

Criteria to assure reliability of

By Claire Larose, SPF

To guarantee reliable results, Panelis, the palatability measurement and feeding behavior study expert center, takes into account different criteria: selection and qualification of the animals, and methodology in result treatment.

Procedure to select and qualify the animals

The animals are carefully selected. To control their feeding experience, and their cognitive development (socialization, training etc.), they are recruited as soon as weaning is over. They need to be in good health, and to show no evidence of stress. A variety of breeds are selected to be representative of European population. The sex ratio is even perfectly equilibrated not to bias the statistical analysis. The number of animals per panel is high enough to guarantee reliable results and statistical analysis.

As soon as they arrive at Panelis, the animals are trained. They are exposed to test conditions (time, duration, type of test, etc.), and trained for 6 to 8 months to taste a variety of food, and to avoid any future risk of bias towards a new product. Relationship to technicians is daily entertained in order to avoid any negative interference linked to a bad socialization.

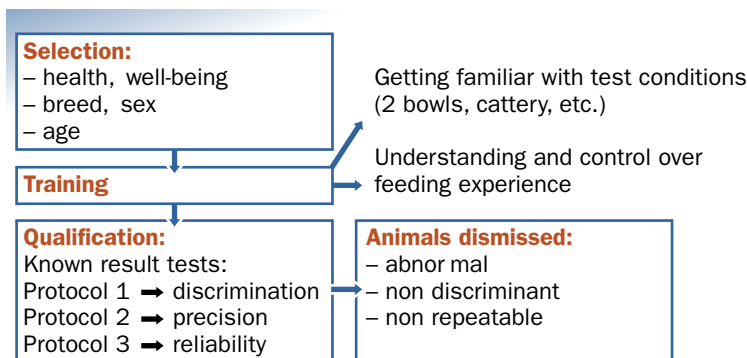
Once this training is over, the animals go through the qualification procedure. Several tests with known results are conducted for 2 months. It is to verify the exactitude and repeatability of the answers of the panel and the individual animal, as well as the reproducibility through different panels. It is also to make sure there is no abnormal behavior.

Control of test conditions and criteria to validate results

To guarantee reliable results, test conditions are controlled. Procedures are written for technicians to be able to conduct reproducible tests especially by using non-varying parameters such as type of test (versus test), type of distribution (2 bowls presented simultaneously), meal time, meal duration, number of meals per test with alternation of bowl position from one meal to another, quantity distributed, absence of strangers, etc. Environmental parameters are always checked (temperature, hygrometry, smell, storms, etc.) and taken into account in result interpretation. These parameters are more variable and are more difficult to control. Panels are "specialized": they evaluate only one type of product (dry or wet). This way results are not biased by the consumption of 2 very different types of product.

Strict selection criteria of a panel and an animal are established to limit bias in statistical analysis. For each meal, individuals can be dismissed from the test for reasons such as veterinary treatment, under consumption, over consumption, behavior (lateralized food behavior, thief behavior, animal who tips over his bowls, etc.). If the minimum number of animals for the test (>30) is then not reached, or if

Panel and individual qualification procedure



Testcriteria

Criteria of validation of a test:

- Valid animals greater than 85% of number of animals used. Minimum: 30 animals
- No environmental disturbance (odor, storm, stranger, etc.)

palatability tests

environmental disturbance are noted, the test is not validated.

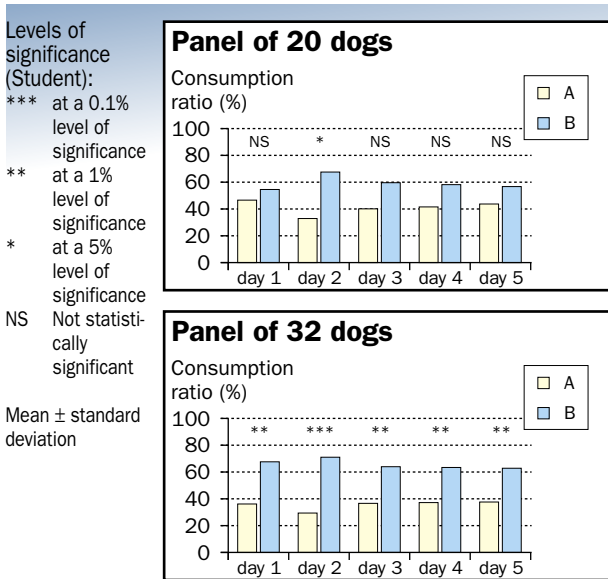


Chart 2: Reliability of an expert panel

The choice of 30 animals minimum is validated by the chart.2. Indeed, these graphs show that for the same test, when we analyse results with 20 or 32 animals, the conclusion is very different. If with 20 animals, we can conclude that there is no difference of palatability, with 32 animals we can conclude that B is more appetent than A. This difference could be due to the fact that with a small number of animals,

the choice of one of these have more influence on the result. Looking at the answer day per day, we notice that the expert panel of 32 individuals is more repeatable and there are less individual variability (cf. smaller standard deviation) that could bias pal test result. Also the number of individuals per test seems more important than the number of day.

Permanent quality follow up of panel and individuals

Quality of operational panels and its individuals is checked regularly with different indicators (daily follow up consumption of the individual animals and the panel, monthly follow up of laterality (Chart 3), veterinary follow-up, etc.).

Each trimester quality control tests are conducted. They are the same tests conducted in the qualification period. If non-conformity of an individual or panel is noticed, corrective action is made (program to correct lateralized food behavior, animal dismissed of the panel if same problems appear all the time, or if no solution can be found, etc.).

Criteria of validation of the animals	
Cat	Dog
- Not in over consumption	- Not in over consumption
- Not in under consumption	- Not in under consumption
- No veterinary treatment to interfere with the test	- No veterinary treatment to interfere with the test
- No laterality	- No laterality

Comparison of consumption % of a cat / panel

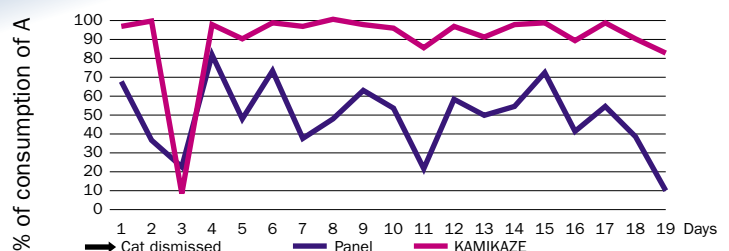


Chart 3 : Laterality follow-up. Goal: abnormal animals dismissed