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BROODER STOVE RESIDUE BURNS ON TURKEY POULTS

by

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Department of Veterinary Medicine

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During the past few years there have come to the poultry disease laboratory several cases of severe dermatitis on the head, face, and neck of turkey poults. The dermatitis was seen on the back and dorsal surfaces of the wings in some birds when the feathers in these regions did not cover the skin. The condition usually involved so many birds in the brood that it was often thought to be contagious. Some turkey growers suspected a severe fowl pox outbreak. In one case practically all of the poults were affected and there was over 50% mortality. Efforts to reproduce the condition by inoculation of material from lesions into other turkeys and chickens met with failure.

THE CONDITION

The dermatitis presents the appearance of a third-degree burn in the most severe cases. There is a severe coagulation necrosis of the skin that may involve an extensive area over the skull and down the back of the neck. This sort of lesion produces a hard, dense scab that becomes shell-like over the affected area. (Figure 1). Because of the intense itching that is produced when affected birds are exposed to direct sunlight there is often considerable mechanical injury to the skin around the face. The eyelids often become injured or torn by the scratching.

THE CAUSE

This condition has been found to be caused by the tar-like residue, often referred to as "creosote", that accumulates in the stovepipe of brooder stoves that are heated with gas briquets. The residue is semi-solid when warm and may flow out through the stovepipe joints, down over the stove and brooder apron so that it may drop off the edge of the apron or may be rubbed off on the heads and backs of the poults.

This residue causes a mild burn and dermatitis within 24 to 48 hours after it is placed on the skin of birds that are kept in confinement away from direct sunlight. When birds with residue on the skin are placed in the direct sunlight for one or two hours, a third-degree burn will be manifest within 48 hours. The burn develops only on the area of the skin exposed to the residue.

## SYMPTOMS

Birds with residue on the skin and exposed to direct sunlight start to scratch the treated region after only a few minutes' exposure to the sun. The first response to the irritation is usually manifest by the birds rubbing the base of the skull and neck over the wings and back. As the irritation increases, the bird periodically shakes the head. This shaking of the head may become so violent that the bird will fall over on its side. Continued exposure to the sun causes intense scratching of the affected region with the feet. This scratching may become so severe that scratches or lacerations may be caused by the toes. In some cases the eyelids are seriously damaged when the toes get caught under the eyelid. The scratching symptom may continue for over two hours after the birds are placed in a room away from the direct sunlight. Birds showing severe symptoms quiet down, stop scratching, and begin to eat within three to four hours after they are placed in a room away from direct sunlight. When birds with residue on them are exposed to direct sun each day the scratching becomes so intense the birds become exhausted. The exhausted birds collapse and lie on the ground for several minutes. They may suddenly rise and go through a siege of intense scratching and shaking the head until they collapse again. When birds are severely affected, the exhaustion may terminate in death.

## PREVENTION AND TREATMENT

It is a relatively simple procedure to prevent this type of condition. If the birds do not get the residue on them the condition will not develop. Since in most cases the residue leaks out of the stovepipe at the joints as it runs down, if the stovepipe is put together in the usual manner and then turned end for end and put on the stove, the joints will not be so likely to leak, and the residue will run back into the stove and burn. In any event, when the residue is seen escaping it should be cleaned up before the poults can become contaminated.

All cases observed were caused by residue from the burning of gas briquets. Since the residue from these briquets probably contains naphthalene and anthracene oils, it is thought that these or other closely associated hydrocarbons were responsible for the dermatitis. It is quite possible that residue from some other types of fuel may also cause a dermatitis.

There is one important factor that must be observed for successful treatment and that is to keep affected birds out of the sun. Most affected birds in natural cases observed have been allowed to recover without treatment to affected parts. It usually takes 10 to 14 days for the scabs to dry up and drop off when the birds are kept out of the sunlight. Birds with badly damaged eyelids that stick together should be treated by pulling the eyelids apart and placing one drop of 15% argyrol solution under each eyelid once or twice daily until the eyelids heal.

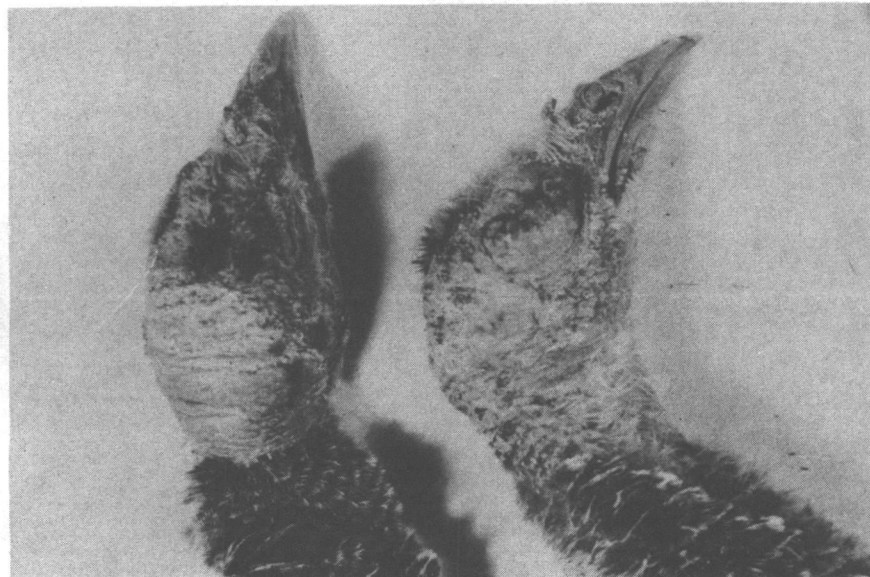


Figure 1. Severe burn of the skin over the base of the skull (left) and marked dermatitis of the margin of the eyelid (right) caused by direct sunshine on skin that was smeared with residue from brooder stoves burning gas briquets.