



Department of
Primary Industries and
Regional Development

Journal of the Department of Agriculture, Western Australia, Series 3

Volume 4
Number 3 May-June, 1955

Article 13

5-1955

Poultry sanitation

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Gaffney, L. J. (1955) "Poultry sanitation," *Journal of the Department of Agriculture, Western Australia, Series 3*:
Vol. 4: No. 3, Article 13.
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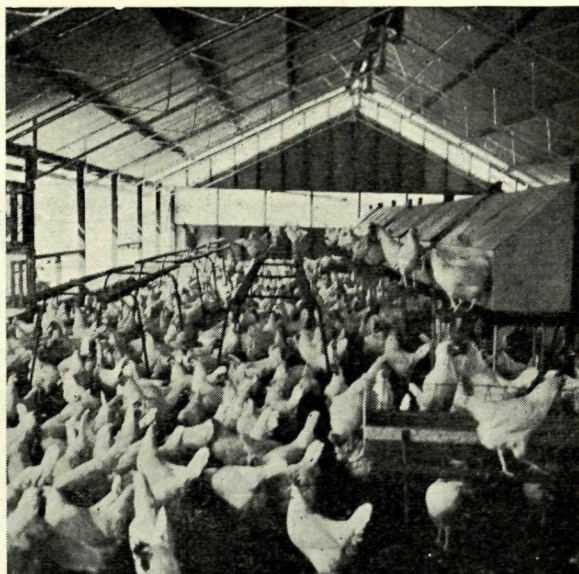
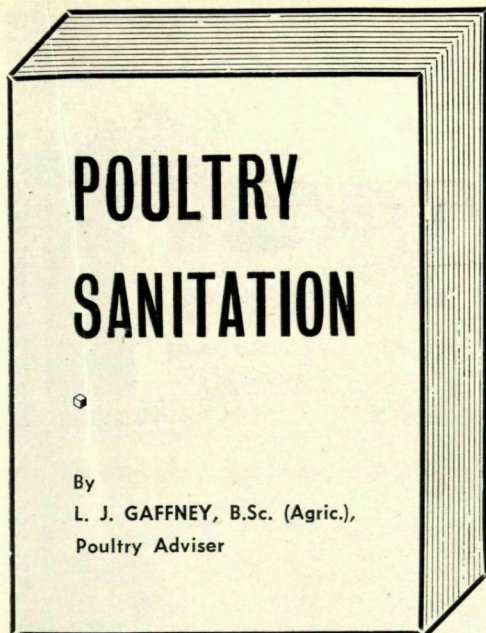


Fig. 1.—Hygienic housing on a large scale

A HIGH percentage of poultry losses are caused by unsanitary conditions. Not all diseases can be eliminated by even the strictest attention to sanitation—but undoubtedly the losses can be substantially reduced.

Poultry-farmers are well aware of the heavy losses in terms of stock and productivity that are caused by poultry parasites and disease organisms. The farmer's best weapon of defence against most poultry diseases is sanitation, but under practical farming conditions it would be unreasonable to expect that all disease infections could be checked by even very strict sanitary measures. For example, sanitation offers no absolute safeguard against such important diseases as fowl pox, and pullorum disease. The fowl pox virus can be introduced into the flock from some distant source of infection by carrier agents such as mosquitoes, while pullorum disease can be passed on to chickens through hatching eggs from carrier birds. There is strong evidence to suspect that the various forms of lymphomatosis (leucosis) can also be transmitted through the egg.

Other poultry diseases such as coccidiosis and worm infestations are best controlled through proper sanitation. Poultry

and for that matter, all animals are able to build up a natural resistance against disease if they are given the opportunity to do so. Usually the degree of immunity increases with age, providing the health and vigor of the bird have not been impaired, by a heavy attack at the outset. Hence it is essential to pay strict attention to sanitation during the initial growth stages, as it is then that heavy infection is most harmful to the chicken. It is interesting to note that more recent research on the lymphomatosis group of diseases reveals that the majority of birds become infected when very young chickens, and that after about 12 weeks of age the incidence of infection is very low. In the light of this knowledge, poultrymen can institute positive measures to reduce the incidence of lymphomatosis in their flocks and it should make them more conscious of the importance of rigid sanitation in chicken rearing.

PRINCIPLES OF SANITATION

Poultry sanitation is a term used to denote all those measures which will help to reduce the risk of disease. It covers the provision and maintenance of an environment which offers little or no opportunity for disease germs or harmful organisms to become established; the en-

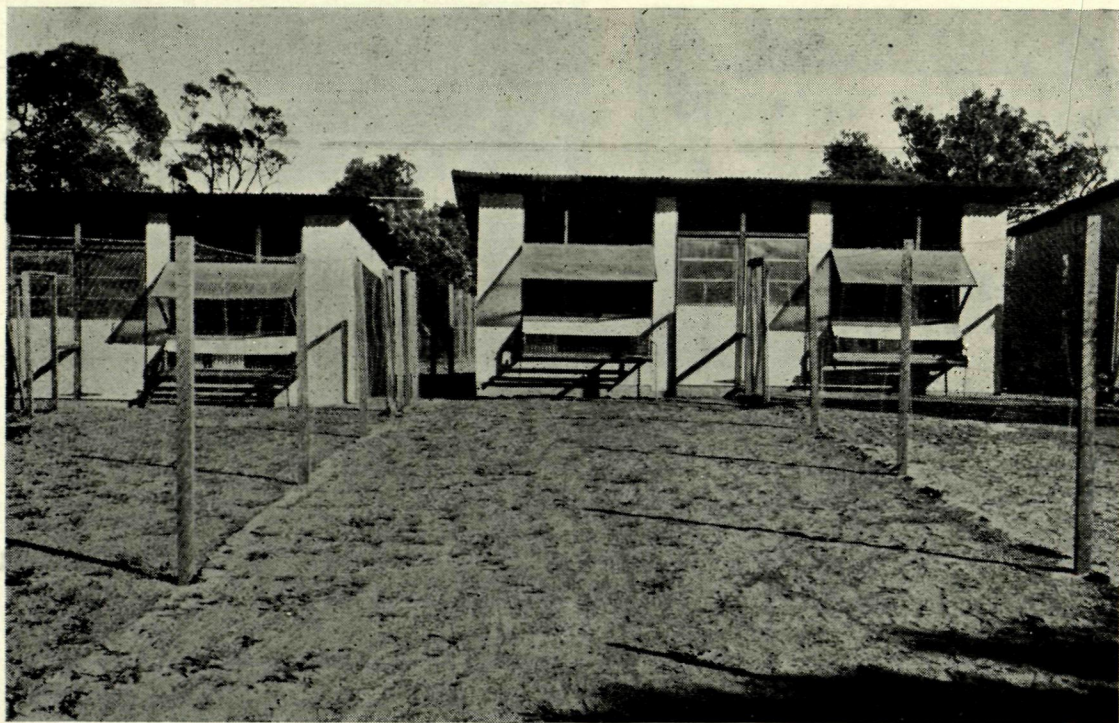


Fig. 2.—Chicken houses with the attached runs “resting” and bare. Light well-drained soils are preferred

vironment comprises everything with which the birds make contact and includes the atmosphere, poultry buildings, fittings, equipment, floor litter, runs and other birds. One or more of these environmental factors can be a source of disease infection. The environment to which healthy stock are to be introduced can be rendered hygienic by:

- (1) Interrupting the life cycle of the disease organism.
- (2) Allowing the natural elements of sunlight, dessication and aeration to cleanse the environment.
- (3) Using germicides to destroy organisms.

Many parasites and diseases spend part of their life-cycles outside the host body. This period may be spent in a secondary host, as in faeces, in the soil etc. Poultry producers are aided in their efforts to break the cycle of infection by the renewal of stock each year, also by the artificial incubation and brooding of chickens, which ensures that chickens do not come in contact with the parental stock which may be disease-carriers.

INTERRUPTING THE LIFE CYCLE OF THE DISEASE

A common method used to break the disease cycle is by clearing the area of stock and leaving this section idle for some length of time. In this way, the disease is denied contact with its host and the number of disease organisms is reduced. In practice, the usual procedure is to rest the brooder runs and rearing ground during the off-season for chicken rearing and to provide alternative runs for the laying flock. It would be unprofitable to leave large areas of housing accommodation idle for the same length of time particularly when the premises can be quickly rendered free of germs by the application of chemical disinfectants.

Another important measure is the strict segregation of different age groups, particularly during early life. Many instances can be cited of severe outbreaks of coccidiosis and roundworm infestations occurring when successive batches of chickens are run on the same ground or are allowed to intermingle. In such instances, the effectiveness of drugs to combat cocci-

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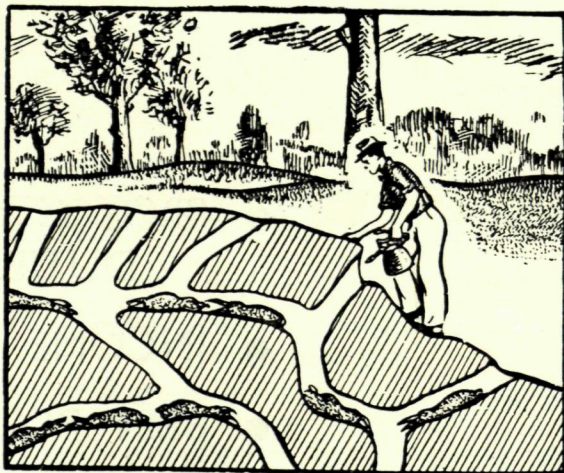
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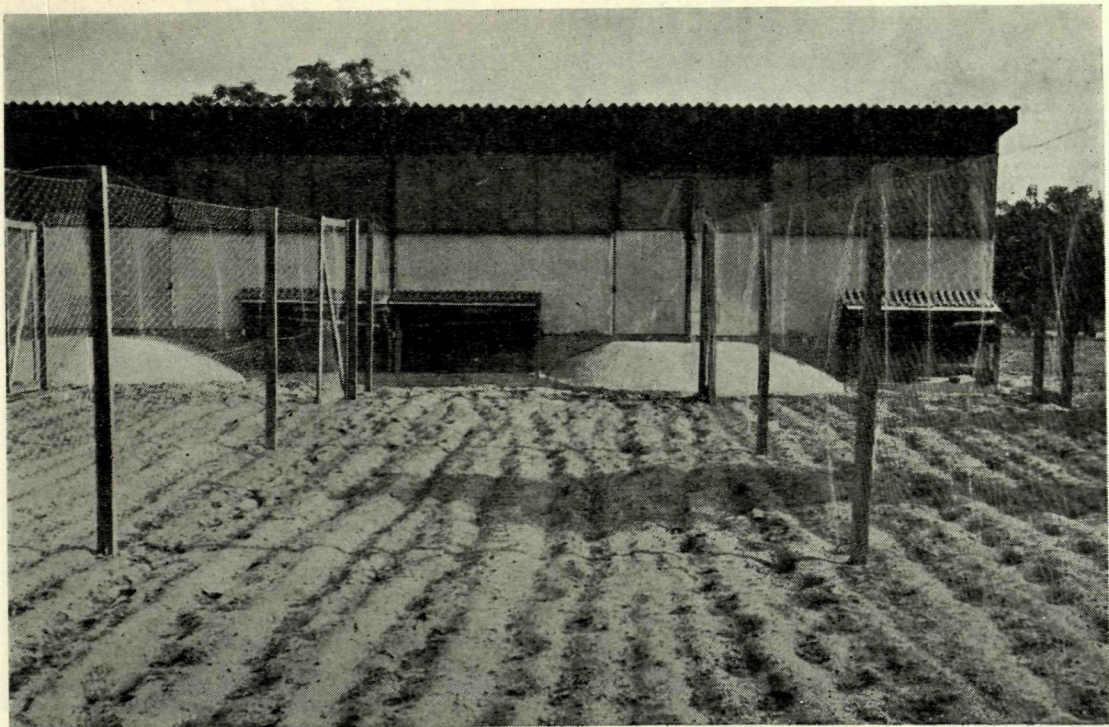


Fig. 3.—The top picture shows the chicken runs lightly tilled. In the lower picture, portion of the rangeland has been tilled and left fallow



Fig. 4.—Land for chicken runs has been sown to rape

diosis and drenching treatments against roundworms are considerably reduced. Chickens reared under such conditions seldom give a good performance in later life.

Young stock of different ages must be kept separate and they must be given sanitary conditions. These are key points in the rearing of healthy, robust stock.

NATURE'S ROLE IN SANITATION

The natural elements of sunshine, dryness and fresh air are germ-killers that are effective and which can be used in

abundance. They play an important part in sterilising the soil and keeping the floor litter in a hygienic condition. Soil and litter are the two main sources of infection with which the poultry farmer has to contend, and if he is to succeed in minimising losses through disease, he must take appropriate steps to prevent the poultry runs and floor litter from becoming over-contaminated. Diseases usually flourish in dank places, which are excluded from sunlight and aeration, such as heavily manured ground sheltered from the sun, shaded areas near drinking vessels and excessively damp litter. Many factors are involved in preventing these conditions, and these should be kept in mind when designing the farm and equipping the poultry buildings. This aspect is treated in more detail in departmental leaflets Nos. 2120 and 2154, and need not be elaborated upon in this article, but it must be clearly understood that the essential requirement for housing poultry under local conditions is to exclude dampness and at the same time allow entrance of adequate sunlight and fresh air into the buildings.

Fig. 5.—Young stock ranging on grassland



Soil Hygiene.

Summer is the best time for allowing the natural elements to destroy disease organisms in the soil of brooder runs, rangeland and poultry yards. Even cocci-dial oocysts and roundworm eggs which can lie dormant in the soil over long periods, are destroyed by continuous exposure to sun, heat and desiccation.

Procedure.

After all stock has been removed from the ground, all surface trash and manure is raked clear and the bare ground is exposed for several weeks to the summer sun. Before cooler weather approaches, the upper inch or two inches of the soil is broken up and stirred by a suitable implement such as a rotary hoe or hand plough. This allows the purifying action of the sun in conjunction with soil aeration, to sterilise the ground more effectively. The liberal application of water-slaked lime powder to the cultivated land will also be beneficial. The rate of application may vary from 1 to 5 lb. per 100 square

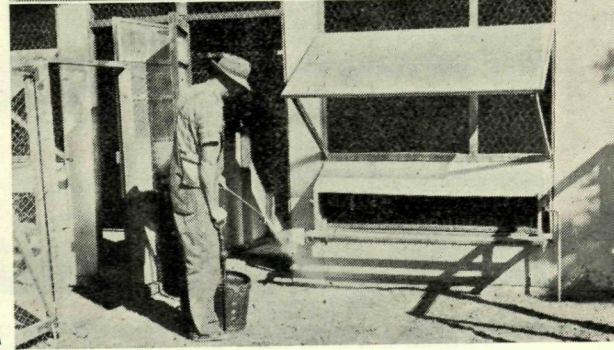


Fig. 6.—Using a stirrup-pump to spray the interior and exterior of a chicken-house with a disinfectant solution

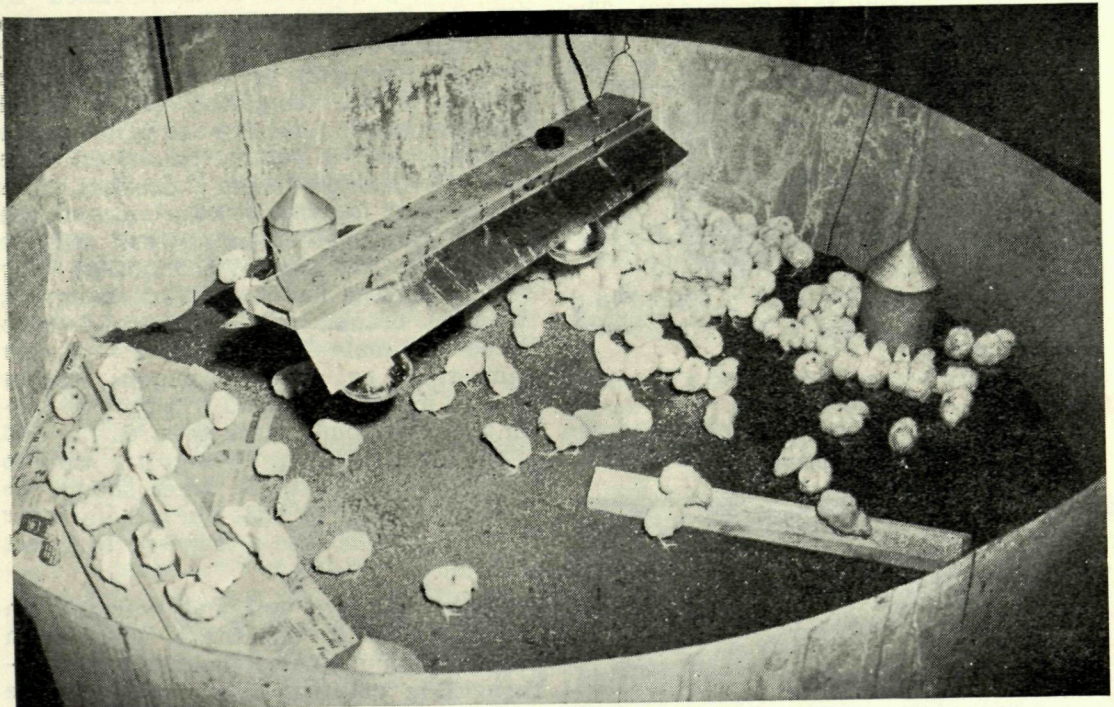


Fig. 7.—Day-old chicks introduced into clean quarters. Rigid sanitation is essential at all times, but particularly when the chicks are young

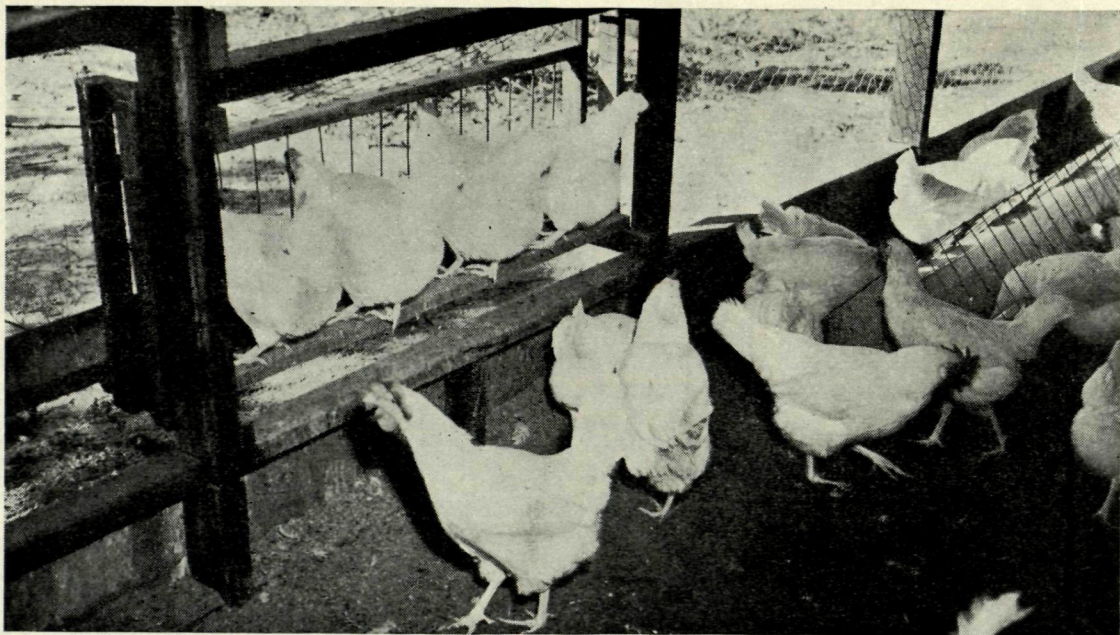
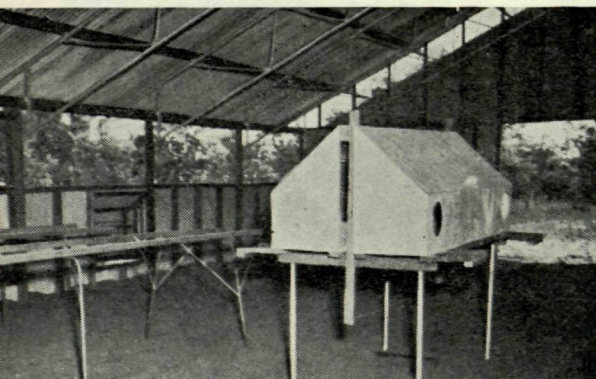


Fig. 8.—Raised watering places which project outside the shed, prevent litter from becoming damp. Also illustrated (at right) is a mash feeder with wire grids to prevent food being scratched out and contaminated

feet, greater amounts being required where the soil is heavily contaminated. The ground is then left idle until the time arrives for planting to a green crop. The planting of quick-growing green crops such as rape, oats and barley in the brooder runs is delayed until some five to six weeks before the chickens are due, as too tall a growth provides a good harborage for disease organisms. Moreover with rank green feed there is the risk of fibrous material causing gizzard obstructions.

The ground has now been prepared in a hygienic condition and is ready to receive the young chicks.

Fig. 9.—Nests and perches on movable stands will facilitate the cleaning and disinfecting of the laying-house and equipment



Shade Trees.

The question of planting shade trees in the rearing quarters is often raised by farmers. As a general rule, runs adjacent to chicken houses should not be shaded from the sun. If growing stock require summer shade, temporary or moveable shelters can be erected in the yard in close proximity to the poultry house. In some cases, for example where a laneway exists on the rear or the western side of the rearing sheds, deciduous trees can be planted on this side of the houses. By pruning off the lower limbs of the trunk, the upper branches can be trained over to shade the roof of the building. A few flame-trees or other deciduous species planted in the rangeland will provide useful shade to young stock towards the end of the growing season. When it is time to "rest" the range, these trees should be severely pruned so that the ground near the base of the tree is exposed to direct sunlight.

Shade trees are extremely valuable on poultry farms in this State, where high summer temperatures prevail, but forethought in planting is necessary if the trees are not to interfere with farm sanitation.

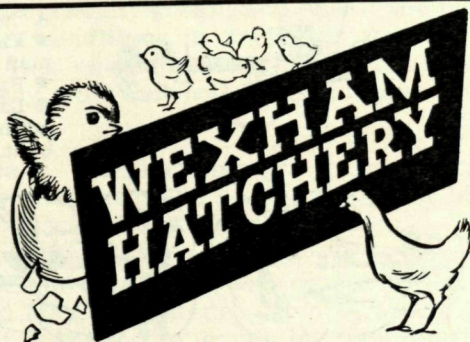
THE USE OF CHEMICAL DISINFECTANTS

Chemicals can be effectively employed to reduce the incidence of disease in the environment. This mainly applies to the disinfection of poultry buildings, fittings and equipment, but they can also be used as an additional measure to sterilise heavily contaminated ground near poultry houses. The premises are usually disinfected before introducing each new flock of birds. Carbolic and cresol compounds, caustic soda and ammonia solutions are disinfectants which are effective and economical to use. Commercial products containing carbolic and cresol compounds are not expensive and are easy to apply. Caustic and ammonia solutions need to be handled with more caution. A general germicidal solution can be prepared by dissolving 1 lb. commercial lye (containing approximately 90 per cent. caustic soda) and 2½ lb. water-slaked lime in 5½ gallons water. Stirring the mixture will keep the lime in suspension until it eventually dissolves. Spray the floor and all surfaces and joints to a height of approximately two feet from the floor. Chicken runs can be disinfected by saturating the surface inches of soil with water and applying the solution at the rate of ½ to 1 gallon to each square yard. Spraying equipment should be flushed after the treatment. The operator should wear a coat, hat, gloves, goggles and rubber boots for protection when using dangerous chemicals such as caustic soda. Caustic solutions of similar strength to that recommended above may strip paint and corrode galvanised iron and therefore other disinfectants are preferred for sterilising metal feeders, drinking vessels etc.

One other point needs mentioning before completing this review on poultry sanitation. It is sound poultry husbandry to remove ailing and injured birds from the flock as soon as they are observed, as apart from being likely disease carriers, other diseases can be introduced through them into the flock. As an illustration, it is quite common to find sick birds heavily worm-infested, even though the flock generally is practically free of worms. It is advisable to dispose of individual birds that are ailing or in poor condition, for they are seldom profitable even if they do

recover. When not in a marketable condition, these birds should be killed and disposed of by burning in some type of incinerator or by deep burying. In some instances, such as chickens affected with coccidiosis, isolation in a pen set aside for this purpose where individual treatment can be applied, will often return them to good health.

By the way, those stray birds which are often seen roaming at will around the farm may be nullifying the entire programme of sanitation. It is well worth while to attend to the fences and gates to ensure that all your birds are securely yarded.



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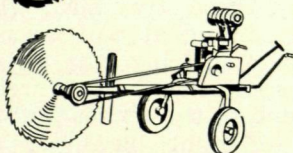
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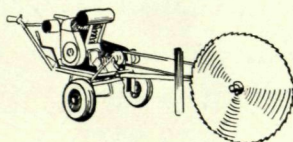
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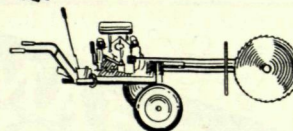
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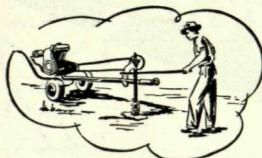
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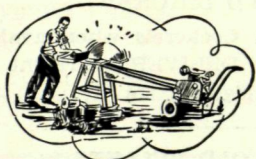
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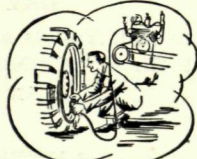
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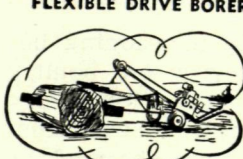
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