CALLOUSNESS ENCOURAGED BY WRONG KIND OF SCIENCE TEACHING

In emulation of the Russian satellite experiment in which a dog was sent into space, high school boys in Austin, Minnesota imprisoned a mouse in a homemade rocket and sent it 1,642 feet in the air. In perpetrating this unnecessary cruelty, the boys doubtless felt they were being very "scientific." They sent the mouse off with the approval of their science teacher.

Honest and mature American scientists take a more humane and intelligent view than this science teacher, who appears to have been as lacking in biological knowledge as she was in humane feeling. A United Press dispatch from Washington, January 22 stated: "The United States will put a simple form of life in one of its baby moons to be launched between now and March, it was learned today. Dr. Hiden T. Cox, executive director of the American Institute of Biological Sciences, said Navy scientists are now altering satellite designs to accommodate a culture of yeast cells. Dr. Cox said this simple form of life will yield 'infinitely more significant data than putting a mammal, such as a dog' in space at the present time.'"

The same would of course be true of any mammals, including mice. But the experiment done with the mouse in Austin, and the other cruel animal experimentation done increasingly in recent years by children in secondary schools, has never had any relation to serious scientific knowledge. The boys in Austin were preparing to send up a second mouse, when protests were heard from all over the country. The New York Herald Tribune published the following editorial on December 5, 1957:

"To a Mouse
On Being Shot Up 1,642 Feet in a Rocket

Woe, sleekit, cow'rin', tim'rous beastie,
O, what a panic's in thy breastie!
Thou need na start an' see battry,
wi' blackening bititl
I wad be laith to rin an' chase thee,
w' maird'ning pullis!"

"Robert Burns was certainly absent from that conclave of the Austin, Minn. Rocket Society, composed of high school boys, which launched a homemade rocket with a live mouse inside it last Saturday. Powered by a 'solid' fuel, the contraption rose 1,642 feet over the countryside at a speed of over 200 miles an hour. Then, quite logically, it crashed back to earth, its tiny passenger being killed instantly on the impact."

"Perhaps this experiment proved something, though we doubt it. Let youngsters fire off tiny Sputniks if they can. But why imprison a mouse, or any other living creature, in one, if no knowledge is to be yielded by its death? Killing a mouse, suddenly, may be necessary to prudent housekeeping. Subjecting one needlessly to 3,284 feet of darkness and terror shows little reverence for life. If in-

(Continued on page 4)

HOUSE OF REPRESENTATIVES PASSES COMPULSORY HUMANE SLAUGHTER BILL

On February fourth, the United States House of Representatives took the greatest step that has been taken in the past fifty years to prevent cruelty to animals. They passed overwhelmingly the compulsory humane slaughter bill, H.R. 8308, introduced by the Hon. W. R. Poage of Texas.

In the three-hour-long debate, the supporters of the legislation fought with vigor and assurance against the largely negligible and underhand attacks of the opponents, and the bill was passed without any weakening amendments.

The Hon. Harold D. Cooley of North Carolina, Chairman of the House Committee on Agriculture, was a powerful defender of the bill which his Committee had approved, and the Hon. William Dawson of Utah, speaking from the Republican side of the aisle, worked courageously for the measure despite the flat opposition of Secretary of Agriculture Benson who resides in his Congressional District.

Mr. Poage Describes Slaughterhouse Cruelty

Mr. Poage began by pointing out that the meat packing industry had "up until a few months ago done practically nothing to meet the requirement of human kindness, and even decency in the slaughtering of animals." He described the routine slaughter of hogs, stating, "They still kill pigs by bleeding them to death on the gruesome wheel—an instrument of torture to which live, conscious hogs are shackled in an endless line with a dozen or more being lifted some 12 or 15 feet into the air, to slowly and relentlessly move through possibly 50 feet of space where they come even with a sticker. A sticker, my colleagues, Mr. Poage continued, "is a man who stands on a bloody pedestal with a knife—sharp at the beginning of the day but certainly on many occasions in need of grinding—with which he sticks the jugular vein of the hog. He does not kill the hog. He is not there to kill the animal. The hog—or lamb and in some packing houses the calf—dies from the loss of blood as it is carried ever onward by the inexorable movement of the endless chain to which it is attached by a steel chain around one hind leg. If the animal is a hog, it is shortly dropped into a vat of boiling water. In most cases it has lost consciousness but numerous exceptions are reported."

Mr. Poage gave credit to those packing plants which have voluntarily adopted humane methods, and he continued, "Our committee has made an on-the-spot investigation of packing house killing practices. It was not a pleasing duty. We recognize that the slaughter of living animals is never a pleasant task. We found that the packers have great difficulty securing and retaining men to do the cruel and dirty work of knocking and sticking. Most workers take these jobs because of economic necessity and quit them as soon as they can. Unfortunately, the few who seem to want to stay with this work are generally either without any kindly feeling of compassion for the suffering of God's dumb creatures or are of such low intellect themselves that they are immune to any pain except their own.
This situation is not the fault of the packers, but it is most unfortunate—and it does exist."

Many Sponsors for Compulsory Law

The numerous sponsors of humane slaughter bills were recognized: Mrs. Griffiths of Michigan, who introduced the first such bill in the House, Mr. Dawson of Utah, Mr. Miller and Mr. Hiestand of California, Mr. McMillan of South Carolina, Mr. Lozer of Tennessee, Mr. Hyde of Maryland, and Mr. Broomfield of Michigan.

Mr. Poage then referred to the three sources of opposition. First were the packers, whose protests he showed to be invalid. Second were the livestock producers of whom he himself is one. "I would not knowingly hurt the livestock producers," he said, "but on the other hand I know that the livestock man, it he is the kind of man of whom we are so proud, is deeply interested in knowing that the cow he raised from a calf is not going to be needlessly and brutally subjected to any kind of mistreatment, and from the testimony of the packers themselves it seems clear that there is not going to be any extra costs to pass back. Hormel's several years of experience have resulted with this simply excepting the Jewish ritualistic method for food. The original committee bill had sought to deal with this simply excepting the Jewish ritualistic method of slaughter. It was, however, pointed out, quite fairly, I thought, that any exception might be construed as a brand of evil on a practice which we condemned but were willing to tolerate." Mr. Poage went on to explain how the bill had been written declaring ritualistic slaughtering as itself humane, how some feeling still remained to the method of slaughtering animals for food. The original committee bill had sought to deal with this simply excepting the Jewish ritualistic method of slaughter. It was, however, pointed out, quite fairly, I thought, that any exception might be construed as a brand of evil on a practice which we condemned but were willing to tolerate."

Mr. Poage read a letter from Mr. Leo Pfeffer on behalf of the Rabbinical Assembly of America, the Central Conference of American Rabbis, the Union of American Hebrew Congregations, and the American Jewish Congress, giving their support to H.R. 8308 as amended. Mr. Pfeffer made it clear, and Mr. Poage reaffirmed, that there was agreement on the amendments, pointing out that they "are not intended to deny the Department of Agriculture the right and power to prohibit any form of shackling and hoisting of conscious animals" and making clear that "it is not, however, intended to and does not give the Department of Agriculture any right or power to restrict or prevent the use of the Weinberg or revolving pen" (a humane pen for placing animals in position for kosher slaughter.)

Mr. Multer of New York spoke strongly in favor of H.R. 8308 as amended, adding the American Jewish Committee's name to the list of large group supporters and stating that the bill "will satisfy the overwhelming majority of people of Jewish faith." He pointed out that "the compassionate viewpoint of the Talmud has been summed up by one authority as 'kindness to animals is a plenteous act of goodness than helping one's neighbor. For it is done without any hope of receiving a return.'"

During the course of the debate, it began to appear that two of the most assiduous opponents of the bill—Mr. Hoffman of Michigan and Mr. Farbstein of New York—were attacking the bill on the most diametrically opposed grounds. Mr. Hoffman's heckling was largely aimed at trying to prove that kosher slaughter is cruel, and the same method also was taken up persistently by two other Republican opponents of the legislation. Mr. Farbstein, on the other hand, was opposing the bills as spokesman for the Union of Orthodox Rabbis, the sole Jewish group which continued opposition after the new amendment was agreed upon. The Union of Orthodox Rabbis claims that humane slaughter legislation leads to anti-kosher slaughter legislation. The issue has been as a surprise to any observers whom the Union of Orthodox Rabbis sent to Washington to find that the numerous reflections on kosher slaughter came entirely from men who opposed the passage of humane slaughter legislation. This line of attack formed a major part of the opposition.

Corporate Cruelty a Fit Subject for Legislative Action

Mr. Dawson of Utah put an end to the tasteless jokes of Mr. Hoffman by calling attention to the fact that "humorous statements and amendments may be offered to deter us from what we have in mind.

"I am one of the original sponsors of the legislation," he continued. "May I confess that I started out as a reluctant sponsor. It is against my political philosophy generally to favor legislation which compels any individual or business or industry to do something which should be done voluntarily." Indicating that after independent investigation he was convinced that legislation was the only way, he reported that some progress is now being made under the goad of the bill: half of the beef slaughtered under Federal Meat Inspection is now being slaughtered humanely, as contrasted with an amount so small one year ago that the Department of Agriculture did not even know what it was. "This legislation, Mr. Dawson went on, "will have no effect upon the scores of packers who already have adapted their operations to conform with the minimum requirements of humane decency called for in this bill. This bill is directed toward that segment of the industry which has done too little, which will continue to do too little and will do it too late—or never. Without legislation, I am convinced, cruel, wantonly cruel practices against millions of animals will continue to be standard procedure. . . . I submit that corporate cruelty—if a ready alternative is available—is a fit subject for legislative action.

Attempt to Destroy Bill by Amendment

Another attempt to kill the bill came in the form previously tried out in the Senate and in the House Agriculture Committee, with the encouragement of the packers. It consists of deleting the effective sections of the bill, leaving only a study commission. Mr. Dorn of South Carolina tried to destroy the bill by such an amendment and he worked himself up to a point of praise of Secretary Benson for opposing the Poage bill.

Mr. Cooley, Chairman of the Agriculture Committee, had a few questions to ask him, however, and after noting that it was the first time he had known that Mr. Dorn (who is a Democrat) had "such great confidence in the Secretary," he asked what his study bill would do that H.R. 8308 would not also do. "It is not rather strange," Mr. Cooley went on, "that the gentleman should come here and present a bill, then object to its being read and ask to waive
the reading of the bill, and then ask the House to reverse
the Committee on Agriculture and take the gentleman's
leadership and adopt a bill they have not even heard read?"

"MR. DORN: All the bill provides for—"

"MR. COOLEY: I wish the gentleman would tell us
what it provides.

"MR. DORN: A committee of eight, representing the
human societies, the producers, packers and scientists.

"MR. COOLEY: To do what? To study for two long
years?"

Mr. Dorn talked on, but no matter how long he talked
the basic facts had been presented to the House by Mr.
Cooley. Mr. Dawson hemmed and hunched when he said,
"I hope in voting on this amendment we will keep
in mind that we are either voting for this bill or against
it, because if this amendment is agreed to, it simply means
we are giving the green light to certain packers to con-
tinue their inhumane practice in the hopes that delay will
occur and nothing will be done. So I hope this amend-
ment will be rejected."

Mrs. Griffith of Michigan opposed the amendment
stating, "Legislation in this area is certainly long overdue.
Daily, we attempt to lead nations in matters of foreign
affairs, often emphasizing and stressing the fact that we
are a nation guided by humane principles. Such reasoning
must appear hollow to people who long ago recognized the
need for compulsory humane slaughter legislation and did
something about it." She also stated: "The latest figures
of the Department of Labor show that accidents occur
at almost double the rate in slaughterhouses as for all
industrial activity combined."

Mr. Hiestand of California said, "The nation, Mr.
Chairman, wants us to legislate for humane slaughtering.
... It is shocking to a lot of people in this country who
have been writing to Members of Congress. They dislike
to have their children know that we are continuing some-
thing of this kind 20 years after European nations have
abolished it as cruel and inhumane... I emphatically
oppose the amendment." The amendment was defeated
by a vote of 122 to 73.

Public Opinion Demands Compulsory Humane Slaughter

Mr. Hoeven of Iowa, when he opened the Republican
part of the debate, said, "It has quite often been said that
legislation is the result of public opinion. If there ever
was a bill which is the result of public opinion, it is
H.R. 8308."

When the time came to vote on the bill, the House of
Representatives acted honorably and democratically, follow-
ing the wishes of the people for effective legislation and
accepting the recommendation of the Committee on Agri-
culture which, under the leadership of Mr. Cooley and
Poage, had striven so sincerely to present the best measure
based on the most thorough study of the facts. The House
passed the bill by a voice vote.

The New York World Telegram & Sun expressed the
feeling of all good citizens in an editorial (Feb. 7, 1958)
stating: "Certainly this is an overdue reform. The meat
packing business is no frolic at best, but there is no excuse
for inflicting needless cruelty on animals.

"We hope the Senate speedily concurs."

HUMANE SLAUGHTER LEGISLATION
WRITTEN IN CANADA

By J. LAMBERT, for the Humane Slaughter Association
E. L. TAYLOR, Consultant, Toronto Humane Society

In response to steadily-mounting public indignation, an
amendment to the Criminal Code of Canada for the pro-	ection of slaughterhouse animals was given first reading
in the Canadian House of Commons on December 21st,
1957. Bill No. 241 for the compulsory humane slaughter
of all classes of livestock climaxed an insistent demand for
legislation which was becoming country-wide. It expressed
itself chiefly through the press and radio, in letters to
individual Members of Parliament, and pressure on the
Ministries of Justice and Agriculture.

An important step in securing this legislation was taken
a year earlier when, on the request of the City of Toronto
Health Dept. for investigation of the conditions at a
municipally-owned slaughterhouse, a Special Committee
was formed, comprising humane officials, and representa-
tives of the City Council, Health Dept., veterinary profes-
sion, Jewish Congress, Meatpackers Council, and slaught-
ering trade. This Committee, after studying the facts and
viewing operations, concurred unanimously in a Report
which declared the following principle of humane slaugh-
ter: "No animal being slaughtered for food purposes
should be shackled, hoisted, hung, cut, bled or scalded
without having first been rendered unconscious and in-
sensible to pain in a humane manner."

Following the adoption of this Report by the City of
Toronto and its request to the Federal Government for
enforcement legislation, a Joint Committee was set up by
the Ontario S.P.C.A. and Meatpackers' Council to investi-
gate methods of slaughter across the country and recom-
end improvements. Two Federal Government veterinari-
ans attached to the Dept. of Agriculture were assigned
to make the study, which included a visit to slaughtering
operations in Europe. Their Report, which was submitted
to the Dept. of Agriculture in November 1957, made
specific recommendations for the humane slaughter of
cattle but deferred recommendations for the slaughter of
hogs, sheep and lambs until further studies had been

While this study was being conducted, the Humane
Slaughter Association of Vancouver (British Columbia),
prompted by a statement of the then Justice Minister in
the Canadian House of Commons that the Criminal Code
must be assumed to protect slaughterhouse animals unless
it could be shown otherwise, instituted a prosecution for
cruelty to animals in respect of the routine slaughter of
hogs. While the defense did not deny the fact of suffer-
ing, the case was lost in a Magistrate's Court, as well as,
subsequently, on appeal, in the County Court, on the
ground that adequate evidence had not been adduced re-
garding alternative methods, to show that the suffering
was unnecessary. This ruling established the fact that the
existing law was inadequate and that further legislation
was necessary.

Public demand for immediate Government action to end
the obvious sufferings of animals in slaughterhouses be-
came increasingly vocal in the Winter of 1957, as the
press printed photographs of the different processes and
leading journalists were assigned to the job of bringing
the subject forcibly to the attention of the public. Women's
groups particularly exerted strong pressure. Radio com-puters assisted with sound-track recordings of their abattoir visits and there was a vigorous letter-writing cam-paign all over the country, reinforced by a country-wide Petition to the new Conservative Prime Minister. When the larger meatpackers were receiving enough bad publicity, they took the wise step of themselves recommending man-datory legislation.

The Ministry of Agriculture for some time appeared to hesitate about endorsing legislation from a doubt whether the enforcement of humane methods for all animals might put the smaller packer at a disadvantage. The Toronto Humane Society showed its concern at this impasse by sending its consultant on Humane Slaughter to make con-tact with the Government sub-Committee at Ottawa which was drafting legislation. Thus, practical, economical and proven methods, applicable to operations ranging from the largest to the smallest, including also farm slaughter, were recommended to this Committee. Cattle were to be stunned by captive bolt pistol or percussion instrument (following, also, the recommendation contained in the Joint Report); calves and sheep should be stunned by captive bolt pistol. In large plants where the expenditure was warranted, COF was recommended for hogs; in smaller plants, the captive bolt pistol, possibly in conjunction with the use of one or more pig-traps.

So far as Kosher slaughter is concerned, expert medical testimony has maintained that the Shechita cut when per-formed by a qualified Shochet brings rapid death to the animal. But the present practise of hoisting a live animal preparatory to the cut was roundly condemned. Confer-ences with Jewish authorities had already established that these brutal preliminaries are no part of the ritual, and these authorities have since expressed themselves anxious to remove any possible grounds for Jewish-Gentile mis-understanding by adopting the casting-pens universally used in European countries. This device humanely restrains the animal to receive the ritual cut.

On December 10th the Minister of Justice announced the Government's intention to introduce humane slaughter legislation, and 11 days later, the Humane Slaughter bill reached first reading, as follows:

1. Section 387 of the Criminal Code is amended by add-ing thereto the following sub-sections:

(a) without having been killed instantaneously, and

(b) without first having been rendered uncon-scious by a humane method, in prima facie evidence that unnecessary pain, suffering or injury was caused wilfully or was permitted to be caused wilfully to that food animal.

2. In sub-section (3), "food animal" means cattle, swine, sheep, goat or horse.

3. Sub-section (3) does not apply where a food ani-mal was slaughtered in accordance with religious ritual.

The Minister of Justice, in presenting the Bill, invited criticism by interested parties, and welcomed suggestions as to any amendments which might be necessary. Humane societies have already submitted recommendations that the terms of the Bill be expanded to cover housing and handling prior to slaughter, with particular reference to ritual slaughter. It has also been recommended that poultry be covered by the Act.

After suggestions for amendment have been considered, a new Bill will be introduced during the next Parliament-ary Session. This procedure will allow the packers a reasonable time in which to make necessary plant changes before the law comes into effect.

Callousness Encouraged

(Continued from page 1)

Letter strongly supporting this humane thinking came from many people. Animal protective organizations pro-tested to the principal of the high school at Austin, asking him to put an immediate stop to any further cruel ex-periments with animals by pupils from his school. Not long afterwards, an announcement was released stating that an artificial mouse would be substituted for a live one.

But the mania to shoot animals into space had not stopped. An Associated Press story from Littleton, Colo-rado, on January 30, stated: "A live mouse was wrongfully lofted high into space in a rocket fired by Littleton High School students last month, Principal Hazlett Wubben says. Wubben said he learned of the experiment only last night and that nothing of the sort will happen again. He can-celled the students' plans to fire a mouse named 'Flash' in a two-stage rocket sometime soon. The Littleton Board of Education concurred. Apparently, Wubben said, the 20-gram mouse that was sent skyward last month was para-chuted to safety. That is his understanding, the school official said."

Principal Wubben and his Board of Education represent the feeling of decent Americans everywhere. We do not want cruelty to animals to be practiced or condoned, and we do not want our children taught to practice or condone it. Dr. Cox, in indicating that yeast cells would yield more useful scientific information than a dog in present-day satellite experiments, also noted that Russia may have gotten a lot of propaganda mileage out of putting a dog in Sputnik II. Perhaps some people admired the Russians for this, but their callousness earned them more bitter enemies. The Communists have always opposed animal protective work, and Perna lashed out recently at people who "shed oceans of tears for 'wretched' cats and dogs; Red Star reached an even more ridiculous height of ven-omous attack on SPCA members, characterizing them as 'naggy complacent, opulent ignoramuses... All they can do,' said Red Star, 'is to draw up a dainty bill of fare for their poindies which, incidentally, are far better off than many American unemployed.' It is obvious that the writer, cut off as he is from the civilizing influence of the humane currents of thought which flourish in the United States and the western European democracies, does not even know what an animal protective society is. He can hardly be blamed for his ignorance because, in Russia, there are no animal protective societies.

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"Surgery" Points Out Need for Better Care and Use of Experimental Dogs

Recognition of the vital importance of proper care, housing and handling of experimental dogs and of the use of proper surgical techniques was given in the February issue of Surgery, in the department which is under the supervision of Dr. I. S. Ravdin. The writer of the editorial, Dr. Perez-Alvarez, has written from time to time on the treatment, vaccination, and adequate feeding, prior to being used for experiments.

From a practical standpoint, 100 per cent of the pound dogs must be considered infested by intestinal worms and fleas. If the infestations are pronounced, the animals are apt to be anemic, and even if their general appearance is not bad these animals are not good subjects for experiments. It would not be unusual if they should die of pneumonia. Dogs that have suffered from undiagnosed distemper. It was necessary to stop the work and vaccinate the new dogs—which has been done routinely since then—and the mortality rate dropped to the previous figures.

Experimental animals should be subjected to observation, treatment, vaccination, and adequate feeding, prior to being used for experiments.

In the fascinating subject of extracorporeal circulation that has materialized the surgeon's dreams of working within the cavities of the heart, not only bloodless but quiescent, the physiologic conditions of the individual are so much modified that an enormous number of his biologic processes are changed. Some of these changes are already known; about others there is still controversy, but still others may yet remain obscure. For this reason, in experiments of this kind, the observance of a meticulous surgical technique is essential.

Granted that when one is trying to perform an acute experiment, the result of which demands the sacrifice of the animal at the end of the procedure, a non-sterile technique is permissible. But if the results of the experiment are to be evaluated under the light of, first, the death or survival of the animal, second, the changes on its biologic processes, and, third, the resulting pathology in its organs, one must try to avoid by all possible means strange mechanisms being added to the experiment proper. Infections are foremost of the common factors that may spoil an otherwise well-conducted research. Whenever he wishes to have the experimental animal survive, the conscientious investigator must follow the general surgical principles especially those pertaining to asepsis.

Finally, in regard to postoperative care, present-day surgery could never have become the marvelous reality we are witnessing, should it have limited its progress to the mortality rose despite the fact that the operations were performed exactly the same way. It was found that the dogs suffered from hepatitis. It was necessary to stop the work and vaccinate the new dogs—which has been done routinely since then—and the mortality rate dropped to the previous figures.

In order to avoid the factor of error represented by the animal's health condition, it is necessary to isolate the newly acquired animals from those already housed in the laboratory, for a reasonable period of time during which they should be observed (preferably by a veterinarian), treated and/or vaccinated, and properly fed. They should be handled by trained personnel.*

Second, let us consider the general surgical technique. The fact of living in the era of antibiotics has resulted in a relaxation of the surgical discipline among surgeons of the present generation. The results have begun to show up with the increasing frequency of surgical infections by bacteria resistant to the antibiotics. These have had to be made of a wider "spectrum" in order to be effective.

In the medical literature based fundamentally on experimental data, and especially in publications of recent years during which a real passion for cardio-vascular surgery has developed, reference is made with extraordinary frequency to deaths of the animals used in the experiments due to causes partially or totally strange to the procedure performed. These causes are varied—pyothorax, pneumonia, distemper, hepatitis, heart worms, and so forth—and very often the experimenter reports deaths due to "unknown causes" that may or may not be related to the experiment.

Let us consider those factors that may interfere with a satisfactory control of this type of experimentation by adding elements of error which are very commonly overlooked.

First, in order to obtain uniform and consistent results in experimental research, it is only logical to use animals in as uniform a state of health as possible. Let us imagine a series of hypothermia experiments is performed on dogs that suffer from undiagnosed distemper. It would not be unusual if they should die of pneumonia. Dogs that have heart worms will be prone to develop ventricular fibrillation. But, if a group of healthy dogs subjected to hypothermia die of pneumonia, this may mean that hypothermia lowers the organic defenses and that something must be done to prevent it; or, if dogs with healthy myocardium develop ventricular fibrillation at a certain temperature, it will mean that such a degree of hypothermia favors the presentation of ventricular fibrillation.

At the research laboratory of Dr. Claude S. Beck in Cleveland, where several thousand dogs have been used for the study of the surgical treatment of coronary disease, there was a period of time during which the operative

*Pamphlets containing instructions relative to the appropriate care and housing of the experimental animals can be obtained free, from the Animal Welfare Institute, 22 East 17th Street, New York 3, N. Y.
All over the world experimental dogs are in need of protection. The above photographs were taken by the Japan Animal Welfare Society which reports concerning hospitals and university medical departments: "In some cases the animals, particularly dogs, were without food and water, or shelter from the elements; many were being operated on without anesthesia, few of them received post-operative attention, many dying from the after-effects of exposure."

A worker reporting on conditions in a leading university in Tokyo, where dogs are in cages stacked four tiers high, notes: "Four dead and bodies partly decomposed. Still their water bowls filled with urine and faeces. Clam shells for food. Wounds open and flies and maggots having a feast. Not enough room for the dogs to stretch out. Most were dying. In another shed, further away, 50 dogs were crying helplessly without water. The dogs in the top cages could not help voiding into the cages below. The eyes of every dog were pleading for help. The smell was of death and decay."

A long series of reports on other institutions, in which the dogs are in desperate need, contains one happy ending. It concerns a hospital in which "the Surgeon in charge has written a letter to all doctors and students telling them they must treat the dogs with kindness. They have employed a full time woman to feed and clean and buy food." By this simple means, the useless anguish undergone previously by the dogs there was alleviated. Similar steps should be taken in all Japanese laboratories.

It is estimated that about 1,500 dogs per month are used in Tokyo laboratories. Where adequate funds are not available to feed large numbers of dogs, they should not be allowed to recover from the anesthesia following an operation. The Japan Animal Welfare Society is currently providing large amounts of barbiturates for anesthesia in the laboratories and for euthanasia in the pounds where the animals were formerly killed painfully with strychnine.

New and very well designed quarters for experimental rats and dogs, which might well serve as a model for other laboratories in Japan, have been built at Kyoto University. Here eight comfortable kennels attached to the main building are provided for dogs and unusually good cages for rats have been devised which provide enamel-ware nest boxes built into each cage and filled with straw bedding.

In the forthcoming supplement to "Comfortable Quarters for Laboratory Animals," the Animal Welfare Institute plans to show pictures of these excellent new animal quarters in Kyoto, which were sent to the Institute by Dr. Motorori Fujiwara of the University's Department of Hygiene.
MISUSE OF THE PRIVILEGE OF USING ANIMALS FOR EXPERIMENT

These photographs were taken in two of Tokyo's largest laboratories. The Secretary of the Japan Animal Welfare Society writes: "Unfortunately, black and white photography cannot show the truly gruesome conditions that exist in this animal prison. None of the animals kept in these filthy cages are ever allowed out for exercise; food and water is practically non-existent and were it not for the visits of our ladies these wretched creatures would literally starve to death. Pre- and post-operative care is unknown here and many of the poor animals die from exposure."

Of the second laboratory he writes: "I made a tour of inspection of the dreadful cellars. In one of these, an 'experiment' was being performed on a dog — the unfortunate creature was lashed down to a filthy wooden vice while the doctor assisted by two young people, a boy and a girl about 17/18 years old, had opened up the dog's stomach and was performing some internal operation. The dog was, I am glad to say, under anesthesia (supplied by the Japan Animal Welfare Society). However, the thing that was especially horrible was not the sight of these young people being indoctrinated in this way but the fact that there were two living and fully conscious, and thoroughly terrified dogs tied to a bench nearby where they could watch the whole ghastly business. Another victim, who had obviously just left the operating table was thrown down into a filthy box in one corner. A fourth dog and the luckiest of this unhappy quartet lay dead at my feet — he had not survived and his agonies were over. All around lay filth, blood, matted fur, entrails, filthy rags and swabs, and rats ran around quite freely. Leaving these scenes of almost unbelievable horror I walked through other cellars only to find similar revolting spectacles on every side. In one cellar scores of rabbits and other small creatures crouched in hutchs so small they could hardly move and certainly not turn around. Large wild rats ran quite calmly about."
The role of tranquilizers in the humane treatment of animals

By Dr. A. H. Quix, Director, Professional Service, Jensen-Salsbery Laboratories, Inc., Kansas City, Mo.

A new era is opening up in the humane handling of all types of animals through selective usage of the much-publicized tranquilizer drugs now so widely prescribed by the medical profession.

Veterinary science and practice have kept pace with developments. Injurious or tranquilized animals are now routinely used in small and large animal practices. Shy, frightened, over-nervous or over-aggressive dogs become docile and content in the new environment of the hospital cage. The pet that has near-hysteria from the fright of Fourth of July firecrackers can now be tranquilized and enjoy the day with the rest of the family. The drugs also seem to most effectively prevent car sickness of pets, an accident that heretofore has spoiled many a pleasure trip.

Technical reports also confirm that conjoined use of tranquilizer makes possible a sharp reduction in the needed dose of anesthetic—a step that adds materially to safety during surgical operations. The tranquilized dog or cat is less restless and more free from pain during the days following major surgery, fracture settings, etc. Tranquilizers also have a wide field of application in large animal veterinary practice. Through their judicious use, wild or "hard to handle" animals submit to restraint quietly and with little or no evidence of fear. This is not only a wonderful boon to the animal, but it also cuts down accidental and often serious injury to those who must restrain them.

The research department of Jensen-Salsbery Laboratories, in cooperation with a large European pharmaceutical house, has recently made available a tranquilizer specifically patterned to the central nervous system of mammals other than man. This drug,trade named Diquel, has an especially wide margin of safety and freedom from side effects. A single dose will tranquilize an animal for two to three days.

Because the new drug has such wide safety and prolonged action, extensive field trials are underway in tranquilizing cattle subjected to shipping, by truck or train. Shipping is always a harrowing experience for the semi-domesticated cattle taken from open range for consignment to feed lots. Excitement, fear and sudden change from open range to the claustrophobia of the truck or stock car, together with the exhaustion of travel, precipitate a classic stress complex. The end result is greater risk of shipping fever and other infective diseases. During the excitement of loading and travel, despite due care, bruises and horn wounds are common.

A recent field test tells an interesting story. Thirty head of quite wild yearling beef calves were brought from a Kansas ranch to a community sales barn. Half of the calves were given a painless intramuscular injection of Diquel tranquilizer. The other half, fifteen head, received no drug. The calves were then loaded in a huge open trailer and the two groups separated by a partition for the all-night ride to Jensen-Salsbery's research laboratory. Upon arrival they were unloaded into a small pasture. The contrast in the two groups was clearly visible. The treated cattle had less shrink in body weight. They did less fence walking and bawling. When approached they stood quietly and continued to chew their cuds. Most of them offered no resistance to a stroke by the hand.

In contrast to the treated calves, the untreated calves turned tail and ran to the far end of the pasture when approached. Cud chewing ceased; the ears were up and eyes were vigilant. None could be approached for a hand stroke.

Trials are also being scheduled to test tranquilizers on range calves at weaning time. This is always an ordeal of stress and turmoil. Tests already completed at the University of Nebraska's Department of Veterinary Science are most encouraging. Tranquilized calves did less fence walking, ate better and there were no sore throats from constant bawling.

Data on tissue residue tests of Diquel have been submitted to the federal Pure Food and Drug Administration. If usage approval is granted, the tranquilizer will be a wonderfully humane measure for cattle sent to slaughter. Technical studies also indicate that the tranquilizer will eliminate so-called "dark cutters", an objectionable meat quality caused by pre-slaughter stress.

Tranquilizers have opened up new possibilities in the humane capture of wild animals and for easier handling of zoo animals. Currently, Doctor Deets Pickett, a Kansas City veterinarian, is putting the new dart gun nicotine-tranquilizer type of capture under trial with Mr. Phillip Carroll at Yaounde, French Camerons, Africa. High interest is also evidenced in use of tranquilizers on the thousands of monkeys brought from overseas for polio vaccine production.

Much study and observation still remain to be done on the indications and varied usages of tranquilizing drugs on all species of animals. But, by now, it is clearly evident that they have a valued and practical place in the humane scheme of things.

Publications available

Copies of the newly revised edition of "Basic Care of Experimental Animals", the Institute's illustrated manual for use in experimental laboratories, have been mailed out during the past month to all who had requested it after the proposed revision was announced last Fall. Any laboratory which desires individual copies for each animal caretaker is invited to write to the Institute. There is no charge for this manual.

Also available from the Institute's office is the greatly enlarged, second edition of the "UFAW Handbook on the Care and Management of Laboratory Animals", published in England, which is being sold for $9.80. Orders from many experimental laboratories have recently been filled. Another publication by the Universities Federation for Animal Welfare which may be of interest to readers of the Information Report is available from the Institute: "The Status of Animals in the Christian Religion" which sells for $1.25.
THE NATION'S PRESS DEMANDS EFFECTIVE HUMANE SLAUGHTER LEGISLATION

On June 18th, Swift, Armour, Cudahy, Wilson and other meat packers won a round in their fight against humane societies, the General Federation of Women's Clubs, and religious groups such as the Board of Social and Economic Relations of the Methodist Church, the Southern Baptist Convention, the National Council of Catholic Women, and other citizens who are seeking to curb cruel slaughtering practices. The humane slaughter bill had long been delayed in the Senate Agriculture Committee after passing the House of Representatives overwhelmingly this February. Senator Ellender, Chairman of the Committee, obtained defeat of the humane measure by amending it into the study bill which the meat packers wish to see enacted as a hedge against effective legislation.

The bill met this same fate in the Committee in 1956. But the House Committee on Agriculture investigated slaughterhouses in person, observed cruel methods in use on most animals and practical humane methods in use in some plants. They sent an effective bill (requiring the use of humane methods by all packers wishing to contract with some plants) to the House by a majority of 25 to 3, and it was passed by voice vote. The Senate Committee did no slaughterhouse inspection. At the recent hearings they even refused to see and hear a sound film graphically depicting routine pig slaughter as inflicted on more than 80,000,000 pigs each year. Then they passed a study bill, which would not protect even one animal, by a vote of 10 to 5.

Humane slaughter proponents will contest the decision. They state that the Senate as a whole cannot be dominated by the meat packers. The United States is one of the few civilized countries which does not require humane slaughtering methods in its packing plants. Humane methods whereby animals are rendered insensible to pain and fear, have been proved to save money by reduction of bruising and injury to workers on the killing floor, reduction in labor turnover and operation, and other factors. More mail has reached Washington for enactment of the legislation than on any other issue during the past two years.

Newspapers throughout the nation have been demanding enactment of effective legislation, and strong editorials have appeared in the New York Times, the St. Louis Post Dispatch, the Denver Post, the Chicago Daily News, the Cleveland Plain Dealer, the Pittsburgh Post-Gazette, the New Orleans Times-Picayune, the Dallas News, the San Francisco Examiner, the Mobile Register, the Little Rock Democrat, the Portland Press Herald, and many others. Some of the editorials which have appeared since the study bill was reported out of the Senate Agriculture Committee are reprinted on page two.
Crueity In Our Society

The Humane Slaughter Bill, which was approved by the House of Representatives a few days ago, is designed to put a minimum of cruelty in the slaughter of cattle in this country. It will require slaughtering to be done in a way that is not painful to the animal and that does not cause unnecessary suffering.

The bill was introduced by Senator Allen Ellender of Louisiana and has been supported by a number of organizations, including the American Society for the Prevention of Cruelty to Animals. The bill provides that all slaughtering in this country shall be done by humane methods, and that the Department of Agriculture shall enforce the provisions of the bill.

The bill has been met with resistance from the meat packing industry, which has argued that the bill would be too expensive for them to implement. However, the majority of the Senate has supported the bill, and it is expected to be passed by the House as well.

The bill is a necessary step in the advancement of animal welfare, and it is hoped that it will be implemented in a humane and compassionate manner. It is a step towards a more just society that values the well-being of all living beings.
A Merciless Stall

override its Agriculture Committee and enact animals by humane demonstrated Is needed and feasible and which, on reform that the humane societies have necessary is simply • way of postponing action of Agriculture to study methods of slaughtering for it. For years the humane slaughter resolution, and Dr. Harry Lillie of Scotland, former sur-
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be worked in a reasonable humane way is shown by the certain condition been "studied" enough? Is proven.

This does not to
government. It was passed by doing it. The Senate Agriculture Committee tackeled, supposedly because the Department of Agriculture were lob.
0 painless slaughtering methods packers usually reserve for dumb ani.
ile Agriculture Committee last week passed a "study" bill.

The House of Representatives passed a bill requiring the employ-
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the Senate didn't have to see
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It might be worth while for the com-
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the House Committee passed a bill requiring the employ-
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It is hoped that this first United Nations resolution on
slaughtering methods. All would
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No Time for Pain

Every day to reach the Senate office with the Human Slaugh-
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As Subtle As A Blow On The Head

United Nations Conference Adopts Humane Resolution

At the International Pleitiopitidency Conference on the
law of the Sea in Geneva, Switzerland, this spring, a
resolution was passed by unanimous vote condemning cruel
practices in the killing of whales, seals, fish, sea birds and
polar bears. The delegation from Nepal sponsored the
resolution, and Dr. Harry Lillie of Scotland served as its sur-
ropean parliamentarians who, when the expedition, acting as their
independent advisor, took part in conferences with 73
degements. When information about the present methods
of whaling and seal hunting was disseminated, the major-
ity of the delegates expressed enthusiasm for humane
legislation, and support for it came from every part of
the world.

The President of the Conference, Prince Wan of Thai-
lant, lent his influence in initiating action, and Dr. Carlos
Sucre of Panama, Chairman of the committee which
adopted the resolution, took a leading part in the effort.

When the resolution was proposed to the Assembly as
a whole, the Nepalese delegate said, "In the midst of our
securing our food and other products in the Territory of
the Sea, could we not come to give some thought to
the suffering we inflict on these creatures whose lives we
take: the inhabitants of this territory that we exploit?"

India seconded the resolution, and Burma and Mexico
spoke in favor of it, and asked that Dr. Lillie be given
the floor to state the case for the animals. "In the capture
and killing of many of these creatures," he said, "there is
suffering inflicted on which in this age of humanism is
certainly not a credit to us. . . . That such industries can
be worked in a reasonable humane way is shown by the
careful control that is used in such as the North Pacific
for sealing and the sealing of South Georgia. Our re-
sponsibilities in this are world wide."

After a series of speeches in favor of the humane reso-
lation, it was redrafted by a Committee of Nepal, Monaco
and Australia, and on April 26th it was passed as a Con-
ference Resolution by the Plenary without dissent.

It states: "The United Nations Conference on the Law
of the Sea requests States to prescribe, by all means avail-
able to them, those methods for the capture and killing
of marine life, especially of whales and seals, which will spare
them suffering to the greatest extent possible.

In England this resolution was the subject of speecches
in the House of Lords on June 26th. Lord Pethick-Law-
rence and the Lord Bishop of Porto Rico, who described the
cruelty involved in the use of the standard explosive har-
poon in the whaling industry, The Bishop spoke of the
"stewardship for which [man] bears responsibility to the
Creator." He pointed out that frequently this principle is
observed but that frequently, too, it is threatened or flouted.
"The view that man is a sort of monster callously and
irresponsibly engaged, out of his lust for gain and power,
upon the rape of the sea and even of the air, regardless of
the waste of natural resources, regardless of the dis-
guishment of the earth's natural beauty and regardless of the
suffering inflicted upon the animal kingdom—that view
is, of course, a distorted one; it does not represent the
whole picture. But there is enough truth in it to justify
our serious concern. It is the more urgent and essential
that we should be concerned at a time when through the
rapid development of science and technology man's ca-
city to master the whole world has been and is being
even more extended and increased. Insulation of suffer-
ing so far as is practicable is one important factor in the
morally responsible exercise of man's sovereignty over the
natural creation." The Bishop gave two reasons for re-
ducing whaling suffering to the minimum, 'First, out of
consideration to the creature which is placed under our
responsible domination, and secondly, out of consideration
for the men who do the job."

It is hoped that this first United Nations resolution on
the subject of animal protection will lead many nations to
follow its suggestions. The United States is a leader in
humanse sealing practices, but in our whaling great cruelty
continues.
Lawyer for the defendant. May that go out?

Prosecutor. I think that is proper.

The Court. He can describe the condition.

Mr. Hawkins. The dog was in very poor physical condition. It was unable to stand. Another dog was attempting to bite an incision that had been made on its side. I asked Mr. Hawkins when that dog came from and he said he had picked it up at the Overholt Clinic. I asked Mr. Hawkins in the presence of Dr. Herman and Chief Dean and Mr. Smith how often he fed these dogs. He stated that he fed them every three or four days. He also stated if he didn’t think that was inadequate. He stated that he fed them large amounts. I asked him what he fed the dogs. Garbage, he stated, that he picked up in town and also in Boston. I asked him about the chicken that was in the pen and he stated that when he found a dead hen in the coop he would throw it into the pen.

We found a dead dog in the pen that was half devoured. He stated that the dog had died in the pen and that the other dogs had eaten it. I questioned him as to the condition of the black dog, and he stated it was in that condition when he brought it from the clin—

James Hawkins was sentenced to six months in the House of Correction and fined $250. He is appealing his case. Mr. Hawkins appeared in Court, but Dr. Panico stated that he was deeply shocked to hear of these conditions, that in his opinion Mr. Hawkins was being paid sufficient money to take care of the animals.

Dr. Gerry B. Schmelle, Chief of Staff of the Angel Memorial Animal Hospital, reported that the black dog died, despite all that could be done for it, of an overwhelming infection. Her temperature was sub-normal when she was taken from the Hawkins farm to the hospital and on autopsy Dr. Schnelle stated, “Well, the dog died in the pen, and the infection has festered and open, and that when I went to the kennels one of the other dogs in the kennels was attempting to eat or bite that open incision.” He said that he had never had trouble with Hawkins, that the dogs that had been brought had all been kept back in pretty good shape, that in his opinion they were in good condition when Hawkins brought them back after the operations.

“Well,” I said, “This one certainly isn’t in good shape and the chances are he is dead already.” And he said he was sorry to hear that.

Q. Now have you told the Court, to the best of your recollection, everything that Dr. Panico stated at that conference?

A. Well, no. He stated a lot of things, like he gave statements about the experiments being very beneficial to mankind. He stated that he was very busy, that these operations required a lot of pre-operation work, and that the reason for all this explanation was for the reason or...

Dr. Panico was fined $50 for cruel transportation of the dog. He too appealed.

It is obvious that the black dog’s suffering and death did nothing whatsoever to advance knowledge beneficial in the treatment of human ills. She was one of thousands of experimental dogs that each year die slowly and painfully without making any contribution to scientific knowledge. They die thus uselessly ‘because scientists as a whole have so far been unwilling to face their responsibilities to experimental animals. They have given publicly widespread lip-service to the care given these animals.

"EXPERIMENTAL ANIMALS RECEIVE TREATMENT COMPARABLE TO THAT GIVEN HUMANS." "EVERY CONSIDERATION IS GIVEN TO THEIR BODILY COMFORT." Everyone who has lived in a State where an animal seizure bill campaign has been waged has had these phrases drummed in his ears repeatedly. But quite apart from the individual case of the black female mongrel lying in the mud with her festering wound, and the dog that had already died and been partly eaten by the other starving dogs, representatives of the Animal Welfare Institute have visited laboratories where these same words “Every consideration is given to their bodily comfort” were actually posted on the wall, while caged dogs, too ill to stand on their feet, were soaked with hoses, or where they lay in filthy wet enclosures dying without medical aid of any kind, even though they were in the very center of a hospital.

It is doubtful whether "every consideration" will ever be given to the comfort of experimental animals, but it is true that some consideration be given to all of them.
ANIMAL TRAP COMPANY MANUFACTURING AND SELLING HUMANE VICTOR CONIBEAR TRAPS

The instant-killing trap invented by Frank Conibear of Victoria, British Columbia, is available to all trappers for the coming trapping season. The Animal Trap Company of America reports that it is "tested up" and in production for the first size, the Number 110 Victor Conibear, designed for muskrat, mink, barn and wharf rats. The traps are being stocked by wholesale hardware and sporting goods stores throughout the country and are listed for sale in the Fall mail order catalogues of the Sears Roebuck, Montgomery Ward, and Spiegel Companies. Similar coverage has been made in Canada.

Substitution of instant-killing traps for the instruments of torture now used to catch muskrat and mink would represent a stupendous forward step in the reduction of animal suffering. The old-fashioned traps catch the animal in tight steel jaws by one leg. In many instances (tests show 25% or more) the muskrat or mink gnaws off its leg in order to escape, such are the pain and terror inflicted. In the so-called "stop-loss" traps, the animal is so securely pinned down that he cannot gnaw off his leg and escape but (except when he happens to be killed) suffers as much or more than in the simple leg-hold trap. Clearly the need for an instant-killing trap is great.

In the case of rats, poison is mostly used for control, and there is no painless form of poison on the market. Not only do the rats suffer but many dogs, cats, kittens, chickens and other domestic animals are also poisoned every year when they eat the baits set out for rats. The Victor Conibear Trap can be so set and placed that it cannot harm anything but the rats it is designed to catch, and it kills them instantly.

The Animal Trap Company issues a concise set of illustrated instructions for setting the new trap, and it states, "Developed in the far north after 30 years of experimenting by a professional trapper. Perfected by the world's most modern trap manufacturer with over 100 years experience. The trap represents the first radical change in design since the 1848 Newhouse and is recognized as the first practical humane trap."

"The Victor Conibear offers new opportunities for increased fur yield. Being unique in size, shape and action it increased fur yield. Being unique in size, shape and action it adapts to hundreds of improved sets to meet any condition and terrain. Illustrated are setting instructions as well as 10 tested and proven sets for the Victor Conibear."

"10 PRIME POINTS...

1. Lightweight 6. Adjustable trigger
2. Compact 7. Quick kills
3. Simple to set 8. No pelt damage
4. Easy to stake down 9. Foolproof construction
5. Positive in operation 10. Ideal trigger to bait"

In the coming trapping season, the new humane traps should be used by every decent trapper.

**HUMANE SLAUGHTER FOR 90% OF THE NATION'S FOOD ANIMALS IS LAW**

On August 27th President Eisenhower signed H. R. 8308, the effective humane slaughter bill which was passed by the House of Representatives in February by voice vote, defeated in the Senate Agriculture Committee (which by a vote of 5 to 10 substituted a study bill) then passed by the Senate as a whole by a vote of 72 to 9.

The leaders of the fight to obtain decent protection for animals in slaughterhouses were Senator Hubert H. (Continued on next page)
Humphrey (D., Minn.), sponsor of the first humane slaughter bill ever to be introduced in Congress, and Representative W. R. Poage (D., Texas), sponsor of H. R. 8308. They had massive support from ordinary citizens from every part of the country. They also had powerful and ruthless opposition to overcome. It is to the everlasting credit of these leaders and of the majority of both Houses of Congress who voted with them that the cruel status quo was defeated and effective legislation was passed.

FIRST HUMANE SLAUGHTER BILL INTRODUCED IN 1955

In 1955 Senator Humphrey introduced his compulsory humane slaughter bill. In 1956 public hearings were held before a sub-committee of the Senate Committee on Agriculture and Forestry under his chairmanship. The sub-committee recommended passage of the bill, but the full Agriculture Committee removed the effective sections and recommended passage of a study commission bill instead. The Senate passed this bill late in the session.

HOUSE AGRICULTURE COMMITTEE VISITS SLAUGHTERHOUSES, RECOMMENDS PASSAGE OF LEGISLATION

The bill then went to the Committee on Agriculture of the House of Representatives before whom Representative Martha Griffiths' compulsory humane slaughter bill was also pending. Observing the great public interest in the legislation, the fact that the Congressional session was about to end, and the fact that the Senate had voted to study humane slaughter, the chairman of the House Committee on Agriculture, Harold D. Cooley (D., North Carolina), and his colleagues decided the best thing to do would be to make a study immediately. Accordingly, during the recess, Mr. Cooley and the members of the Subcommittee on Livestock and Feed Grains of which Mr. Poage is Chairman, made a tour of slaughterhouses in different parts of the country and saw humane and inhumane methods in use. The following April, hearings were held under Mr. Poage's chairmanship on the seven compulsory humane slaughter bills and the one study bill introduced in the new session. Mr. Poage then sought to meet the criticisms which had been levelled at the legislation by opponents, and after a long series of conferences and much patient negotiation he introduced H. R. 8308, the Committee bill, which was reported out of the Agriculture Committee by a vote of 25 to 3. It was promptly approved by the House Rules Committee whose Chairman, Howard Smith (D., Va.) was a staunch supporter of the measure. However, opponents succeeded in preventing its being scheduled for a vote in 1957.

HOUSE PASSES BILL

Early in 1958 the bill was scheduled and, on February fourth, it passed overwhelmingly by voice vote, not, however, without an attempt by the opposition to remove the effective sections of the bill and amend it into a study bill instead. This effort was defeated by a vote of 121 to 73. A leading spokesman for the bill in the House was Representative William Dawson (R., Utah), who refused to be dissuaded from his humane efforts by the fact that Secretary of Agriculture Ezra Benson, who consistently opposed compulsory legislation, resides in his District. (For details on the House debate, see Information Report Vol. 7, No. 1.)

SENATE AGRICULTURE COMMITTEE OPPOSES EFFECTIVE HOUSE BILL, VOTES FOR STUDY BILL

After passage by the House, H. R. 8308 was referred to the Senate Committee on Agriculture and Forestry. The public demand for a favorable report by the Committee grew. Its Chairman, Senator Allen J. Ellender (D., Louisiana), stated that between 15,000 and 20,000 letters asking for passage of the bill reached him. Also pending before the Committee were Senator Humphrey's bill (which he amended to be identical with the House-passed bill to facilitate passage) and Senator Arthur V. Watkins' (R., Utah) study bill. Although the issues had been threshed out very thoroughly in the two previous hearings, the opponents asked for a third set of hearings. After considerable delay, these were scheduled for April 28th through May 1st. Members of Congress testifying for the humane side were Senator Richard L. Neuberger (D., Oregon), Senator Mike Monroney (D., Oklahoma), Representative Dawson and Representative Poage. Each one spoke thoughtfully and ably. Only one member of Congress, Representative William Jennings Bryan Dorn (D., S. C.) testified for the packer-supported study bill, in opposition to Senator Humphrey's and Mr. Poage's companion bills. His testimony, like that of other opponents, was full of errors and unfounded allegations. The testimony given by the spokesmen for humane societies, the General Federation of Women's Clubs and others conclusively showed the need for passage of compulsory legislation. However, after another long delay, the Senate Committee on Agriculture and Forestry reported out, by a vote of 10 to 5, a new version
of the study bill, this one sponsored by Senator Ellender. It retained the title of H. R. 8308 whose effective sections were deleted, as had been tried before on the floor of the House. This action met with a storm of disapproval from every side. (Some of the many editorials castigating the Committee for its action were published in the last Information Report.) The demand that the Senate as a whole reverse the Committee on Agriculture grew constantly. There was considerable sentiment in the Senate for effective humane slaughter legislation, and on July 22nd Senator Humphrey announced that he and seventeen co-sponsors would offer an amendment on the Senate floor to restore the language of the bill as passed by the House. Senator Neuberger and Senator William Portell (R, Conn.), the two original co-sponsors, were joined by Senators Frank Church (D, Idaho), Ralph E. Flanders (R, Vt.), Theodore Francis Green (D, R, I.), Thomas C. Hennings, Jr. (D, Mo.), Lister Hill (D, Ala.), John F. Kennedy (D, Mass.), William Langer (R, N. D.), Pat McNamara (D, Mich.), A. S. Mike Monroney (D, Okla.), Wayne Morse (D, Ore.), James E. Murray (D, Mont.), William Proxmire (D, Wisc.), Chapman Revercomb (R, W. Va.), Leverett Saltonstall (R, Mass.), Margaret Chase Smith (R, Me.), and John J. Sparkman (D, Ala.).

SENATE ADOPTS HOUSE BILL

The bill was scheduled, and soon after noon on July 29th the debate began. It lasted for seven hours, throughout the whole of which time Senator Humphrey was fighting hard for the effective legislation. Senator Ellender began the debate by asking for the passage of his study bill, and the first vote was for or against this bill. Had it passed, two more years would have gone by before effective legislation could even have been proposed. The vote was exceedingly close: 40 for the study bill to 43 against it. Next came the debate for the real humane slaughter bill. Some of the members of the Senate Agriculture Committee, notably Senators Ellender, Hickenlooper (R, Iowa), Mundt (R, S. D.) and Thye (R, Minn.) did their best to prevent its passing. A very long time was taken up by debate on amendments offered by Senator Jacob K. Javits (R, N. Y.) and Senator Clifford P. Case (R, N. J.) relating to pre-slaughter handling before kosher slaughter. Pre-slaughter handling is not a religious matter, for only the actual slaughtering itself is prescribed by ritual. Senator Humphrey and Senator Neuberger showed clearly that the bill as passed by the House provided complete protection of religious freedom, declaring kosher slaughter to be humane and providing for preparation for such slaughter, the relevant sections having been written by five large Jewish groups after two years of consideration. However, considerable discussion of the new amendments ensued, and Senator Clinton Anderson (D, N. Mex.) expressed a view shared by many observers who feared to send the bill to a Senate-House Conference when he said, "I think if we start to tinker with the language, we may end where I assume certain people want us to end, by defeating the bill." Of interest in this connection was the comment of the American Meat Institute's main lobbyist who, just after the Senate had passed the bill, made reference to some of the action he had instigated, reportedly stating, "I tried everything. We threw the book at you, but it didn't work." Fortunately, his efforts were unsuccessful; the final vote on H. R. 8308 was 72-9. All amendments offered were accepted.

HOUSE ADOPTS SENATE AMENDMENTS

Following passage of the bill by the Senate, no action was taken by the House until ample time had been allowed for groups interested in kosher slaughter to meet and, if they so desired, agree upon final phrasing. Had they done so, a conference on the amendments would have been in order, but as they did not, the House concurred by unanimous consent in the Senate amendments on August 13th and sent the bill to the President for signature.

PROVISIONS OF THE LAW

The bill provides that after June, 1960, packers desiring to make a contract with the Federal government must slaughter all animals humanely in all of their plants. Since over 90% of the animals slaughtered (between 100,000-000 and 200,000,000 each year) are killed in the plants of packers who have government contracts, the vast majority of animals will be protected by the law. Consumers can help to bring any recalcitrant packers into line by demanding humanely-killed meat. H. R. 8308 provides for the labelling of all meat which has been slaughtered by humane methods.

A recent advertisement in Business Week featuring carbon-dioxide anesthetization of pigs before slaughter summed up the situation perfectly in its first lines: "The slaughter of struggling, squealing hogs, shackled and hanging by a hind leg from a conveyor chain has been called the most violent unit operation in food manufacturing. Now it is different..."
HIGH SCHOOL STUDENTS DEVELOP FIRST-RATE HUMANE SOCIETY

Nassau County, Long Island, has an unusual animal protective organization run entirely by high school students. It was started by Paul Garrett when he was only eleven years old, and it has grown in the ensuing five years so that it now has the services of 22 humane agents, six cars and three boats. The agents are all boys and girls in their teens. The towns of Hempstead, Oyster Bay and North Hempstead have found the Nassau County Animal Patrol so capable that they now refer all calls relating to animals other than dogs to Paul and his colleagues, who rescue animals in distress, find homes for homeless animals, and work with a veterinarian who treats sick or injured animals or puts them to sleep if necessary.

The Patrol takes equal interest in protecting and helping domestic and wild animals. The protection of birds was its first object, and the patrolling of the several State Parks in the County is a major activity. The illegal possession and use of BB guns by children under the age of 16 is dealt with on a regular routine of first and second offenses. The first time, the offender is warned by the members of the Patrol who find him shooting at birds. They speak with his parents or write them a letter. But if the same offender is met with again, the case is taken to court. The system has proved effective in reducing the destruction of birds although violations still occur.

The Patrol cooperates with the Conservation Department on land and sea alike, the boats have ship-to-shore telephones, and a police radio can be adapted to any of the cars. The Patrol's office, located in the Garrett house, contains a police and fire alarm receiving set and telephone. The animals being cared for are housed in the basement, and a wide variety of creatures has found shelter and help there.

The Animal Welfare Institute hopes the Nassau County Animal Patrol will continue to grow in strength and influence to protect animals from cruelty and suffering and that other organizations like it will be formed.

DOGS' NEED FOR SPACE STRESSED

(Continued from page 1)

which provide inside and outside accommodation. The construction is inexpensive, and the system has been found to prevent the spread of disease.

The Department of Hygiene of Kyoto University in Japan supplies a design for rat caging which gives consideration to the natural instinct of these animals to retire into a dark nest. The back of the cage consists of a solid metal box into which nesting materials are placed; the rest of the cage is wire mesh.

These and other photographs and drawings to be included in the new supplement aid to the material previously assembled for the original publication (1974) and the following supplements (1953 and 1956). The new material is sent without charge to those who already have the manual and will be incorporated in future issues.

Personnel of institutions which are planning, or which need to plan, to remodel or re-equip existing animal quarters or to build new ones are invited to write to the Animal Welfare Institute for a free copy of "Comfortable Quarters for Laboratory Animals."

DOCTOR AND ANIMAL CARETAKER DROP APPEAL, PLEAD GUILTY TO CRUELTY

The appeals in connection with the case of cruelty to experimental dogs used by Dr. Frederick Panico of the Overholt Clinic of Boston, Massachusetts, came up in Superior Court on September 25th and 26th. Dr. Panico, who carried out the heart-lung experiments on the dogs, and Mr. Hawkins, who housed them, had both refused to accept the earlier finding made that they were guilty of cruelty to animals and had appealed their cases. However, when his appeal came up, Dr. Panico did not pursue it but went into the court and paid his fine instead. Mr. Hawkins elected to stand trial without jury, but in the middle of the trial he, too, pleaded guilty.

A full account of the way the animals were treated appeared in the last Information Report of the Institute (Vol. 7, No. 3).

ANIMAL WELFARE INSTITUTE

ADVISORY COMMITTEE

Dr. Lee R. Dice
Dr. Peter Oldenberg
Dr. Joseph Wood Krutch

OFFICERS

Christine Stevens, President
Alfred R. Glancy, Jr., Vice-President
Roger L. Staves, Treasurer
Estella Draper, Executive Secretary

Readers of the Information Report are cordially invited to become members of the Animal Welfare Institute. The application blank below may be used or application may be made by letter. Your support will be of real value in reducing unnecessary animal suffering.

APPLICATION FOR MEMBERSHIP

☐ $10. ASSOCIATE MEMBERSHIP (non-voting)
Open to individuals and organizations. This entitles the member to the full publication and information services of the Institute, the regular periodical Reports and invitations to membership meetings.

☐ $2. CONTRIBUTING MEMBERSHIP (non-voting)
Open to individuals only. This entitles the member to the regular periodical reports of the Institute.

Name
Address
City_________________________ State_________________________
HUMANE SLAUGHTER: CALVES AND LAMBS TO BE ANESTHETIZED

"An anesthetizing facility for the humane slaughter of calves and lambs now is being built at the Geo. A. Hormel & Co. plant in Austin, Minn.," reports the December weekly magazine of the meat packing industry. The announcement was made by H. H. Corey, chairman of the board, at the company's annual meeting in Austin. The Provisioner continues: "Corey said he expects Hormel to be the first packer of national size to comply completely with the new federal Humane Slaughter Law. The new law requires all packers selling to federal agencies to apply acceptable humane slaughter methods by mid-1960. The Secretary of Agriculture by March, 1959, is to make his initial designation of what will be considered humane. Corey said that the Hormel innovation of anesthetizing hogs before slaughter was the catalyst which caused Congress to realize that humane slaughter is feasible, but that it was the humane societies which applied the pressure that resulted in the new law passed last summer. With the recent completion of a hog anesthesia installation at the Hormel abattoir at Mitchell, S.D., all four of the company's plants now use this method, Corey pointed out. He also said cattle stunning now is done at all Hormel plants in a manner acceptable to the humane societies.

Packers now in the process of changing over to carbon dioxide anesthetization of hogs prior to slaughter are the Tobin Packing Company of Albany and Rochester, New York, the first small packer to adopt this humane device, and the Oscar Mayer Company in Madison, Wisconsin. This is the second installation by Mayer who stated, "The new building and the immobilization technique will have the advantage of being a more humane means of animal slaughter and will increase the overall efficiency of the company's operations, reduce bruises to livestock and provide machine equipment to relieve strenuous manual labor in the handling of livestock." This second installation will be complete by July, 1959 and will put the company's entire hog slaughtering operation on a humane basis.

The first meeting of the Advisory Committee appointed by the Secretary of Agriculture, in accordance with the requirements of the humane slaughter bill signed into law on August 27, was held on November 17.

COOPERATION OF SCIENTISTS REQUESTED

A committee headed by Harry G. Herrlein is seeking to improve handling of shipments of mice, rats, guinea pigs, hamsters and rabbits to laboratories in order to reduce the incidence of disease and death resulting from bad shipping practices. Mr. Herrlein, who raises large numbers of these animals himself, has requested the Animal Welfare Institute to announce the desire of this Committee of the Animal Care Panel to receive prompt reports on mishandled shipments of animals. Such reports will enable the Committee to take effective action on this problem. They should be sent to Mr. Herrlein, Rockland Farms, New City, Rockland County, New York.

BOOK REVIEW


By Dr. Peter Okkelberg

The above book issued under the auspices of the Universities Federation for Animal Welfare, London, is a much enlarged second edition of one published in 1947 under the same title. It is the most extensive work yet in print dealing with the handling and care of laboratory animals and it will continue as an indispensable guide for all animal caretakers and laboratory attendants for many years to come. It should be in the library of every laboratory using animals for research purposes.

The book is divided into two sections. The first consists of 16 chapters and is designated "General Considerations.

It deals with topics that refer to laboratory animals in general, such as housing, equipment, hygienic principles, pests, breeding methods, nutrition, handling, recording, the use of anesthetics, choice of animals, the animal technician, and others.

In the second part there are 39 chapters which deal with individual species, zoologically classified under rodents and lagomorphs (23 sp.), insectivores (5 sp.), carnivores (6 sp.), ungulates (4 sp.), birds (4 sp. +), reptiles, amphibians, fishes and invertebrates. The characteristics, habits, food requirements and care of the various animals are described. Emphasis is placed on making laboratory conditions so far as possible like the natural environment so that the animals will represent normal and healthy individuals when subjected to experimental treatment.

The book is based on the combined knowledge and experience of over seventy experts in the field. Extensive references to literature is listed. It is well illustrated and includes a very useful table of contents and a complete index.

* * *

Excerpts from various other reviews of The UFAW Handbook

"Journal of the American Medical Association"

"This second edition is a distinct contribution to the rapidly expanding area of our knowledge concerning laboratory animals. The work as a whole is probably the outstanding volume in print on the care of laboratory animals."

"Tuberculology" (Journal of the American Academy of Tuberculosis Physicians)

"Not anybody could look at this volume without realizing the immense amount of thought or the high quality of the knowledge now devoted to this subject. ... The editors deserve appreciation for maintaining the scale and presentation of this vast mass of information while preserving the whole in lucid perspective.

(Continued on page 3)
It is suggested that a powerful underground movement, using sabotage, misrepresentation, and the techniques of Madison Avenue is attempting to create a sort of legal "blackjack" with which to bludgeon innocent scientists. This image has a great irrational appeal: it is picturesque, romantic, or vague, but it is not factual. The balance of power and funds dips heavily on the side of organized medicine, and the forces of criticism are not only diverse and inchoate, but relatively poor in material resources. Moreover, one cannot emphasize too strongly that much of the criticism which the NSMR would like to stigmatize as antivivisection comes in fact from independent organizations which do not embrace the antivivisectionist position. The Humane Society of the United States, so much impugned in this report, has pursued an anti-cruelty, not an antivivisection, policy, and been active in many other fields besides that of laboratory animals, for example the campaign for humane slaughter last year. This failure to analyze the exact nature of the opposition, in combination with the smear techniques already described, will not lead to clear thinking on the problem of animal experimentation.

Dr. Lester R. Dragester, President of the NSMR, states in his introductory note the reason for the present publication of this report: "Medical institutions are in for the greatest amount of trouble from the opponents of animal experimentation in years." A remedy for this situation is proposed. "A specific and detailed proposal for a study of public attitudes towards the dissection of cadavers, the transplantation of human organs and the use of animals in medical research has been prepared by the public opinion research firm of Ben Gaffin and Associates. The proposal was developed at the request of the NSMR. The study is expected to clarify the public prejudices that are most troublesome to medical scientists. Its purpose is to discover the deeper roots of these prejudices and illuminate the way to long-term cures for public relations problems of the anatomists, physiologists, pathologists, surgeons, pharmacologists and others. "To us the most striking feature of this program is the NSMR's refusal to differentiate between different kinds of adverse public reactions to their policies. They will not admit of any difference between the largely subconscious revulsion which might be felt against organ transplantation, the religious emotion against large-scale postmortem research, and the ethical objections of animal protective groups to unregulated survival experiments, and to inadequate housing of laboratory animals. Instinct, religion, and ethics are to them as one: "Obstacles, 1956". This disingenuous attempt to defeat a factual analysis of the situation by creating vague images to replace and obscure complicated issues, and this stirring up of emotionalism seems to us particularly deplorable in a pamphlet presented as the annual report of a scientific society.

CORRECTION

In the circular mailed with the September-October Information Report, calling attention to the publications and film available to scientists from the Institute, the film "Handling Laboratory Animals" was incorrectly described as "32 mm." The film, which shows proper handling of 12 common species of laboratory animals, is 16 mm. Scientists are invited to write the Institute if they wish to have a showing, either on a rental basis at $5 a week or as a free preview prior to possible purchase.
BOOK REVIEW

"UFAW has placed within the reach of all, at a relatively insignificant cost, a volume which one might rank in the class of the best value, and the most valuable for understanding humane scientific animal experiment at best... feeding, handling, disease, anesthesia, breeding, and individual features to detail."

"The Lancet"

"A book which undoubtedly meets every need likely to arise. It is everywhere obvious that the main inspiration is the wish to keep laboratory animals in health and comfort primarily in the interests of the animals, but with the inevitable result that experimental work becomes more reliable."

"It would be hard to overstate the importance of this book, which should be looked on as a compulsory purchase by all who undertake animal experiments; no other single volume approaches it in value."

A. Howard Baker in "Laboratory Practice"

"Only by attention to details of breeding, rearing, feeding and housing both stock and experimental animals can reliance be placed on biological assay and so this second and very much enlarged edition of the UFAW Handbook will be more than welcome to all laboratory workers concerned."

"Such a comprehensive work is beyond the power of one individual to review in detail but there can be no doubt that this work will be the bible for all classes of laboratory workers who have to deal with experimental animals."

I. H. Pattison in "The Veterinary Bulletin"

"No effort and, one imagines, no expense have been spared to convey clearly and attractively a huge amount of information on every aspect of the maintenance of those animals (mammals, birds, reptiles, amphibia, fish, worms, and insects) that contribute so much to the advancement of knowledge in the laboratories of the world."

"Enthusiasm is a pleasing feature of the book. The welfare of the animal is always uppermost in the authors' minds, and there is an urgent 'message' throughout that only the best is good enough. There is sympathy of a strictly practical kind, and no morbid sentimentality. Dogma is avoided, and the general tone is of the expert giving his advice rather than of didacticism."

"On scientific grounds this book will have interest and importance for all who work with animals, whether inside or outside laboratories, and because of its wide general appeal it will be read with profit and pleasure by many who are not scientists but who have the welfare of animals at heart."

E. C. Appleby in "Animal Breeding Abstracts"

"A massive work containing almost a thousand pages, amply illustrated, beautifully printed and bound in purple cloth... It would be difficult to praise this book too highly as a work of reference. It will be a valued companion to workers in many fields for years to come."

P. F. D'Arcy in "The Pharmaceutical Journal"

"The authors have avoided devoting a disproportionate amount of space to species commonly found in the laboratory, preferring to give a more detailed account of those species which may be new to many investigators. Extensive references to sources of further information are to be found in every chapter. This book should be 'standard equipment' in every laboratory carrying out animal experiments."

S. Doak in "The New Scientist"

"I would recommend this volume as a book of reference for the consideration of all those associated with the breeding, care and use of laboratory animals."

A. McLaren in "Discovery"

"Many will wonder whether they can afford to lay out three pounds ten shillings — on this book. In fact they cannot afford not to: humanity apart, the initial cost will be rapidly repaid in animal house economy."

J. O. L. King in "Nature"

"Every scientist who uses laboratory animals should realize the importance of good stock husbandry. Technical, as well as humane, considerations demand that experimental animals be kept under the best possible conditions, for environmental irregularities can confuse experimental results. This publication contains a wealth of knowledge on the management of nearly all the species of animals used in laboratories, and can be used as a guide to their respective needs by any worker who is seeking detailed information.

This book will undoubtedly be widely read by scientific workers who use experimental animals, and could, with advantage, be provided as a standard reference book in all institutes where laboratory animals are kept... and a debt of gratitude is due to the Universities Federation for Animal Welfare for producing this book."

E. C. Appleby in "Animal Breeding Abstracts"

"A massive work containing almost a thousand pages, amply illustrated, beautifully printed and bound in purple cloth... It would be difficult to praise this book too highly as a work of reference. It will be a valued companion to workers in many fields for years to come."

P. F. D'Arcy in "The Pharmaceutical Journal"

"The authors have avoided devoting a disproportionate amount of space to species commonly found in the lab-
Use of a tranquilizer to ease the stress of meat animals on their way to slaughter has been approved by the Federal Government. A press release from the Jensen-Salsbery Laboratories states:

"The Food and Drug Administration has approved the use of Diquel on cattle up to 24 hours prior to slaughter. . .

"Not only will the tranquilizer eliminate the terrifying bawling of slaughter animals, but it will substantially reduce the $50,000,000 yearly bruising losses caused by frightened animals, according to Dr. Vladimir Dvorkovitz, Jen-Sal president.

"Previously, all tranquilizers were barred from use within the 72-hour period before slaughter. This was done to eliminate any danger of residue in the meat. However, the 72-hour period was too long a time for practical use by packers.

"According to Jen-Sal, when Diquel is injected according to directions approved by the Food and Drug Administration, the animal will be tranquilized from two to four days. No residue dangerous to human health remains in the meat.

"Dvorkovitz predicted that use of tranquilizers will bring about many changes in stockyards practice. Injuries to animal handlers will be reduced. Shipping fever, a $25,000,000 yearly disease loss caused by stress and excitement in shipment, will be curtailed.

"While Diquel is now used by many farmers to tranquilize animals for shipment from range to feedlot, the new Food and Drug Administration order will also permit animals to be tranquilized on their way to the stockyards. This will help eliminate costly shrinkage which occurs during shipment and handling in stockpens.

"Diquel is used and distributed by veterinarians."

The October 1958 issue of "Veterinary Medicine" carries an interesting article entitled, "Use of Perphenazine in Shipping Cattle" by E. J. Foley, Q. F. McDonald, W. G. Robertson and J. C. Siegrist of the Schering Corporation. It describes tests with the tranquilizer manufactured by that firm (Trilafon). The table below shows how much cattle are benefitted by being tranquillized in transit. The article states in part: "In the first experiment in which the cattle were transported under adverse climatic conditions, all untreated animals developed the shipping fever syndrome, whereas those treated with perphenazine before shipment remained unaffected. Other experiments showed similar effectiveness in protecting the animals' health and well-being.

YOU ARE INVITED TO ASSIST CONSERVATION GROUPS IN STOPPING OIL POLLUTION which causes death through starvation and exposure to great numbers of sea birds.

Dr. S. Dillon Ripley of Yale University, President of the International Committee for Bird Preservation, informs us, 'Resolution No. 3 passed at the XI International Conference of the International Committee for Bird Preservation in Helsinki, June 5, 1958, is as follows:

"Having noted the efforts of the United States to prevent pollution of the sea within and adjacent to its territorial waters, and that the control of oil pollution by ships on the high seas (the effect of which is to pollute the coasts of other nations) requires international agreement, and that the International Convention for the Prevention of Pollution of the Sea by Oil 1954 was designed to achieve this purpose, URGENTLY HOPES AND RECOMMENDS that the United States will join with the other maritime nations in signing and ratifying the said convention."

The United States initiated some thirty years ago the effort to prevent pollution of the sea by oil. Our country's leadership in this field should continue.

By writing to the Department of State, Washington 25, D.C. and expressing your desire to see our country sign and ratify the convention, you will help save the thousands upon thousands of birds that become soaked with oil floating on the surface of the sea after it has been discharged by ships. The birds' plumage sticks together so they cannot fly.

The London Times, said in an editorial entitled "Filthy Oil On The Waters" (July 25, 1958) "... The evils of this form of contamination are many. Perhaps the most obvious is the destruction, mostly by lingering starvation, of sea birds, and it was the ornithologists—all credit to them—who first took up the battle and have never ceased to wage it. How many million sea-birds have perished in this way during the past 40 years no one could compute; but the strandings of oiled birds, helpless and battered shorewards by the waves, have often been spectacularly horrible...

TABLE 1. Effect of Perphenazine on Weight Loss During Shipment

<table>
<thead>
<tr>
<th>Docs* Mg.</th>
<th>Distance Traveled Miles</th>
<th>Time in transit Hr.</th>
<th>Weight at point of shipment Lb.</th>
<th>Weight at destination Lb.</th>
<th>Weight lost Lb.</th>
<th>Percentage shrink</th>
</tr>
</thead>
<tbody>
<tr>
<td>160-175</td>
<td>280 (by rail)</td>
<td>33 treated</td>
<td>13</td>
<td>886</td>
<td>841.5</td>
<td>44.5</td>
</tr>
<tr>
<td>75</td>
<td>275 (by truck)</td>
<td>10 control</td>
<td>10.5</td>
<td>905.7</td>
<td>880.7</td>
<td>25.0</td>
</tr>
<tr>
<td>125</td>
<td>135 (by truck)</td>
<td>15 treated</td>
<td>3.5</td>
<td>1361.3</td>
<td>1304.0</td>
<td>57.3</td>
</tr>
<tr>
<td>75</td>
<td>1350 (by rail)</td>
<td>34 treated</td>
<td>4 (days)</td>
<td>740</td>
<td>708.9</td>
<td>31.1</td>
</tr>
<tr>
<td>100</td>
<td>750 (by truck)</td>
<td>24 control</td>
<td>2</td>
<td>1124</td>
<td>1030</td>
<td>93.3</td>
</tr>
<tr>
<td>100</td>
<td>65 (by truck)</td>
<td>15 control</td>
<td>2</td>
<td>1128</td>
<td>1112</td>
<td>16</td>
</tr>
</tbody>
</table>

* Injected intramuscularly before shipment.

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