

that the maggots leave the sheep's nasal cavities.

#### SHEEP MAGGOTS.

The sheep maggots, which are too often found biting the skin and devouring the flesh of living sheep and lambs, are the young of bright metallic green and violet flies, known as "green-bottles" (*Lucilia sericata* and *L. caesar*). It is often stated that the common, dull, steely "blue-bottles" (*Calliphora*) also produce sheep maggots. It may be so, but no proof has yet been furnished, while the attack has been repeatedly traced to the "green-bottles." The female fly lays her eggs in clusters of about fifty on the wool of the sheep, fastening them to the hairs—a single fly may lay as many as 500 eggs. Egg laying usually begins in June, and the mischief is greatest during July and August. The fly seems to prefer sheep whose wool is greasy, or whose hind quarters are soiled. [The good shepherd usually tags the sheep.] Lambs and young sheep are more subject to attack than old ones, and lame or sick sheep than healthy ones. A few years ago the sheep maggot was troublesome only in low-lying, rank, shady pastures; but now sheep on hill grazings are often attacked.

The maggot tapers towards the head end, where there are powerful mouth hooks, which tear the skin and flesh of the sheep; at the broad hinder end are the air holes through which the maggot breathes. It becomes fully grown (about  $\frac{1}{2}$ -inch long) in about a fortnight; then the maggot skin hardens to form the brown barrel-shaped pupa-case, within which the fly develops. If the maggots are allowed to continue their attack on the sheep unchecked the animal will almost certainly be killed, and it has been found that sheep which have been once "struck" are, even if cured more liable than others to be attacked again. There are repeated broods of flies and maggots through the summer. Every neglected "maggoty" sheep, alive or dead, is a center of infection for the surrounding neighborhood.

The common lice found on sheep are not true blood-sucking lice, but belong to a quite distinct group of insects—the biting-lice, so called because they are furnished with jaws, by means of which they bite the hairs, or the surface and secretions of the skin of their hosts, and thus get food. They may possibly draw blood at times, but they do not possess the powerful piercing and sucking beak of the true lice. The kind which lives on the sheep belongs to a family whose feet, provided with strong claws, are specially adapted for clinging to the hair of their host's body, where they lay their eggs and spend the whole of their lives. They never develop wings, and being, like the keds, always on the sheep, they may be exterminated if sufficient trouble be taken.

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The Czar is still cruising in the Gulf of Finland. The terrorists have passed formal sentence of death upon the whole royal family, and a plot to kill the Czar had he attended General Trepaff's funeral has been discovered. In it were implicated several members of the royal family. The final arrangements for the distribution of land have been made, to be followed by the giving of religious freedom and the easing of the laws against Jews.

## FARM

### Irrigation and Dry Land Farming.

Commenting on the work of the dry land farmer in the United States, Elwood Mead, of the United States Reclamation Service, advocates a combination of dry land farming with irrigation. He says:

"The irrigation of one acre on a dry farm will make it possible to grow a wind-break of trees around the farmer's house and barns. No range stockman needs argument to convince him of the value of these wind-breaks, and everyone who has seen the shimmering waves of heat which rise from these grey and dusty plains in summer appreciates the value of shade and foliage in mid-summer. It will ensure a green lawn for the house, the growing of a wide range of fruits, and a still larger list of the best vegetables which can be produced anywhere. This will do one of two things for the farmer: It will save him the excessive bill for canned goods or from living on a monotonous diet. If five acres of land are irrigated and one given to trees, orchards, and garden, four will be left for field crops. Planted to alfalfa this will produce fifteen to twenty tons of hay—enough to support the farmer's milch cows and work horses. What can be done in the irrigation of four acres under intensive cultivation is shown by the returns of pumping plants. That much land will support a farmer in dry years if he grows nothing on the rest of his farm. These returns are not exceptional. They are a few of many similar ones gathered by the engineers of the office of experiment stations in all parts of the semi-arid region.

In considering the relation of irrigation to the dry farm we have thus far dealt only with its value in the complete irrigation of a small part of the farm, but this alone leaves out of account a kind of irrigation which is possible wherever a storage reservoir can be built and water held for emergency use on the dry-farmed fields. Every one familiar with irrigation knows what can be accomplished by a little stored water to be applied in times of excessive drought. It often happens that a single and scanty irrigation will result in an abundant yield, where there would otherwise be a complete failure. The experimental station at Stillwater, Okla., is building a reservoir for this kind of emergency use. The station is carrying on experiments in the breeding of drought-resistant varieties of corn. It always has to face the possibility of a year of such excessive drought that without a supplemental water supply the entire crop might be killed. The reservoir which is being built will not be used unless necessity arises to save the crop, but it will always be on hand for that purpose. Supplemental irrigation is the insurance of the dry farm, whether the water is confined to intensive cultivation of a small tract or used in emergencies in larger areas. Used in either way, its value is so great that farmers need only an

understanding of methods to secure its general adoption."

The means used to irrigate will be pumps and windmills. The office of experimental stations in the United States is now studying two phases of the question: (1) Costs and methods of providing a water supply and (2) the tools and methods of the distribution of the water and the cultivation to secure its economical use. We shall watch with interest this work of our friends on the other side of the line.

In much of the irrigated area of Western Canada it is probable that winter or fall irrigation will be found sufficient. With a rainfall that approaches fairly close to semi-humid conditions irrigation is merely a form of crop insurance. Farmers will provide against the possibilities of a dry year by irrigation of the land the previous autumn. At the close of the season's growth the water can be turned on and with the soil in a receptive condition the farmer can trust to the amount of moisture retained aided by careful cultivation the following summer to insure a good crop.

### The Hired Man's Side.

A correspondent at Indian Head, who writes a very intelligent letter, makes a protest against our statements, in the October 3rd issue, concerning the hired man. His contention is that there are just as many dishonest employers who try to cheat their men out of their wages as there are men who resort to underhand methods to get larger pay. We believe him. He cites his own case where his employer hired him in good faith for \$20 per month and then tried to bluff him off with \$15, and in other ways tried to shirk his responsibilities. Of course there are always two sides to a story, but every one knows there are employers who treat their men as described. In explanation to our correspondent we might say that our comments on October 3rd are not meant to apply to all hired men but to those who deliberately put up some game to get higher wages by dishonest methods, even to deserting. No one knows better than the editorial staff of this paper that there are straight-forward, honest hired men, for we have all had the hired man's experience.

This persistent difficulty between employer and employee is not confined to the farming community, it is cropping up in every branch of industry and in every community. Its seed is selfishness, what we believe to be the most detestable sin to which humanity is prone and is intensified by the abuse of labor produced wealth by employers. It is one of the characteristics of this age that Labor having become more intelligent and better educated demands a greater proportion of the wealth which its efforts help to produce. Conditions are always tending in one of two directions, either industry is depressed and Labor welcomes employment with the opportunity to subsist with a sufficiency of the necessities of life or, industry is expanding and Labor, quick to avail itself of conditions, demands more and more for its share. Between the extremes of these two conditions the pendulum of industry swings and when we are nearest to



Photo by W. J. James.

CUTTING OATS 12 MILES SOUTH OF PRINCE ALBERT.