

Topical Application Bioassay to Quantify Insecticide Toxicity for Mosquitoes and Fruit Flies

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Materials

Name	Company	Catalog Number	Comments
1.5 mL microcentrifuge tubes	Thomas Scientific	20A00L068	Acetone aliquot storage
1.5 mL screw cap tubes	Thomas Scientific	1182K23	Insecticide dilution storage
15 mL conical tubes	VWR	339651	Insecticide dilution storage
20 mL glass scintillation vials	Fisher Scientific	0334125D	Fruit fly weighing
25 μ L syringe	Fisher Scientific	14815288	Topical applicator
Acetone	Fisher Scientific	AC423240040	ACS 99.6%, 4 L
<i>Aedes aegypti</i> (IICC strain)	USDA CMAVE	NA	Insecticide resistant
<i>Aedes aegypti</i> (Rockefeller strain)	CDC	NA	Insecticide susceptible
Analytical scale	Fisher Scientific	14-557-409	Precision up to 0.1 mg
Aspirator	Amazon	6.49986E+11	Mosquito collection device
Bench paper	VWR	89126-794	Place under workspace
Cotton swabs	Amazon	B092S8JVQN	Use for sorting insects
Cotton wool balls	Amazon	B0769MKZWT	Use for sucrose solution
Dispenser	Fisher Scientific	1482225	Repeater pipettor
<i>Drosophila melanogaster</i> (Canton-S strain)	University of Wisconsin-Madison	NA	Insecticide susceptible
Fine-tipped paint brushes	Amazon	B07KT2X1BK	Use for sorting insects
Fruit fly stock bottles	Fisher Scientific	AS355	Use for rearing and sorting fruit flies
Hand-held CO ₂ dispenser	Fisher Scientific	NC17110679	Use for knocking down insects
Holding cups	Amazon	B08DXG7V1S	Clear plastic
Ice pack	Amazon	B08QDWMW5	Use for knocking down fruit flies
Ice trays	Amazon	9301085269	Use for knocking down insects
Insect forceps	Amazon	B07B4767WR	Insect forceps
Insecticide	Sigma-Aldrich Inc	45423-250MG	Deltamethrin
Labeling stickers	Amazon	B07Q4X9GWX	3/4" Color dot stickers
Labeling tape	Amazon	B00X6A1GYK	White tape

Netting	Amazon	B07F2PHHWV	Use for covering holding cups and insect handling tent
Petri dishes	Fisher Scientific	FB0875712H371	100 mm x 15 mm
PVC Pipe	Lowe's	23971	Insect handling tent materials
Rubber bands	Amazon	B00006IBRU	Use for securing mesh/net on cups
Sucrose	Amazon	B01J78INO0	Granulated White Sugar
Weighing paper	VWR	12578-165	4" x 4"