

ACBA: Husbandry

THE STRESSES OF SHIPPING & THE CAVY

By David Hardesty

It is well documented in the literature that the cavy is easily stressed by rapid fluctuations or extremes in temperature or humidity. Insufficient food or water, excessive crowding, and unsanitary caging are all stressful conditions which can and will lead to disease conditions in the cavy, depending upon the age and general condition of the animal involved. The conscientious cavy breeder, be he fancier or commercial breeder, will always strive to keep these stresses at an absolute minimum. The stresses are obvious in these cases; an incriminating finger is quick to be pointed. Yet stresses in the cavy may be quite subtle. Consider the following scenarios:

A young man I know, took a cavy to a cooped show. The coops were filled with Cervol (dried sugar cane pulp). This animal, an adult, was accustomed to pine shavings. We thought nothing of it at the time. Two days later the animal was dead from acute diarrhea.

You have just purchased an apparently healthy animal from a reputable breeder. The animal is from an established bloodline and the parent stock is doing well across the judges table. You have very high hopes for this animal. You take the animal back to your caviary and lavish attention on your animal. Nothing is going to happen to this animal. The animal seems to quickly recover from the rigors of shipping. Several days later you notice that your prized animal is not doing well. It appears to be losing weight and sits listlessly in the back of the cage. Upon closer examination you notice the animal has diarrhea. You try every trick in the book but nothing seems to entice the animal to eat and little seems to help the diarrhea. The animal drinks copious amounts of water but continues to loose weight. In spite of all efforts the animal dies.

What went wrong? You may blame yourself, or the breeder who sold you the animal. But for what? This scenario is not totally uncommon, more common with adult animals than with youngsters. What actually did happen?

Most cavy breeders raise their animals on a commercial diet and bed them on some type of shaving, the choice dictated by personal preference and economic considerations. The water that these animals were raised upon will contain a fairly constant percentage of dissolved minerals and will have a relatively constant pH.

Healthy cavies depend upon naturally occurring, benign bacteria to digest cellulose and other vegetable fibers. Plant cellulose is difficult to break down and to extract nutrients. Nature had adapted most plant eating animals to have very l.o.o.o.ng digestive tracts to permit more time to extract nutrients. Certain bacteria which can use cellulose as raw

materials for their growth have found a perfect habitat in the digestive tract of the cavy. They are given a perfect, moist, warm habitat, complete with a constant supply of food. These bacteria are perfectly harmless to the cavy unlike their more pathogenic relatives. In the process of living out their normal life cycles, these bacteria break down the cellulose into usable nutrients for the cavy and produces certain B complex vitamins as a byproduct. Cavies have actually adapted to re-ingest a percentage of their stool in order to recover some partially digested nutrients, and at the same time recycle these beneficial bacteria. You may have even observed one of your cavies grabbing some feces as it is being excreted and re-ingesting it. This process is even given the expression cecatrophy. "Ceca" is in reference to the cecum which is the first and largest portion of the cavies large intestine where these beneficial bacteria live out their existence, and "trophy" refers to the general process of ingestion. Remove these bacteria from the digestive tract of the cavy, and the cavy will starve to death. (This is why great care must be taken when using antibiotics on the cavy. Care must be given to ensure that the antibiotic kills only the pathogenic bacteria and not the beneficial bacteria also!) The normal gut bacteria of these animals therefore, have been acclimated to a constant ratio of fiber, fat, protein, and carbohydrates which make up the feed. Certain strains of these bacteria, which thrive on this diet, will come to predominate the naturally occurring, beneficial bacterial flora in the intestines. Other strains of the same bacteria, which are less well suited for this particular composition of ingredients, will not thrive and be out competed by their better adapted strains. Over time there is a shift in the balance of power, so to speak. The strains of bacteria which are best suited will make up a larger, and larger proportion of the bacteria in the gut. Those less well adapted will make up a smaller and smaller proportion of the total population.

The type of bedding used, which the cavy will ingest as roughage, also helps to determine those bacteria which thrive and those which will not. Cellulose content, resin content, and the natural acidity of the shaving will vary from pine, hardwood, cedar, or sugar cane shavings. If straw is used for bedding this will have an entirely different proportion of raw ingredients. Therefore, when you bring home your newly purchased cavy, unless you are feeding exactly the same brand of feed, using exactly the same type of bedding and are giving water from the same water system, you will cause the basic environment within the cavies intestines to be changed. Abruptly changing the diet, which includes feed and shavings that the cavies eat, will cause an abrupt change in the ratio of nutrients in the gut. If this change is severe enough, this will precipitate a die-off of the predominant gut flora, due to the

less favorable conditions, and other strains of better suited bacteria, formerly under-dogs, will flourish or "bloom". This bloom of the new "top-dog" will cause a shift in the balance of power, so to speak. It is this shifting balance of power within the gut of the cavy which manifests itself as diarrhea, and unless rapid steps are taken to prevent dehydration and loss of electrolytes from the animals system, the prognosis is not very promising.

What, then, could have been done to prevent this problem in the first place?

Always send at least a weeks supply of feed with any animal you ship or receive. Find out the name brand the breeder feeds his animals. If you don't have that brand available in your area, ask for a supply of feed to be sent with them, or at a minimum find out the analysis on the protein, fat, and fiber content. If there is a large difference in the analysis you definitely are advised to gradually switch from the former diet to over to your own by mixing the two diets together so that at first the mixture is mostly what the cavy is accustomed to, and each time you fill the cavy's feeder, you are gradually increasing the percentage over to your normal diet. If you supplement with sweet feed or grains, do not abruptly add these to the new arrivals diet.

Ask the shipper to send along a small supply of bedding if you bed on different types of bedding. Breeders out on the West coast have been using a bedding product which are pellets manufactured from recycled newspaper. Pine chips made from soft white pine will have a different composition than chips made from cedar. Normal, healthy cavy's will eat their bedding as roughage. A sudden change in the composition of this roughage is a recipe for acute diarrhea. Asking a breeder to send along enough shavings to last for one cleaning will serve two purposes. Until the cavy settles into its new home, it will represent one less change than if you are also changing its bedding. Secondly you will be able to see exactly what the new animal is accustomed to. Examine the shavings. Do they smell just like what you are now using? Aromatic shavings would indicate a high resin content. Naturally occurring resins

within wood shavings can have an adverse affect on the beneficial bacteria within the cavy's gut. Are they moist or dry? High moisture content in wood shavings is conducive to mold and fungus infestations.

If there is a substantial difference in the water mineral content from his area and yours you should know this. We have all noticed, at one time or another, how when we go on vacation out of state, we notice how the water may taste funny! This may be due to the water being very hard with a high calcium carbonate content. Or the breeders house has an old iron pipe system which is dumping massive amounts of iron into the water. This could be an issue if you have modern copper plumbing which would represent a sudden reduction in the amount of dissolved iron in the water. This could potential precipitate a dramatic change in gut flora. You may do well to ask, if it's not too inconvenient ask for a supply of water which the animal is accustomed to drinking,

Change the animal over gradually to the new feed, bedding, and water. The shift in the balance of the gut flora will still occur, but at a more controlled rate than with a sudden, and abrupt conversion. By far the most important change to do gradually is the feed, next the bedding and least of all, the water. Here are some examples of what could happen. When I moved from Dayton, Ohio to Cleveland in the early 70's, I brought my animals with me, with the same feed and bedding they were accustomed to. I nearly lost half of my adult breeders. Later after the animals were recovered I figured out that the water in Dayton is very hard coming from deep limestone wells; the water in Cleveland is lake water, not nearly as hard.

This is the reason why whenever I go to a show that requires an overnight stay, I take my animals in small coops which contain food, shavings and water from home. I take the same precautions when I ship animals, even if to a local breeder. There is absolutely no sense in asking for trouble. A moderate degree on anticipation and precaution will ensure that the cavy makes the smoothest transition into its new home..

Except as specified below, no part of this publication may be reproduced in any form or by any means, including electronically, or transmitted by any means without permission in writing from the American Cavy Breeders Association (ACBA). Copying: Single copies of individual articles may be made for private use or research providing copies bear the ACBA copyright notice. Authorization does not extend to copies made or distributed for profit, commercial advantage, promotional purposes, to electronic storage or distribution, or to republication in any form. In all such cases, specific written permission from ACBA must be obtained. Permission for Other Use: Permission is granted for brief quotes with the customary acknowledgment of the source. To reprint a figure, table or other excerpt requires the consent of the ACBA. For permission contact: Lenore Gergen (ACBA Secretary), 16540 Hogan Avenue, Hastings, MN 55033. Opinions of individual authors are their own and do not necessarily reflect those of the ACBA, its board or officers.