

and allowing the feed for the morning to remain over night, and again preparing in the morning for night. All were wild for their feed, and never left a spoonful to waste. A colt of the same age of mine, larger, and by many considered the best of the two, was fed from the time of taking up, in the old way, with hay given whole, and oats. This spring my colt looked like a two-year-old, compared with the other, and at a less cost. The cow and heifer did equally as well. The old horse came out looking like a colt—his coat was never so fine as now, and the mare with foal never did so well before.

H. E. BROWN, *Thetford Centre, Vt.*

- 1 Door opens to feeding room. Bottom of silo below basement.
3. 13x18 feet, 11 feet deep.
- 1 Stone, pointed with cement; shall continue with wood to upper beams of barn.
5. Plank, 2 inches thick.
- 6 Did not weigh, owing to pressure of business.
8. Corn and clover.
9. Drills 3 feet 1 inches; cultivated but little.
11. 20 to 25 tons on land not matured.
14. Cut some 3 inch, some 4 inch. Used one-horse power.
17. Two months.
18. Good, to my surprise only 3 or 4 inches of top damaged.
19. Very little.
20. Two tons better than one ton of good hay.
21. Especially good.
- 23 Being short of ensilage only fed 30 pounds per head per day, with hay and grain.
24. Stalks or hay at noon.
25. Stock did well every way.
26. Decidedly profitable.

(Continued next week.)

## Agriculture.

### BARLEY EXPERIMENTS.

We extract the following from a report sent out from the N. Y. Agricultural Station, Geneva, N. Y. These experiments are made at the station and reported at regular times to agriculturists. They are, no doubt, of practical merit and worth consideration:

Four varieties of barley, labeled two-rowed, four rowed, Kinver's Chevalier and Naked or Hulless, were planted April 17th, thinly, in drills two feet apart. These barleys vegetated May 1st and 2nd, bloomed between June 20th and July 3rd, and ripened between July 28th and August 11th, or, in from 112 days to 126 days from the planting. Kinver's Chevalier seems quite distinct in its habit of growth—the latest of the varieties in blooming and in ripening—it flattens and tillers during growth, and July 18th, during a heavy shower unaccompanied by wind, all the barley except Kinver's Chevalier lodged badly. On June 14th a portion of each variety of barley was severely cultivated on both sides of the row, a spade being used, a portion cultivated on one side of the row only, and a portion left free from cultivation except the weeds removed by hoe. Calculating the yield of barley to the acre, in order to obtain figures easily borne in mind, we have our results expressed as follows:

Naked or Hulless, yield at the rate of 33.3 bushels of 48 lbs.  
Kinver's Chevalier, yield at the rate of 33.5 bushels of 48 lbs.  
Two-rowed, yield at the rate of 41.2 bush. of 48 lbs.  
Four-rowed, yield at the rate of 42.2 bush. of 48 lbs.

It becomes interesting to observe the influence of the spading upon the grain. The results, as will be per-

ceived, are quite contradictory. Thus:

|                    | Spaded    | Spaded    | Spaded    |
|--------------------|-----------|-----------|-----------|
|                    | 30 3 bush | 35 4 bush | 34 3 bush |
| Naked or Hulless   | 39.0      | 42.2      | 38.8      |
| Kinver's Chevalier | 38.0      | 42.2      | 38.8      |
| Two-rowed          | 42.8      | 40.2      | 40.8      |
| Four-rowed         | 38.8      | 43.0      | 41.2      |

The variety which weighed the heaviest per bushel was the Naked or Hulless, then came the two-rowed, next Kinver's Chevalier and then four-rowed. If we note the weight of the different samples of the varieties under different cultivation, we find contradictory results. Thus, in the Naked or Hulless and in Kinver's Chevalier barley the unspaded portion yielded the heaviest grain. In two-rowed and four-rowed barley the spaded rows yielded the heaviest grain. The next heaviest grain was in Kinver's Chevalier and two-rowed upon the half-spaded portion, in the Hulless barley upon the spaded portion, and in the four-rowed upon the unspaded portion. The lightest sample in the Hulless and four-rowed was upon the half-spaded portion, in the Kinver's Chevalier upon the spaded; and in the two-rowed upon the unspaded portion.

The amount of straw yielded by the varieties varied greatly. Thus, the Naked or Hulless gave 1,306 pounds of threshed straw to the acre; Kinver's Chevalier 2,586 pounds; two-rowed 2,014 pounds; four-rowed 1,307 pounds. The influence of the spading becomes here quite marked. Thus, in the Naked or Hulless the unspaded row yielded at the rate of 633 pounds, the spaded row 980 pounds per acre; in Kinver's Chevalier the spaded row yielded 2,559 pounds, the unspaded row 3,613 pounds per acre; in the two-rowed the yield of the spaded and unspaded portions were exactly alike; in the four-rowed the unspaded yielded 1,524 pounds, the spaded 1,029 pounds.

We may then assume that excessive cultivation has an effect to reduce the quantity of the straw of barley, while upon the yield of grain the effect can not be decisively determined by these experiments. As to the quality, one barley buyer who examined the samples pronounced the grain from the spaded portion of the four-rowed superior to the half-spaded or to the unspaded yields, while in Kinver's Chevalier his decision was exactly contrary. A second expert reversed this decision. We may assume then, that the difference in quality, if any, between the samples, was not very marked.

### WINTER CARE OF BARN-YARD MANURE.

The too general practice is to locate the barn on some elevated point, so that when the rain falls from the roof of the barn and sheds it will quickly flow away through the litter and manure and leave the yard comparatively clean and dry. Such a system cannot be too loudly condemned. It is a ruinous one. The true policy on the farm is to avoid buying what we can save or produce. We too often spend money for phosphates and sulphate of potash, not once stopping to think that our barn-yard manures, if unwashed, contain both these substances. Not only are the phosphates and potash lost in this way, but much of the nitrogen, which is another valuable substance.

There is no need of a roof to cover the manure, but no water falling from the roof of the barn should be allowed to flow through the yard in such a way as to pass off quickly. Dr. Voelcker has proved that very little loss is sustained if exposed only to what rain falls directly upon it in the level or basin-like yard.

If the manure heap is kept in a

moist like condition, and forked over at intervals so as to air every part of it, decay will take the place of putrefaction and the nitrogen will then be oxidized to nitric acid, which is not volatile and is one of the most valuable elements of plant food.

As I have before suggested, an economical way of managing manure is to apply it as fresh as possible as a top dressing. Surface manuring is becoming more general, it being the result of taking experience as a guide. By using manure in this way, it will be putting it where it will do the most good.—S. W. Jr., in *Farm and Fireside*.

Scions, it is claimed, carry with them the bearing year of the tree from which they were taken.

The climbing fern is one of our prettiest plants for home culture, and of very easy culture.

By growing deeply rooted crops as a part of the rotation the subsoil is made to contribute to the general fertility.

Sheep are excellent agents for ridding land of thistles, as they crop them off as soon as they shoot out of the ground.

It has been demonstrated that from 25 to 50 per cent. of the dry matter of clover is removed by the application of cold water.

Six quarts of soot to a hogshead of water makes a serviceable manure for watering forced plants, as well as for most bulbs, flowering plants and shrubs.

No person can make good hay that dries it on the ground sufficiently to put it in the stack; it must be out in cocks and dried as much as possible in shade.

## POULTRY.

### A SURE PREVENTIVE OF CHICKEN CHOLERA.

Several experiments have been made during the past five years by different parties for the purpose of preventing the spread of chicken cholera by inoculation or vaccination. We have during the past two years vaccinated the fowls in nineteen different yards where the cholera was prevailing badly, and in each yard we left some common fowls not vaccinated, and they all died. But of the thousand vaccinated only eleven died, although they were in the same yard with those not vaccinated that were all dying daily by the scores. We have every reason to believe that this chicken vaccination is as effective in preventing cholera among fowls as vaccination is in preventing small-pox among the human family. Vaccinate a hen, and in eight days her system will be thoroughly inoculated, then cut off her head, and catch all the blood in some vessel, then pour the blood out on paper to dry; a half drop of this blood is sufficient to vaccinate a fowl, and the blood of one hen will vaccinate your whole flock. Catch the fowl you wish to vaccinate, and with a pin or knife make a little scratch on the thigh, (just enough to draw blood) then moisten a little piece of the paper with the dried blood on, and stick it on the chicken's leg where you scratched it, then let the fowl run and you need not have any fear of chicken cholera. As the result of my many experiments I have now dried blood enough I would suppose, to vaccinate ten thousand fowls, for which I have no use, as I do not sell patent medicines. If any of your readers enough interested in poultry

to try this preventive, by writing to me I will send you free of any charge, enough dried blood to start with. All I ask is that you send immediately before the blood loses its strength, and report the result of their experiments to your many readers.

H. H. GRIFFITH,  
Zanesville, Ohio.

### ABOUT GEESE AND DUCKS

Mr. Irving, I don't believe that I could cherish any great amount of respect for neighbors who would allow fifty or one hundred geese to tramp over my premises. I have a weakness for feather beds, feather pillows, and roast goose, but still I do not think that people have any right to keep geese unless they can keep them where they belong. Can't you and your neighbors club together and put in a water gate that will keep the geese from floating on to other premises? We tried that way with our ducks, and it keeps them within bounds.

Speaking of ducks reminds me of Brother Stahl and his experience with the "critters." Don't tell, but when I laid down the paper after reading that duck article, I exclaimed: "Good enough for him! The man who would allow ducks around where they could get into the watering troughs for horses, cattle, hogs, and chickens, ought to spend a goodly portion of his time and strength in scrubbing out the aforesaid troughs." Wonder why it did not occur to the "model farmer" to fence his ducks in somewhere and give them a watering trough of their own.

Now about keeping ducks on "dry land as the New England man did," I know that it can be done, and that, to, without having mud and manure in and over everything. I know of one schoolboy who has raised forty-two fine Pekin ducks this year, and there is not a pond or stream within two miles of his place. The ducklings were hatched under hens and ran with the hens and chickens until two months old, then they were placed in an enclosure containing one acre, and have been kept there ever since. Watering troughs were provided, and those ducks were watered regularly morning, noon and night. There are no trees in this enclosure, so our boy put up a rough shed in one corner. This fall he is digging a ditch from a meadow twenty rods above, to the lowest corner of his duck yard, and in this low corner he will dig a hole that will, when filled with water, make a miniature pond wherein the ducks can "amuse" themselves to their hearts' content. Of course it costs something in work to build the fence and dig the ditch, but they won't wear out in one year or five, and besides that, the boy has gained in health, strength and wisdom. Building fences, digging ditches, and raising ducks is vastly better for boys than reading ten-cent novels, loafing around, or wearing out shoe leather tramping around trying to persuade people to subscribe for a paper which is so nearly worthless that even the publishers offer "sixteen beautiful chromos" to induce people to take it.

Now about the profits of this duck business, and we will begin with the feathers, which Stahl thinks would not be worth picking up for five times their value. From four full-grown Pekin ducks I have obtained one pound of feathers at one picking. It took me about two hours to pick them. The boy that I have been talking about picked his duck once this season, and from the forty-two young ones and three old ones he obtained