

## Results of a 4 Year Study on Light Sensitivity in Ferrets

By Mary K. Van Dahm in *The F.A.I.R. Report*. Date unknown.

**FACT Note:** Although Mary Van Dahm is not a formal scientific researcher, she has operated the FAIR shelter, and before that the Greater Chicago Ferret shelter, for 7 years. Her findings should be of interest to all those who blame early neutering for the high incidence of adrenal cancer in ferrets, and give those who worry about their farm-bred ferrets suffering this disease an opportunity to possibly avoid it.

For the purpose of this newsletter, the information given here is general. I have used the terms 'dim', 'moderate' and 'bright' to refer to the light levels used. Anyone wishing to know specifics as to light meter readings, type of lighting and other variants involved may send a SASE to: F.A.I.R., P.O. Box 952, Westmont, IL, 60559 along with your request.

All 40 of the ferrets involved in this study were between the ages of 1 and 3 years old at the onset. To try to avoid the possibility of hereditary predisposition to certain cancers, the ferrets were obtained from different sources around the country as follows: Tennessee – 3; Iowa –3; Wisconsin – 3; Missouri – 2; Michigan – 2; Minnesota – 3; Peoria, IL –6; southern Illinois –3; northern Illinois –3; and Marshall Farms (NY) pet shop ferrets –12. (The ferrets were all give-ups at our shelter – we did not purchase any ferrets for this study.)

The ferrets varied in color from albinos and dark-eyed whites, assorted silvers and silver mitts, chocolates, cinnamons, sables and black selfs. About half of the ferrets were light colors and half were dark. Each group contained a variety of dark and light ferrets.

The Marshall Farms ferrets and the Minnesota ferrets were all neutered and spayed at 6 weeks of age or less. All of the other ferrets were neutered or spayed at six months of age or older (most of them were over 1 year). The ferrets were divided into 8 groups at random by compatibility with at least one early neuter in each group and at least 3 sources of ferrets being represented in each group.

The ferrets were housed in a room without windows for their 'down' time. Some dim peripheral light came from the open doorway to the room and the light had to be turned on for about ½ hour twice a day for cage cleaning and other necessary functions that couldn't be done in the dark. The ferrets were let out to play in their respectively lit areas for about 7-1/2 hours each day. Three shifts were let out at a time. Shifts were run from 8 a.m. – 3:30 p.m.; 4 p.m. – 11:30 p.m. and midnight to 7:30 a.m. The half hour between shifts was used to clean the play areas, scoop litter boxes and replenish food and water supplies.

Seven ferrets were euthanized or died during the course of this study. One was from the dim light group, two were from the moderate light groups and four were from the bright groups. The reasons for euthanasia or death were as follows:

- 1 – prostate disease resulting in chronic urinary blockages;
- 2 – congestive heart disease;
- 1 – liver dysfunction;
- 3- combination cancers (adrenal, insulinoma, lymphoma).

Three of these ferrets were early neuters (2 Marshalls/1 Minnesota) and four were late neuters (1 Michigan, 1 southern Illinois, 1 northern Illinois and 1 Missouri).

Of the remaining 33 ferrets, none of the ferrets kept in low lighting have shown signs of hair loss, 20% of the ferrets in the moderate light group have shown hair loss, and 25% of the ferrets in the bright light group have shown hair loss.

Now here is where things really get interesting. 40% of the ferrets in the low light group developed insulinoma. Four of the ferrets that went in for insulinoma surgery (approx. 33% of the total for the low light group) were found to also have adrenal tumors- two of them were even bilateral – yet they did not show any exterior signs of adrenal disease – no hair loss, no swollen vulvae, no strong smells. A couple of them both males – did show renewed sexual aggression – trying to mount other ferrets.

About 35-40% of the ferrets in the moderate and bright light areas also developed insulinoma. One from the moderate light group and one from the bright light group also revealed bilateral adrenal disease during surgery. Not all of the ferrets with insulinoma had surgery due to finances.

Another interesting occurrence was when, at the beginning of the fourth year, I took one group from the bright light area and one group from the dim light area and switched them. Two of the ferrets that were from the dim

light group and switched to bright light developed thin, dry coats, while two ferrets from the bright light group who had outward signs of adrenal disease, developed full, soft coats again after several months in dim light. One ferret from the bright light group who had advanced signs of adrenal disease did not grow hair back in.

I know that this study was not done under the best controls, and using ferrets from such diverse backgrounds may have been a drawback rather than a plus, but roughly speaking the evidence presented from this study seems to point to the possibility that many ferrets, whether from private breeders or from ferret farms, are prone to getting this disease, but due to the surroundings that the ferrets are kept in, the owners, and even their veterinarians, may not know that the ferrets in their care are affected.

Ferret owners in Europe have been quick to claim that ferrets in the United States are more prone to adrenal disease than European ferrets. But European ferret owners generally keep their ferrets outside in cages in protected spots or in sheds with limited access to light. Maybe these ferrets do have adrenal disease but just don't show signs of it. In the U.S. most ferrets are kept as indoor pets. They are subjected to daylight from windows during the day and to artificial light at night. Maybe this extended photo-period is affecting their hair growth.

The other widely held belief that this study challenges is the belief that ferrets that are neutered early run a greater risk of adrenal disease than late neuters. In this study, it did not seem to make a lot of difference. The percentage of early neuters affected was similar to the number of late neuters affected, with early neuters only showing about 3% greater incidence of outward signs of adrenal disease. Since these ferrets are our pets, we didn't routinely open up each ferret to see which ferrets might have had adrenal disease without showing symptoms. As each ferret passes, we will do a post mortem on them and add whatever information they reveal to this file.

If anyone has questions, comments or suggestions concerning this study, please feel free to contact me.