

# Setting a New Standard for Animal Welfare in the Animal Provider and Services Industry: Taconic Biosciences Introduces the AWARE™ Program

Julie Torvund-Jensen\*, Ganesh Karunakaran\*\*, Simon Nørgaard Laursen\*, Jens Christian Laursen\*

\*Taconic Biosciences A/S, Denmark

\*\*Taconic Biosciences, Inc., US

Contact: Julie.Torvund-Jensen, julie.torvund-jensen@taconic.com

## Introduction

As a leading provider of rodent models, Taconic is committed to upholding animal welfare best practices for our animals while offering the best solutions to our customers. The AWARE™ (Animal Welfare Aligning with Resource Efficiency) Program demonstrates our dedication to drive awareness of animal welfare.

The AWARE™ Program empowers our staff and researchers in the scientific community to proactively plan, execute, and monitor breeding projects. With the AWARE™ Program, Taconic ensures that projects are designed to fulfill the scientific needs of the research project while maintaining a keen eye on animal welfare. The launch of this program is a key step in creating an industry-leading framework guiding the monitoring of animal welfare observations, animal utilization, and adverse phenotypes.

## Program Details

The AWARE™ Program consists of two main pillars that are closely related (Figure 1):

The **Design & Planning** arm considers best practices, preventive measures, and the 3Rs in every colony managed at Taconic. The goal is to ensure animal model production levels are closely regulated based on demand.

The **Monitoring & Reporting** arm, where the focus is defining appropriate performance indicators, monitoring thresholds, and animal utilization metrics. This is done to maximize resource efficiency and reduce the number of animals needed.



**Fig 1:** The AWARE program consists of a Design & Planning element and a Monitoring & Reporting element. Combined, these elements ensure that projects are planned and executed with a focus on animal welfare and resource efficiency.

The AWARE™ Scorecard (Figure 2) is one of the customer-facing elements of the AWARE™ program. For every colony management project at Taconic, projects are scored within four categories: **Animal Utilization**, **Pain and Distress**, **Genetic Integrity**, and **Adverse Phenotype**.

The purpose with the scorecard is to ensure transparent communication with the community and to identify project elements that can be optimized during the project planning phase. The score does not reflect if a project is considered good or bad but is rather a tool meant to inform the investigator about key project animal welfare metrics.

	Animal Utilization	Pain and Distress	Genetic Integrity	Adverse Phenotype
1	Excellent (0-10%)	Breeding/Holding	No Risk	No Distress
2	Very Good (10-25%)	Momentary	Low Risk	Minor
3	Good (25-50%)	Recurrent	Medium Risk	Mild
4	Poor (50-75%)	Unrelieved	High Risk	Moderate
5	Very Poor (75-100%)	None	Extreme Risk	Severe

**Fig 2:** The AWARE scorecard is designed as an “A” with colored triangles representing each of the four categories if the AWARE scoring system: Animal Utilization, Pain and Distress, Genetic Integrity, and Adverse Phenotype. Project scores will be shown in the corresponding triangles.

## Program Implementation



Since the beginning of 2022, all new and active colony management projects have been scored according to the Scorecard (Figure 3). For new projects, AWARE scoring is performed in the project planning phase to ensure that the proposed plan is optimized within the categories of the scoring system.



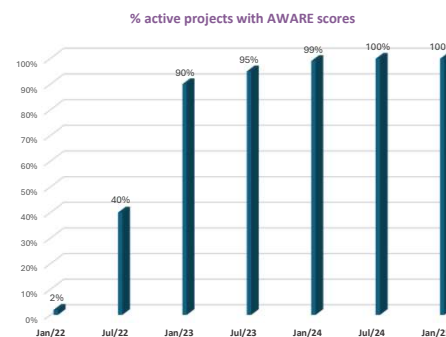
Based on “Genetic Integrity” AWARE scores, opportunities for improving genetic compliance were identified in several projects, resulting in “genetic refreshes” being performed. This reduces the animal wastage long-term as it mitigates the risk of integration of spontaneous mutations in the background genome. Overall, this leads to better study reproducibility.



For projects with an Adverse Phenotype score of 3+, animal care technicians receive images and/or videos of expected phenotypes. This helped them manage models with adverse phenotypes more efficiently.



Taconic’s Sales Inventory Operations Planning (SIOP) process ensures animal model production levels are set based on demand and only produce the animals needed to supply critical-reach animals. This allowed us to reduce overproduction of animals in our commercial production colonies and improve the Avoidable Discards to Sales ratio.



**Fig 3:** Since early 2022, AWARE scoring has been included in all new project plans. In June 2022 Taconic started the process of reviewing all existing colony management projects to give them AWARE scores. This effort was completed in 2023.

## Key Takeaways

By implementing the AWARE™ program, Taconic has successfully:

- Reduced animal wastage while guiding researchers to more robust study design
- Increased awareness and transparency of potential pain and distress for the animals and proposed measures to reduce this
- Fostered a culture of care and reduced potential compassion fatigue by preparing and training staff to handle adverse phenotypes



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