ECOLAB®

+44 (0) 292 085 2000
+44 (0) 292 085 4330
custhelpdesk.uk@ecolab.com

CUSTOMER SERVICE CENTRE
UNITS 1-8 CAERPHILLY BUSINESS PARK
VAN ROAD CAERPHILLY CF83 3ED

14th April 2017

The Hut Group
The Stables
Gadbrook Park
Rudheath
Cheshire
CW9 7RA

To whom it may concern,

Today I received a mouse which was reportedly found in a health powder, which had been stored at an 0ambient temperature in a kitchen cupboard.

On investigation the mouse was flaccid and limp with no signs of rigor mortis. Rigor mortis or the stiffness of death is controlled by two filamentous proteins, actins and myosin, which slide alongside each other's causing muscle cells to contract and relax and relax. When death occurs muscle cells are depleted on their energy source and these protein filaments become locked in place. This causes the muscles to become rigid and locks the joint. With this mouse this has not yet occurred.

Studies in decomposition in mice showed that bacterial composition of the body changes dramatically after death, as the immune system stops working and bacteria and enzymes start to digest cell walls from within. This change normally starts between the small and large intestines, spreading out to the surrounding tissue and on to the rest of the body. This decomposition occurs in a consistent and measurable way.

In studies carried out on decomposing mice at the Australian museum, Sydney. They used a standard scale of six stages of decomposition. Stage one, before death. Stage two, zero to three days after death, bacteria and enzymes that aided digestions in life now break down cell wall, spread out of the intestines and into surrounding tissue. Stage three, putrefaction at four to ten days after death. This is when gases start to build up within the body, the body starts to become discoloured, leak body fluids and start to give off a bad smell. Stage four, black putrefaction occurs at ten to twenty days after death. Bloating breaks down as the skin peels away from the body and the body collapses. Stage five, Butyric fermentation at twenty to fifty days after death is where the body flattens and dries out and stage six when all the flesh has gone and only the fur and bone remain. This data that they obtained in laboratory using mice averaging 35gms at a temperature of sixty six degrees Fahrenheit.

Using this scale, the subject mouse has no rigor, and is starting to smell. The belly of the mouse has darkened and appears wet as body fluids have started to leak. This would put the subject mouse at stage three or early stage four of decomposition. Increased temperature would speed up this process, making the stages shorter and adversely cooler temperatures would extend the process. Body mass of the mouse would also play a role. This data was gained using 35gm mice and the subject mouse was only 11gm. The small body mass of this mouse would rapidly speed up this process. Also the protein powder would extract moisture from the body causing dehydration.

Stored in protein powder in an ambient temperature of the kitchen I believe death of this mouse to have occurred between seven to fourteen days prior to my receipt of the sample.

Yours sincerely

Ian McKay
Entomologist, PEST ELIMINATION

ECOLAB T +44 (0)2920 852000

+44 (0) 292 085 2000
+44 (0) 292 085 4330
custhelpdesk.uk@ecolab.com

CUSTOMER SERVICE CENTRE
UNITS 1-8 CAERPHILLY BUSINESS PARK
VAN ROAD CAERPHILLY CF83 3ED