



COLONY CERTIFICATE/
Xenopus 1 Colony Health Monitoring program

This statement, with regards to health monitoring, is presented within the scope of www.xenopuswelfare.org which will contextualize all aspects of xenopus care, transport, husbandry, and oversight with species specific, model specific recommendations.

Our spontaneous mortality rate is .0003% and we maintain over 120 static systems housing *xenopus laevis* and 35 static systems housing *xenopus tropicalis*. Our *x. laevis* systems get full water changes 3x times per week and the frogs are kept at 66-68 F with a 12 hour light schedule. Our colony population is maintained as a worldwide resource, thus, we house over 10,000 adult frogs and over 15,000 developing frogs. Water changes: we raise frogs in separate static systems and do 100% water changes.

Xenopus tropicalis frogs are kept at 78 f with air temp at 81-82 F and fed daily.

Frogs are observed daily when feeding and during water changes each frog is inspected prior to shipping. The Nasco Xenopus 1 frog is the most widely used and validated research frog in the world. We have never had a catastrophic mortality event.

Feeding: feeding is described as a “feeding event” where small amounts of food are introduced over 10-15 minutes – a continual introduction while frogs are actively feeding – if uneaten food is left over you are feeding too fast or too much. *x. laevis* are fed 3x per week.

We take pride in our husbandry conditions creating the cleanest disease free, symptom free colony in existence.

Feedback loop: as we learn about various housing conditions and management of colonies in various research institutions worldwide. Some of our approach is in www.xenopuswelfare.org. Right now this includes information from xencare. This is part of the sustainability approach to the Xenopus model system.

Overnight shipping is done by FedEx and UPS for a.m. delivery and frogs are individually packed in wet moss. Frogs are packed and tendered directly to UPS and FedEx at 6:00 p.m. and 8:00 p.m. and they are not shipped if the temperature approaches 85 F at 6:00 p.m. or generally, if the temperature is near or above 85 F for 24 hours at any point in transit route, including destination. Some exceptions are made if we are confident that FedEx and UPS are delivering on time to any specific destination. We tender our shipments directly with FedEx, avoiding any transit heat or cold issues on the day of shipment. *Xenopus laevis* frogs withstand limited exposure under 45 F with absolutely no effect, this has been proven over many years

Export shipments are done using the major airlines animal services with each shipment routing carefully scheduled and monitored. Our frogs are taken directly by our company to Detroit Metro Airport (38 miles from our facility) and picked up by our customers at the nearest airport of destination. This minimizes 3rd party handlers, though we also rely on specialized delivery, mostly in Germany and England, usually by our logistics partner Vineet at Pet Cargo, for direct door-to-door delivery, where the frogs are cleared in Frankfurt and delivered direct to the University. All of our logistics is tested and proven from over 45 years of experience. We achieve 100% live delivery. **All our shipments are temperature controlled.** This means that we control the exposure and arrange last mile transport with approved animal carriers – actually our trusted partners! Note: it is extremely beneficial to the Model System Xenopus 1's commitment in maintaining good relationships with the major airlines – and our export logistics is excellent-Detroit Metro airport is 38 miles from our facility, we take the frogs there ourselves, thus assured proper care direct with the airlines.

Testing frogs is part of our comprehensive assessment of colony health, defined as maintaining extremely low spontaneous mortality, and thus, maintaining our constant of a thriving colony. Included in the thriving definition are our constantly validated results and 100% live delivery. We periodically collect PCR data from a list, as follows:

Batrachochytrium dendrobatidis
Ranavirus
Pseudocapillarioides xenopi
Mycobacterium chelonae
Mycobacterium marinum.

Sincerely,

Robert Weymouth
President