

## Temperance Hymn.

Father of everlasting love,  
 Thou art the source of boundless grace,  
 Then let us now thy goodness prove,  
 While here assembled in this place;  
 Our work regard, our labours bless,  
 And crown our efforts with success.

Unless thou dost thy help afford,  
 Fruitless is all our toil and vain,  
 Therefore to thee, our sovereign Lord,  
 We look thy succour to obtain;  
 On us thy choicest blessings shower,  
 And aid our weakness by thy power.

Grant Lord to prosper and advance  
 The measures by thy servants used,  
 To spread the cause of temperance,  
 Until throughout the world diffused,  
 Its happy fruits are fully known,  
 And all mankind its influence own.

Send forth thy light, thy truth, thy grace,  
 Dispel the shadowing gloom of night,  
 Bring in the reign of righteousness,  
 And fill the world with moral light;  
 Illume the nations by thy word,  
 And reign the universal Lord.

## AGRICULTURE.

A prize was advertised last year for the best essay upon the management of a bush farm, for which several competitors have appeared. Owing to the distance between the places of residence of the judges, they have not been able to report upon them without considerable delay, but their report may be expected to appear in our next.

## DEPREDACTIONS OF ANIMALS.

All kinds of grain crops are exposed to the depredations of insects and birds, in various stages of their growth. The greatest injury is committed by insects, which attack the grain both in an embryo, or worm state, and also when they arrive at maturity. The insects most destructive to wheat are those known by the names of the wheat-fly, and the Hessian fly or American weevil. The ravages of these destructive animals have not been confined to this country, but their depredations have been very extensive both in France and America. The fly appears in the early part of summer on the young heads of the wheat, where it deposits its eggs, and these, in the course of eight or ten days, become caterpillars. These caterpillars suck the juices from the heads, and cause the grain to shrink up, and, when this is effected, they fall upon the ground, and shelter themselves at about half an inch below the surface, where, after a certain length of time, they become flies.

Although these insects have been treated of by many naturalists, no certain means of preventing their depredations have yet been discovered. Seed amongst which the larvæ of insects are supposed to be, should be placed in an open granary, where the air will circulate freely, and frequently stirred; and, if properly prepared by pickling, the embryo insects will be destroyed. If sand is thought to be much infested by insects, it should be subjected to a naked summer fallow, well ploughed in spring, which will bury the larvæ deep in the soil, where they cannot come to life. Fumigations of tobacco or sulphur, if the wind is favourable, may help to destroy these insects; it being well known to gardeners that the smoke of tobacco effects the destruction of the green-fly on flowers. In France, sowing hemp around a field is thought to be a sure protection, the insects never passing this barrier.

The wire-worm is an animal which has committed great ravages in the wheat crops, and is very difficult to destroy. It is stated in the transactions of the Linnean Society, that nearly sixty thousand acres of wheat in England are annually affected or destroyed by these noxious creatures. Various modes have been tried with success to get rid of them, such as paring and burning, and sowing spring instead of winter wheat. It has been suggested

that paring the surface of old leys, accumulating it into heaps, will effectually destroy the animal. The field, and even the heaps, may be planted with potatoes. Another method is to plough the land in July, after the hay crop is cut, and sow coleseed on it, to be consumed on the ground by sheep, which, by treading the ground, kill the worm. Ploughing the land in December, and thus exposing the worm to the inclemency of the weather, is said to be the simplest and best way of getting rid of it.

The slug is very destructive to young wheat plants, frequently caring through the stem, and thus utterly destroying the plant. This animal is most abundant in spring, and generally commits its depredations in the morning or evening. Salt, saltpetre, quicklime, and above all, lime-water, are very destructive to slugs; the least drop of lime-water, it is said, will kill one of them. Sometimes pea haulm and other strawy materials are laid about the field, under which the slugs cover themselves, and can be destroyed by lime-water or diluted sulphuric acid, in the morning. Rolling the ground at night is also recommended, or treading the surface by means of sheep.

The slug or rook-worm is also very destructive to grain crops, as it feeds upon the roots, and thus takes away the source of the plant's nourishment. This animal is most plentiful in dry summers, and if every season were equally favourable for its production, it would overrun a whole country. Wet is always destructive of the grub: and gardeners, when they find it at the root of a plant, generally put it into water to kill it. It appears on the surface of the ground in the night and morning, and rolling the ground at that time is thought a sure way of destroying it. Quicklime, saltpetre, and barley-chaff, strewed over the field before the plants come above ground, and sowing salt with the seed, are all said to prevent its ravages. Ducks are sometimes admitted into gardens, for the purpose of destroying grubs, and other noxious small creatures. Toads are useful for the same purpose.

It is a common belief that crows, rooks, and other birds, are destructive to crops of grain, pulse, and other vegetables; but this opinion, except in particular instances, is much exaggerated, if not altogether unfounded in truth. The ordinary tribes of birds which frequent the fields are in general of great use in extirpating insects, picking up slugs, and performing other services. The following are the observations of a veteran agriculturist on this subject:—

“Polecats, stoats, and weasels, are dangerous to poultry; but still they kill great numbers of mice; and if they frequent barns or rick-yards, neither rats nor mice can abound. Among birds, the owls are the most indefatigable mousers both about the homestead and in the fields, and therefore should be cherished wherever they may take up their abode.

Next in usefulness are the rooks, which live for the greater part of the year on grubs which devour the roots of grass and corn. In very dry weather the grubs descend into the earth; and the ground being hard at the same time, the rooks cannot dig deep enough to reach them. Thus, half famished, the poor rooks are driven to invade a field of wheat or barley, as the grain just begins to ripen, or perhaps a cherry orchard, to allay hunger. But from committing such depredations they are easily frightened away by a vigilant keeper; and even allowing that in these instances they are mischievous, the good they do at other times far outweighs such damage.

The jackdaw, jay, magpie, and crow, are also insectiferous; but the two last are rather too fond of eggs, and even young chickens, when they can pilfer in safety. The crow is occasionally a good sentinel in the fields; he always gives notice of the approach of a fox, a strange dog, or other prowling animal; and if his nest be near a field of pease, he will allow neither house nor wood pigeon to come near the crop; nor is he very civil to the rooks if they come near his dwelling.

These birds are often seen among turnips, into which they will sometimes dig holes; but their chief business is digging the small grubs out of the tubercles on the outside of the bulbs; thus destroying tens of thousands of those insects which would occasion clubbing of the roots in another summer.

Among birds, the finches will certainly assert their right to a share of the farmer's turnip-seed; but it should not be forgotten that they, as well as pigeons, destroy great quantities of charlock and field-radish seeds, besides many kinds of caterpillars. Again, the finches, and particularly the beautiful goldfinches, are constantly employed in the service of the farmer in devouring thistle seeds—they choosing no other while these can be found. The seeds of