

than is ordinarily done, the thresherman should be in a position to give good service. Threshing machine manufacturers are ready to do what they can to lessen the waste entailed in shipping dirty grain. The black seeds (those that will come through a one-fourteenth inch perforated zinc screen) have considerable value as fuel and where coal is used they can be burned to advantage.

THE MILLER.

Perhaps no one interested in the grain business would be more pleased to see only clean grain marketed than the miller. To him weed seeds and other impurities are a nuisance whose separation adds considerable to the cost of milling. To clean the weed seeds from wheat as thoroughly as is essential in flour milling, involves the separation of more good grain than does cleaning in elevators, and mill screenings consequently contain a much higher percentage of wheat than do elevator screenings.

If he grinds his screenings fine enough to destroy the vitality of all the noxious weed seeds, the miller is within his legal rights in mixing this pulverized material with his by-products, provided that such admixture does not alter their chemical composition to such an extent that they no longer comply with the requirements of the Feeding Stuffs Act. As pointed out on page 12, elevator screenings containing the finer black seeds cannot be properly ground by an ordinary chopper but require special machinery expensive in itself and costly to operate. Where such machinery is not installed, it is necessary to reclean the screenings over a one-fourteenth inch perforated zinc screen before grinding. It is not difficult then to destroy the vitality of all seeds in the recleaned screenings. Experiments indicate that the increase in the feeding value due to the separation and discarding of the black seeds is sufficient to pay the cost of their separation.

The Dominion and Provincial Departments of Agriculture receive each year many complaints of the death or serious injury to the health of animals which the owners of the stock attribute to the feeding of bran, shorts and chop-feeds. Analysis often reveals the presence of certain ground and unground weed seeds, sometimes in considerable quantities. While nothing in our experiments indicates that the screenings fed were poisonous or injurious in any way, it must be remembered that the material used in the experiments represented as accurately as possible the average run of elevator screenings. It is quite probable that some of the comparatively rare seeds have toxic properties, and screenings from individual cars of grain containing considerable quantities of them may have injurious effects, because of indigestible or poisonous qualities.

In the manufacture of feeding stuffs by the blending of by-products in the large flour mills, the practice of mixing pulverized black seeds with other materials can scarcely be said to be in the best interests of the feeder, and millers should give serious consideration as to whether or not it is in their own best interests. It is also