

the rain promotes. When it falls upon the soil, it makes its way into the pores or fissures, expelling, of course, the air which previously filled them. When the rain ceases, the water runs off by the drains, and as it leaves the pores of the soil empty above it, the air follows and fills with a renewed supply the numerous cavities from which the descent of the rain had driven it. Where land remains full of water, no such renewal of air can take place.

2nd. *It warms the under soil.*—As the rain falls through the air, it acquires the temperature of the atmosphere; if this be higher than of the surface soil, the latter is warmed by it, and if the rains be copious and sink easily into the subsoil, they will carry this warmth with them to the depth of the drains. Thus the under soil in well drained land is not only warmer, because the evaporation is less, but because the rains in the summer season actually bring down warmth from the Heavens to add to their natural heat.

3rd. *It equalises the temperature of the soil during the season of growth.*—The sun beats upon the surface of the soil, and gradually warms it; but even in summer, this direct heat descends only a few inches beneath the surface. But when the rain falls upon the warm surface and has an easy descent, as in open soils, it becomes itself warmer and carries its heat down to the under soil. Then the roots of the plants are warmer, and general growth is stimulated.

It has been proved by experiments with the thermometer, that the under as well as the upper soil is warmer in drained than in undrained land, and the above are some of the ways by which heat seems actually to be added to drained land.

4th. *It carries down soluble substances to the roots.*—When rain falls upon heavy undrained land, or upon any land into which it does not readily sink, it rises over the surface, dissolves any soluble matter it may meet with, and carries it into the nearest ditch or brook. Rain thus robs and impoverishes such land; but let it sink where it falls, and if it dissolves anything, it will carry it downwards to the roots, will distribute uniformly the saline matters which have a natural tendency to rise to the surface, and will thus promote growth by bringing food everywhere within the reach of plants.—*Johnston's Agricultural Chemistry.*

**CAUTION TO POULTRY BREEDERS.**—Perhaps it may not be generally known that if chickens, fowls, or ducks eat a quantity of new vetches, it will inevitably cause death. A case of this kind occurred a short time ago at Mr. Thomas Lane's, of Radford, in this county, which swept away a large quantity of young fowls. Mr. Lane had been thrashing some vetches with the machine, and the straw, being very good, was put on two waggons to be drawn and made into

a stack; but a heavy rain falling in the meantime, which penetrated through the loads, it was obliged to be thrown into the yard. The straw had some loose vetches mixed among it, which were made soft by the rain, and of which the fowls partook plentifully, and this caused the death of upwards of 100 very fine fowls. On examination after death their gall-bladders were found to be much swollen and surcharged. Old vetches are not supposed to be deleterious.—*Worcester Chronicle.*

**Mrs. Fry's Rules.**—1. Never lose any time. I do not think that lost which is spent in amusement or recreation some time every day; but always be in the habit of being employed. 2. Never err the least in truth. 3. Never say an ill thing of a person when thou canst say a good thing of him; not only speak charitably, but feel so. 4. Never be irritable or unkind to anybody. 5. Never indulge thyself in luxuries that are not necessary. 6. Do all things with consideration, and when thy path to act right is most difficult, feel confidence in that Power alone which is able to assist thee, and exert thy own powers as far they go.—*Memoir of Elizabeth Fry.*

**DESCRIPTION OF A FARM-YARD AND FARM BUILDINGS.**—I have drained and subsoiled, at my own expense, 150 acres of my farm, the whole of which, amounting to 800 acres, I am in progress of fencing and dividing into 15 and 20 acre fields, on the highest point of which I have built a farm-yard, which gives accommodation to 15 working horses, 126 cows, for the pail and butcher, 300 sheep, 50 pigs, with all that follow them. The yard forms a parallelogram, and being on the slope of an eminence in the farm, the lower or ground story has been excavated—that is, I had 4,097 cubic yards of cutting to make the yard even; the haggard is, therefore, on a level with my barn-loft, which is 114 feet long, 18 feet wide, and 12½ feet high, to the wall-plate, on the north side of which is my thrashing-machine; so that I thrash on one loft, winnow on the one underneath, and drive the chaff into a third house which adjoins the granary, and all is done at the same time, by four horses. From the north side of the barn runs east a straw loft, 137 feet long, over dairy, piggery, and fowl-house; and at the opposite side runs a hay-loft, over stable, cow-houses, &c., of equal dimensions; so that a horse and cart can, from the haggard, enter the barn, and traverse a loft of 127 feet east, 114 feet south, and 127 feet west again, the floors being made of such materials as to bear, without injury, the heaviest load a horse can carry, and all covered in with the best Queen slates. This will give Mr. Friar an