

**BEFORE THE NEW YORK STATE DEPARTMENT
OF AGRICULTURE AND MARKETS**
Albany, New York

In the Matter of the Petition of)	
)	
THE HUMANE SOCIETY)	Index No.
OF THE UNITED STATES,)	
ET AL.)	
)	
for a Declaratory Ruling)	

AFFIDAVIT OF DR. YVAN BECK

Dr. Yvan Beck, Veterinarian doctor, being duly sworn, deposes and says :

1. My name is Dr. Yvan Beck, I am a Veterinarian doctor who graduated from the Liège State University in Belgium. I submit this affidavit in support of the Petition for a Declaratory Ruling, based upon my education, training experience, research, review of evidence specific to this matter, and where applicable, my personal knowledge. In the course of my work in Brussels, I created, developed and directed for more than 10 years the first department of clinical veterinarian biology in a private laboratory (Lama)¹. A section of this department worked in collaboration with Dr. Pastoret's virology department of the Liège State University to develop a common task force on the diagnosis of viral diseases in carnivores. On different occasions, these activities led me to intervene as a veterinarian expert in cases requiring information on clinical biology.

2. I also obtained a DES (graduate diploma from Brussels University). The thesis I wrote in the course of these studies focused on foie gras production,² and was awarded high honors. This work was intended, in part, to assess the role of the intensive production of foie gras as a breeding and production. My continuing work in this area includes veterinary knowledge at large, my skills as an expert in the field of clinical biology acting as a director for the clinical biology department, and a global perspective on the process as required by the DES.

¹ Résumé included, Exhibit A.

² "Force-feeding of palmipeds and foie gras production: the global review of a choice made by society", DES Environment – Masters program of the science department of the Free University of Brussels; 1994

3. In order to accomplish my initial studies, I visited several sites used for the intensive or artisanal production of foie gras in Belgium and abroad. I had myself the opportunity to force-feed animals. I was able to witness their reaction to manual or pneumatic force-feeding and I also witnessed their reaction to various conditions of confinement at different times (in the course of or at the end of force-feeding). I also incorporated studies and research being conducted at various universities on foie gras production and used these in part for my conclusions on the link between clinical biology parameters and the structural pathological modifications of the liver in such production.

4. Based upon my expertise on the subject, I have been invited to participate as an independent expert in debates on foie gras production at various levels, including³: 1) being invited to participate in the Strasbourg meetings on the production of foie gras as an independent expert representing WSPA (World Society for the Protection of Animals),⁴ 2) being invited to participate in the discussions of the Brussels Scientific Committee on Animal Health and Animal Welfare which produced a study entitled *Report on welfare aspects of the production of foie gras in ducks and geese*, 3) being invited to participate in a working group of the “welfare committee” established then under the ministry of agriculture I have also written extensively on the subject, including publishing a chapter on the subject in a recent book.⁵

5. Generally speaking, foie gras production is directly or indirectly the source of several problems affecting animal welfare and health. These problems could be grouped as follows: 1. Problems directly linked to force-feeding: 1.1. The intentional hepatic steatosis causes pathology of the liver, and 1.2. The technique of force-feeding is the source of pathological complications; and, 2. Problems indirectly linked to force-feeding: 2.1. Extra-hepatic conditions linked to force-feeding, 2.2. Problems linked to the industrialization of production.

6. My conclusions are supported by various studies which I will refer to throughout my analysis below. Some of the more commonly referenced studies cited below will be referred to by abbreviation as follows: 1) *Report on welfare aspects of the production of foie gras in ducks and geese*; Scientific Committee on Animal Health and Animal Welfare; EU; 16 December

³ See Résumé, Exhibit A.

⁴ Standing Committee of the European Convention for the Protection of Animals kept for Farming Purposes (T-AP)

⁵ *Animal, Human, Life*; Dr Y Beck; edition Les Eperonniers; 1998

1998, (Reference R1); *Force-feeding of palmipeds and foie gras production: the global review of a choice made by society*; DES in environment – graduate program of the Science Department of the Free University of Brussels; 10/28/1994 – (Reference R2); *Report of a Belgian Group of Experts on Force Feeding* by Dr M. Heymann (anatomy-pathologist), Dr MC Van Berchem (ethologist), Professeur R.Zayan (ethologist), Dr JM Guilmot (avian medicine), et D Y.Beck (clinical biology); *Planète Vie – RNS* ; (1996)- (Reference R3).

7. Initially, I note that the final conclusion of the European Union Scientific Committee on Animal Health and Animal Welfare Report (R1, p. 65) (“Committee Report”) states: “The Scientific Committee on Animal Health and Animal Welfare concludes that force feeding, as currently practised [sic], is detrimental to the welfare of the birds.” This is consistent with my own findings,⁶ and with definitions of the known pathologies caused by foie gras production in various recognized sources.⁷

8. The ability for lesions to be reversed in situations of hepatic steatosis is a question of threshold. Nutritional hepatic steatosis is a process which, at a certain level, cannot be reversed and will condemn animals to death. The lesions’ ability to reverse below this threshold can not in any way be used as an argument to deny the underlying pathological condition.⁸

9. Thus, the hepatic lipodosis / steatosis induced as a finality of the force-feeding process is a pathological condition. The Committee Report⁹ evaluates consequences of force-feeding one by one through the creation of welfare indicators by assessing, in particular, the functioning of the hepatic cell through the study of the biochemical parameters which are connected to it.

⁶ Reference R2: page 62:

Force-feeding of palmipeds or nutritional hepatic steatosis provokes a pathological transformation of the liver which causes undeniable animal suffering. The economical goal of the process is to push the transformation of this organ to the maximum in the shortest amount of time in order to maximize profit. However, this must be stopped before the degenerative phenomena, unavoidable beyond a certain level, start affecting the quality (friability) of the product or damaging excessively the health of birds

⁷ Reference R2: hepatic steatosis: definitions: p. 26-

⁸ Reference R1: p. 41:

These various data show that the liver steatosis obtained by force feeding induced an impairment of hepatic function, as demonstrated from morphometric, biochemical, histological and pharmacological points of view, but that this was completely reversible in the studies carried out. The reversibility of steatosis which is reported above for many birds which have been force fed does not mean that the changes in the liver are not pathological. (emphasis added)

⁹ Reference R1: pp. 33-49

The conclusions of the report on the occurrence of a pathologic condition linked to nutritional hepatic steatosis are not ambiguous,¹⁰ and fully support my conclusions.¹¹

10. If hepatic steatosis preserves the metabolic properties of lipids in birds, both the forceful dietary overload and the prolongation of force-feeding beyond a certain threshold accelerate the physiological perturbations of the hepatic cell and cause functional disturbances which vary in the way they occur – a characteristic of all hepatic malfunctions. This is shown by the various pathologies developed in animals that die in the course of force-feeding.

11. These conclusions are also supported by analysis of the modifications of hematic biochemical parameters evaluating the hepatic steatosis.¹² Thus from an anatomic-pathologic point of view, I have noted that:

The direct consequence of a chronic accumulation of lipids in the hepatic cell (steatosis) is the progressive appearance of secondary necrotic phenomena which, at the end of their evolution, will cause a generalized fibrosis of this organ. All the liver diseases causing a fibrosis interfere with the hepatic vascularization and are at the origin of vascular anastomoses. These shunts bypass the hepatocyte, an intermediary between the splanchnic circulation and the portal system. They also cause the manifestations of hepatic encephalopathy described.¹³

13. The hepatic lipodosis/steatosis are conditions which affect the hepatic function and are therefore pathological. This conclusion is consistent with findings from an anatomical pathology perspective.¹⁴

10 Reference R1: p. 44

11 Reference R1: p. 48 (“In conclusion there is a good evidence that liver structure and function that would be classified as normal is severely altered and compromised in force fed ducks and geese, but that lipid metabolism biochemical pathways are still functioning normally, albeit at increased rate....”)

12 Reference R2: pp. 32- 35; Biochemical changes associated with fatty liver in geese; Prof Bogin et col Department of biochemistry - Kimron Vet Inst Israel Avian pathology 13 683-701 1984; The Muscovy Duck”; B Sauveur H de Carleville 1990 ed de INRA; Enzyme patterns of the organ of the goose, effects of fattening on liver enzymes; Braun et col Ann de Rech Vet 1985 16(3) 293-295 INRA Associated Laboratory of Biochemical and Metabolism toxicology, National Veterinary School, Toulouse; Modification of blood plasma components as related to the degree of steatosis in the force fed goose; NIR: Dep of Animal hygiene and poultry science Univ of Jerusalem; Poultry Science 51 2044-2049 1972; Modification of hematic parameters based on the hepatic steatosis in force-fed geese; Blum et col Annales de recherche vétérinaire 1970 1,2, 167-178

13 Reference R2 : p. 24

14 Reference R3: p. 25:

14. Another source for my conclusions is the mortality rates of birds used in foie gras production. If animals die during force-feeding, there is a reason for it, even if we ignore the statistical distribution of the correct pathological causes of each death. In fact, they die in large numbers and/or in proportions different from the proportions encountered when other breeding practices are applied to geese and ducks for human consumption. Force-feeding is recognized as the source of these mortality rates, which are 10 to 20 times higher than normal when force-feeding occurs.¹⁵ The induced disease of the liver explains why animals die at the end of the human-induced process,¹⁶ and the hepatic steatosis present in a fatty liver is a pathology that is also a source of direct or indirect complications (diseases)¹⁷ contributing to these mortality rates in breeding operations.

15. With force feeding, there are various diseases directly affecting the liver. Steatosis / lipidosis belongs to a progressive degeneration process, followed by a necrosis and a hepatic fibrosis. As shown in previous scientific elements, the repercussions of steatosis on the physiological functions of the liver increase as the steatosis develops by affecting with more or less intensity animal health and welfare. Passed a certain threshold, the structural problems – degeneration, sclerosis, vascular problems and necrosis – directly affect the anatomy of the liver and its quality as a finalized product for human consumption.

16. Various hepatic conditions are at the source of the important number of deaths occurring in the last days of force-feeding. These include hepatomegaly, and various hepatic

The excessive lipid accumulation observed in geese and ducks' livers at the end of force feeding is, from an anatomopathologic point of view, a lesion and not a normal physiologic process. The fact that these modifications are due to lesions is confirmed by the occurrence of clinical biological modifications (increase in hepatic enzymes in the blood. This increase absolutely may not be considered as normal. It is a categorical sign of disease) and by a clinical symptomatology (nursing of animals, difficulty in regulation of internal temperature, apathy, difficulty with physical activity, etc.). Therefore, we are not using a physiological process specific to palmipeds for the production of gourmet food, it is a pathologic process which can be reproduced in other species. If goose and duck livers are used, it is because the pathology here is easier to reproduce

15 Reference R1: p. 46

16 Reference R1: p. 62

17 Reference R1: pp. 48

Other clinical signs that force fed birds exhibit which are not seen in age matched birds fed ad libitum and on a natural diet include: loose faeces, wet neck, increased time spent sitting and less carrying out active behaviours, some aversion to the feeding process, increased evidence of bone fracture and liver lesions at the abattoir....

lesions including perihepatites,¹⁸ hepatic necroses,¹⁹ circulation troubles linked to portal hypertension²⁰ encephalopathy, and global hepatic insufficiency.²¹

17. In addition, this degenerative process indirectly causes several other complications external to the liver for the animals, including secondary infections (exit germs).²² Deterioration of the musculoskeletal system resulting in fractures of bones²³ is common, in part because immobilization of animals in cages, nutritional imbalance of portions (deficiency in proteins and in minerals), hormonal disturbance and excessive weight which all affect bone growth. Ultimately they cause fractures, as seen in breeding facilities and in slaughterhouses. There are also various respiratory problems which appear during force-feeding and are caused by the physiological reactions caused by the forced ingestion of a big quantity of neuron-vegetative reflex food. Furthermore, without a diaphragm to separate the thorax from the abdomen, the hypertrophied and voluminous liver compresses more and more the air sacs and affects respiration. At the end of force-feeding, the animals are most often panting and incapable of any effort.

18. In addition to my own education and experience as the head of a laboratory, I have been given and thoroughly reviewed several records specifically regarding foie gras production in New York state. These include necropsies performed on three ducks in 2002 and 2003, a veterinary report, necropsy, and follow-up consultation regarding another duck in 2005, and a 2006 analysis regarding a particular animal feed. The information included in these documents is consistent with my own experience regarding force-feeding and the research on the subject described above .

18 Contribution to the optimization of the productions of fatty palmipeds; page 57; Bernard PhD thesis registered with the National Veterinarian School of Toulouse on 06/25/92; Hygiene and industry of food resources of animal origin. - Lesions found at the inspection of the liver of fatty palmipeds: perihepatitis; Benard Pelletier Labie Rev Med Vet 1992 , 143 , 4 , 325-331.

19 Contribution to the optimization of the productions of fatty palmipeds; page 57; Bernard PhD thesis registered with the National Veterinarian School of Toulouse on 06/25/92; Hygiene and industry of food resources of animal origin - Lesions found at the inspection of the liver of fatty palmipeds: perihepatitis; Benard Pelletier Labie Rev Med Vet 1992 , 143 , 5 , 435-442

20 Lesions found at the inspection of the liver of fatty palmipeds, Benard Pelletier Labie Rev Med Vet 1992 , 143 , 5

21 Contribution to the optimization of the productions of fatty palmipeds; page 57; Bernard PhD thesis registered with the National Veterinarian School of Toulouse on 06/25/92; Hygiene and industry of food resources of animal origin.- Inspection of the meat from geese and ducks fatty palmipeds. PhD Thesis of Castets ENVT 1979 – Lesions found at the inspection of the liver of fatty palmipeds: necroses; Benard Pelletier Labie Rev Med Vet 1992 , 143 , 5 , 435-442

22 Reference R2 : pp. 40-43.

23 Reference R1: p. 63

19. Regarding the necropsies performed on three ducks in 2002 and 2003 by Antech Diagnostics, the documents describe lesions observed through microscopic examination (liver/lung/kidney biopsies). All livers show a strong steatosis, and there is reference to inflammatory lesions of cholangiohepatitis. These cholangiohepatitis lesions can, like the lesions encountered in the lungs, be caused by bacterial superinfections, like Chlamydia, which require close monitoring. Indeed, this type of agent is a potential pathogen for the human species and its treatment by antibiotics which are frequently liposoluble leads to questions about the presence of residues in the hepatic layer of fat (we have here a fatty liver!) at the time of slaughter.

20. The lesions in the lungs described, which go from congestion to bronchiolitis or even pneumonia, are present in various degrees in all of the birds examined. They reflect and are consistent with the extreme conditions of intensive breeding described above. One case out of five (S3530440) presents an unusually located pneumonia regularly present when force-feeding occurs. It is interesting to note that all kidneys have lesions which vary from congestion to chronic interstitial nephritis, or anything in between. The Bumblefoot lesion appears during stays in cages and/or on gratings which cause wounds and facilitate secondary infections.

21. Regarding the 2005 records, the report of the Cornell clinical exam shows principally the consequences that force-feeding can have on the musculoskeletal system, as well as steatosis. Also, the inability to walk or to even stand at the end of force-feeding can be blamed partially on respiratory anoxia circulatory and/or anemic anoxia (the paleness of the mucus membrane described in the report could be one of its illustrations). I don't know the origin of the poorly healed fracture of the pelvis described here or of the bilateral tibiotarsal fractures, but these fractures are common complications during the force-feeding process, especially in the last days. They are linked to excessive weight, to confinement in cages and to an intentionally misbalanced diet caused to produce foie gras. Lesions of the extremities (bumblefoot) are also common in breeding operations using cages and/or grating.

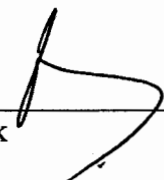
22. Even if these documents do not offer a statistical recording of the complications caused by force-feeding they nevertheless show that these pathologies exist and that problems caused by force-feeding are plurifactorial: complications are structural, physiological and ethological. They often affect several organs at various degrees – going all the way to the bird's death.

23. Regarding the feed analysis, even without being a nutritionist, one can see that the conclusions of the Dairy One analysis and the conclusions of Dr. Guilmot's analysis in the Report of a Belgian Group of Experts on feeding²⁴ are similar in substance. The food used for force-feeding is intentionally imbalanced and nutritionally deficient to cause hepatic steatosis. It is thus a source of various physiological and structural problems in force-fed birds.

Executed on this day

/s/

Dr. Yvan Beck



Subscribed and sworn to before me, this day

Seal of the Notary Public

Vu par nous Bourgmestre d'Uccle
pour légalisation de la signature
de Monsieur Yvan Beck
Uccle, le 10 mai 2009 OF 53017 975042
Le Bourgmestre



Claude Desmedt



²⁴ Reference R3