The cotton wool balls should be damp with sugar solution.

4. Glossary of terms

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SOP Standard operating procedure



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