

**CIHM
Microfiche
Series
(Monographs)**

**ICMH
Collection de
microfiches
(monographies)**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1997

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

- ☐ Coloured covers / Couverture de couleur
- ☐ Covers damaged / Couverture endommagée
- ☐ Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- ☐ Cover title missing / Le titre de couverture manque
- ☐ Coloured maps / Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- ☒ Bound with other material / Relié avec d'autres documents
- ☐ Only edition available / Seule édition disponible
- ☒ Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.
- ☐ Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- ☐ Additional comments / Commentaires supplémentaires:

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- ☐ Coloured pages / Pages de couleur
- ☐ Pages damaged / Pages endommagées
- ☐ Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- ☒ Pages discoloured, stained or foxed / Pages décolorées, tachetées ou piquées
- ☐ Pages detached / Pages détachées
- ☒ Showthrough / Transparence
- ☐ Quality of print varies / Qualité inégale de l'impression
- ☐ Includes supplementary material / Comprend du matériel supplémentaire
- ☐ Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image / Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.
- ☐ Opposing pages with varying colouration or discolourations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des colorations variables ou des décolorations sont filmées deux fois afin d'obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10x	14x	18x	22x	26x	30x
☐	☐	☐	☐	☒	☐
12x	16x	20x	24x	28x	32x

The copy filmed here has been reproduced thanks to the generosity of:

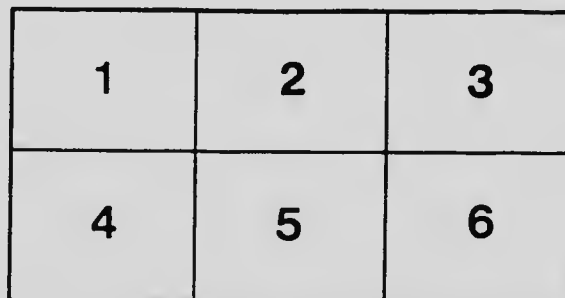
Library
Agriculture Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol $\rightarrow$ (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

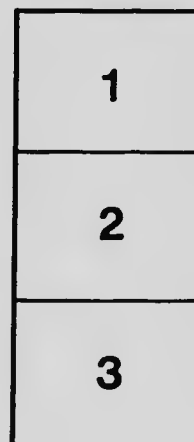
Bibliothèque
Agriculture Canada

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

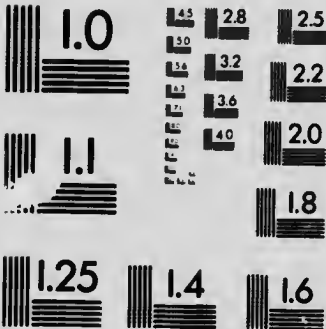
Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole $\rightarrow$ signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



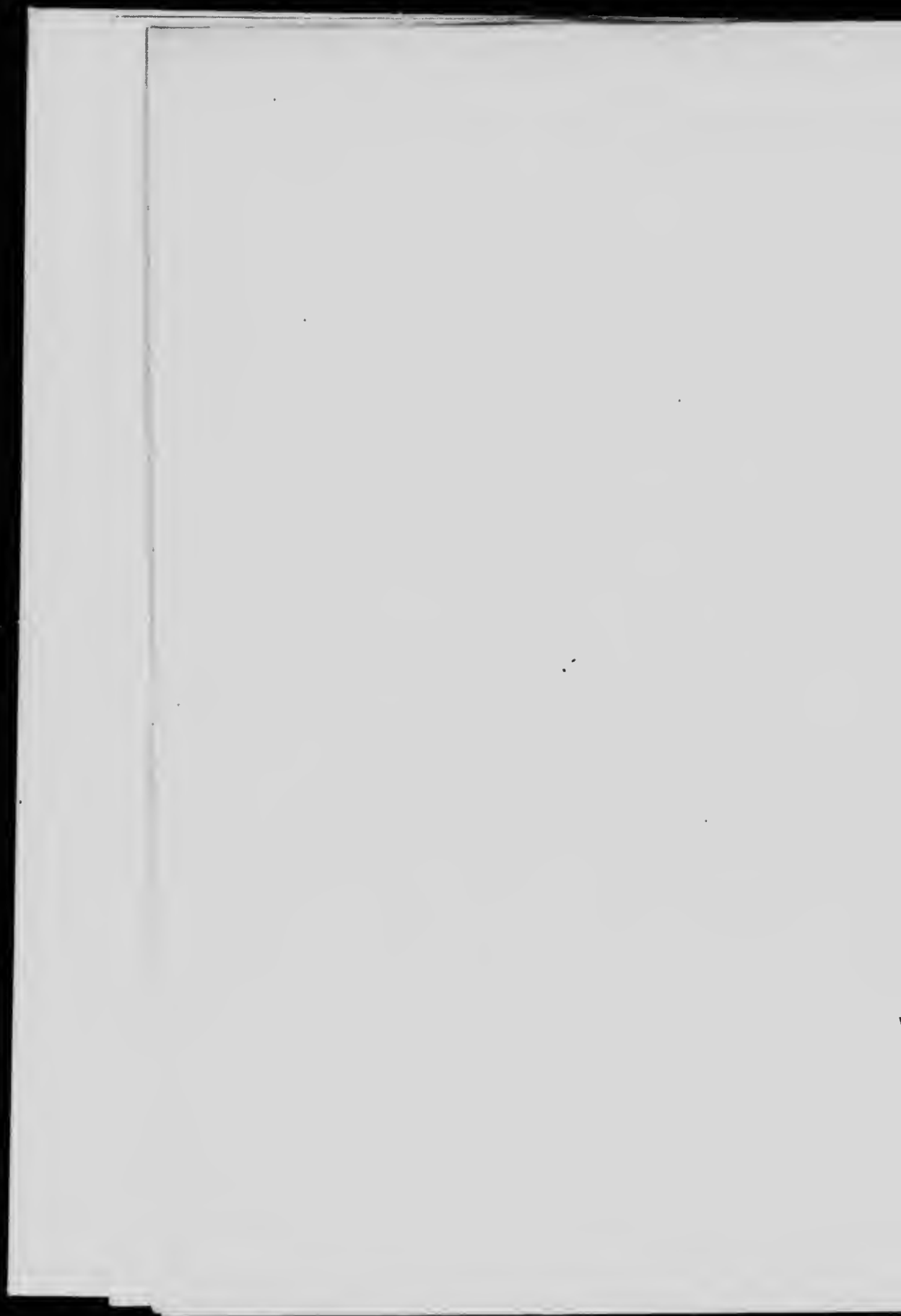
MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



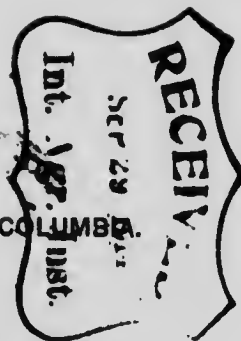
APPLIED IMAGE Inc

1653 East Main Street
Rochester, New York 14609 USA
(716) 482 - 0300 - Phone
(716) 288 - 5989 - Fax



PROVINCE OF BRITISH COLUMBIA.

DEPARTMENT OF AGRICULTURE
(Live-stock Branch).



TUBERCULOSIS IN POULTRY.

By J. R. TERRY, CHIEF POULTRY INSTRUCTOR.

TUBERCULOSIS, or consumption, often referred to as liver-disease, or "going flight," is one of the most common diseases of birds such as the common fowl, pea-fowl, ducks, turkeys, geese, pigeons, doves, grouse, partridges, pheasants, storks, cranes, canaries, finches, owls, swans, vultures, ostriches, crows, and parrots. There are several types of the micro-organisms causing tuberculosis, and it is not known whether the avian type is responsible for the disease in all these species. It is believed that as many as 10 per cent. of the deaths among poultry from "natural causes" are due to tuberculosis, and in some districts, especially among turkeys, the proportion is much higher.

The relation of tuberculosis in birds to that in mammals is still an unsettled question. It is known that some birds, such as parrots and canaries, die of tuberculosis of human origin. The avian germ is not easily made to reproduce the disease in mammals, but experiments have resulted in its successful transmission to rabbits, guinea-pigs, and a cat, as well as pigs. Rats and mice are said to die of avian tuberculosis in bird-parks of zoological gardens, and in turn infect birds that feed upon their dead bodies.

SYMPTOMS.

The most common symptom is diarrhoea, with the droppings of a greenish-yellow colour. In the later stages, affected birds become very feeble and thin, the comb and wattles shrink in size and turn pale or dull purple in colour. The mucous membranes which surround the eye and line the mouth are also pale, and there is loss of appetite. Affected birds have an abnormal thirst,

being seen constantly drinking, and oftentimes allowing the water to run again from the mouth. Lameness is very often present, accompanied in many cases by local swellings of the joints or on the skin, especially about the feet and legs. The affection known as "bumble-foot" is often tubercular in origin, and birds so affected should not be kept with other fowls, but killed and burnt. The disease is usually of a protracted nature, ending in paralysis and death.

Tuberculosis is caused by a bacillus or germ, and the parts of the body usually first attacked are the intestines, liver, and spleen, the germs being taken in with food which has been contaminated by contact with the droppings of affected fowls. The bacteria are very numerous in the diseased tissue, much more so than in human or bovine tuberculosis. They leave the body almost entirely through the discharges, and enter with the food almost exclusively. The feeding habits of chickens tend to rapidly spread the disease, and failure to keep pens constantly clean and disinfected increases the chances of infection. Cases have been known of the disease having been conveyed from one yard to another by means of infected manure carried on the shoes. Examination of the body after death reveals small whitish patches, or tubercles, in the liver, spleen, and on the lining of the intestines, but these may be found in other parts of the body also.

PREVENTION AND TREATMENT.

It is almost impossible to treat this disease successfully, and attention should, therefore, be directed to methods of prevention.

Where an outbreak occurs it is safer to clear off the entire stock; then to apply freshly burned lime to the ground and rear fresh stock in new houses on new ground. It is a great mistake to retain for breeding, birds which become sickly, or which, when isolated and carefully treated for a few days, do not respond to treatment. All such birds should be killed and burnt. If it is desired to utilize the buildings in which tuberculous stock has been housed, they should be thoroughly disinfected with some reliable disinfectant, or carbolic acid, and allowed to remain unoccupied for at least six months. In the meantime, several whitewashings should be administered. The losses from the poultry "white plague" would be appreciably reduced if such precautions were adopted.

Where poultry are kept in confinement, overcrowding of the runs should be avoided; a change to fresh ground should be frequently arranged, if possible; and lime should be used as a top dressing for the runs. Cropping with wheat, rye, oats, rape, or kale will also sweeten the land, and at the same time provide green food. Hen-houses should be roomy, dry, bright, well ventilated, and kept scrupulously clean. They should be whitewashed at least once yearly. The disease develops rapidly in an atmosphere of dirt, damp, and darkness. Wet mash should be given in troughs, and should not be thrown on ground likely to be contaminated with the droppings of other fowl, because, as already stated, infection is received with the food.

To sum up, destroy all affected birds; breed only from healthy stock; keep the houses clean; allow sufficient light and ventilation; disinfect all drinking-water with permanganate of potash, and see that pans are scalded at least twice a month; periodically change the fowls to fresh ground; wherever possible, adopt the colony system of housing, with free range; in purchasing fresh stock, quarantine for at least ten days, not necessarily in the shipping coop or box—an empty pen is the proper place for this purpose; and in the event of disease breaking out notify the Department, and, if necessary, a personal visit will be paid by a member of the staff, and the disease diagnosed, and line of treatment advised.

**CIRCULAR BULLETINS ISSUED BY LIVE-STOCK BRANCH OF THE
DEPARTMENT OF AGRICULTURE.**

Circular No. 1.—"Thousand-headed Kule."

" " 2.—"Tuberculosis in Poultry."

VICTORIA, B.C.:

Printed by WILLIAM H. CUTLER, Printer to the King's Most Excellent Majesty.
1913.

