

## Fly handling

### Quarantine and mite control

All flies that come to the lab from somewhere else must be quarantined. In other words, they must be kept separated from other lab stocks and fly handling areas for at least one whole generation (2 weeks). We do this to make sure the incoming stocks are not infected with parasites, and/or to prevent contamination from spreading to our other fly stocks. Even if the flies come from somewhere relatively trustworthy (e.g. the Bloomington stock center or a lab you know well), they may have gotten contaminated en route. Contamination (mites, mold, viruses) can easily wipe out individual stocks and could spread to destroy entire lab fly collections.

1. Our 'quarantine area' is your desk/bench. All newly arrived flies should be brought directly to your desk/bench. Do not put them in the genetics room. Do not put them in an incubator. Do not put them on the stock shelves in the 18C room.
2. Transfer all the adults from the new stock to fresh vials upon arrival. (These vials, like all vials, should be securely plugged with cotton. You should be able to lift the vial by holding on to the cotton without any fear of it pulling out.) Keep the old vials (for step #4).
3. After it's clear that the newly arrived adult flies have established progeny in the new vial (e.g. you can see larvae), discard the adults. You will now have two vials for each stock: the original vial in which the flies arrived, and a new vial in which the adult arrivals laid eggs.
4. Use a microscope in the lab (not in the genetics room) to carefully examine all the original shipping vials. Look for mold or mites. Mites are a little bigger than an egg, about the same color (whitish), and look like tiny spiders or ticks. They tend to hang out in the grungy parts of the vial (on the sides near dried food & old pupal cases). If you see any mites, you need to freak out, strip immediately, douse yourself in bleach, and burn the lab down. Actually, a better idea would be to tell Dave and ask what to do next (you will need to super-quarantine the infested flies and clean up the area). Let everyone in the lab know so they can take precautions with their own stocks and keep a watch for spreading infestation.
5. If you've seen no sign of contamination in the original vials (the ones the flies were shipped in), you should keep the flies (the F1 offspring from the P0 arrivals) quarantined one more generation. If no signs of contamination show up, you can move these F2 vials to the communal fly areas (genetics room, incubators). Basically, the idea behind this procedure is: neither the adults that were brought from elsewhere, nor anything (P0 or F1 vials, F1 offspring) that those flies touched directly, exits quarantine.
6. Mites and mold will thrive without being brought in via contaminated flies. To keep them at bay, be sure to make sure the genetics workstations are liberally sprayed with ethanol at least once a day, that all banging pads (mouse pads), brushes, and carbon dioxide stages are stored in the freezer when not in use, and that any vials with signs of mold are immediately disposed of. You must also avoid letting vials sit around too long (longer than about a month). Any old blackened cruddy vials in the incubator or stock room should be discarded as soon as they're discovered. If all the flies are dead you can discard them even if they're not yours (although it's good to shame the owner by letting them know you're doing so).