

## Drosophila Fly Stock Maintenance – Fly transfer technique

**Background:** *Drosophila melanogaster* completes its life cycle in 15 days beginning from the embryo stages to an adult fly. Dead flies, fly excreta and decomposing food media can lead to infections in the fly stock. Thus, to maintain a healthy fly stock, the flies should be transferred to fresh media bottles every alternate week.

### Requirements:

Category	Particulars
Specimen/Biological sample	Bottle/vial containing flies that need to be transferred
Chemicals	<ul style="list-style-type: none"> <li>• Dry yeast granules</li> <li>• 70% Ethanol</li> </ul>
Media	<ul style="list-style-type: none"> <li>• Bottles or vials containing fresh food medium (sterile)</li> </ul>
Miscellaneous	<ul style="list-style-type: none"> <li>• Foam pad</li> <li>• Marker pen</li> <li>• Cotton</li> </ul>

### Procedure:

1. Disinfect the work surface, foam pad and your hands with 70% ethanol.
2. Take the bottle containing fresh food medium.
3. Remove the cotton plug and keep it aside.
4. Sprinkle a few yeast granules into this bottle and keep the bottle aside. We will call this bottle the 'new bottle'.
5. The bottle containing flies that need to be transferred to the new bottle will be referred as the 'old bottle'.
6. Now, take a foam pad and place the old bottle on it.
7. Tap the bottle on the foam pad 2–3 times so that all the flies settle down.
8. Remove the cotton plug and immediately cover the mouth of the old bottle using your palm.
9. Whilst tapping the bottle, invert the new media bottle on the old bottle.
10. As soon as tapping ceases, the flies will start crawling upwards and towards the new bottle.
11. Whenever you see maximum flies near the mouth of the old bottle, hold both bottles near the region where their mouths meet and quickly invert the assembly such that the new bottle is now on the foam pad and the old bottle is above.



12. Tap the assembly on the foam pad 2–3 times until maximum flies get transferred to the new bottle.
13. After this, remove the old bottle from the top of the new bottle, immediately covering the mouth of the new bottle with your palm.
14. Plug the mouth of the old bottle and keep it aside.
15. Then, tap the new bottle a few times and immediately plug its mouth. (*Never leave the bottles unplugged since the flies may escape and contaminate other fly stock bottles or fresh food medium bottles nearby.*)
16. Label the new bottle with the name of the fly stock and the date of the fly transfer.

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