

cheap, substantial store fabrics for the men. The women wear almost entirely material of their own manufacture, even to the shoes, which are mere soles of wood with a little leather tip or socket to retain them on the foot; but the men wear much less of it than our country people in America.

The wages that these people get, are, for American needs, utterly insignificant, and they are certainly small enough even for the supplying of German wants. The men get from sixteen to nineteen cents a day, the women from thirteen to fifteen, and that for a day of fourteen hours; for they generally begin at five o'clock and work till seven. Their labour is not severe, but very tedious and exhausting:

At Stassfurt, a thriving city of 15,000 inhabitants, I found the manufactories of beet sugar more numerous, perhaps, and certainly greater than in any other city in Germany. One of them employed a thousand operatives, another six hundred, and several others four or five hundred each. The beets are brought from the fields and elevated to the upper story of the building, where they are cleaned, crushed, filtered, &c., the juice descending from story to story, through curious processes, until it reaches the last one in the shape of beautiful "sugar hats," or cones of about two and a half feet in length, of the best quality of white sugar. The juice of the beet is red, a shade lighter perhaps, than claret wine, but when boiled down without putrefaction the sugar is only slightly tinged. This is called the "red sugar," and is converted into white by the use of blood. It is cast in earthen moulds, of the size of the "hat" above mentioned, in which it is dried eight days and then taken out and polished for market. Take one of these clear solid cones up on its edge and strike it with a key, it rings like the purest steel. The price of this sugar at the factory at present is ten cents a pound, and, after testing it a hundred times, I pronounce it not at all inferior to the best article from Louisiana. One establishment, employing six hundred labourers, turns out six million pounds a year. The beets cost ten cents per hundred pounds, taken from the fields.

### Lime as a Manure.

Nearly every plant and vegetable has a portion of lime in its composition, and from this fact the necessity of keeping up a supply of it in the soil is apparent. A certain portion of it is necessary in every soil—more than this is useless. In some cases it has a remarkable effect; in others no good results are visible. Its effects are not immediate, but are lasting, especially on land laid down for permanent pasture. It promotes the growth of clover, and grasses of every kind, and adds to the size and vigour of root crops. A small quantity of lime mixed with muck or rich soil of any kind, will have a better effect than a much larger quantity applied without the addition of any other substance. Professor Johnston says, "Lime acts in two ways upon the soil. It produces a mechanical alteration which is simple and easily understood; but it is the cause of chemical changes which are really obscure, and are as yet susceptible of only partial explanation.

"1st. It supplies a kind of inorganic food, which appears to be necessary for the healthy growth of all our cultivated plants.

"2nd. It neutralizes acid substances which are naturally formed in the soil, and decomposes, or renders harmless, other noxious compounds which are not unfrequently within the reach of the roots of plants.

"3rd. It changes the inert vegetable matter in the soil, so as gradually to render it useful to vegetation.

"4th. It facilitates or enables other useful compounds, both organic and inorganic, to be produced in the soil, or so promotes the decomposition of existing compounds as to prepare them more speedily for entering into the circulation of plants."

Lime exists in clover and wheat, turnips, oats and maize, and in almost every plant. In nature it mostly exists as a carbonate, that is in conjunction with carbonic acid. Sinclair says that the saving of labour alone would be sufficient to induce a farmer to lime his land, were no greater benefit derived from the application than the opportunity thereby gained of working it more easily and in a more perfect manner.

It is said that the ashes and lime deposits caused by the fire at Portland, would be worth \$200,000 if applied to the farms in that vicinity.

In Steuben County, N. Y., there was a large meadow of timothy grass that was four feet high all over the field, and yielded three tons to the acre.

**WHITE WILLOW FENCES.**—Levi Smith, of Story Co., Iowa, writes to the *American Agriculturist* as follows: "In the June number of the *Agriculturist* you make some inquiries about the white willow. James Smith is the man who first introduced the white willow into Illinois, in 1843. He there tested it successfully. There is a fence on the old farm in Illinois twelve years old, for which the owner refused \$8 a rod for the trimmings some years ago, it was to be cut high enough to leave an everlasting live fence. I have known it to form stems in one season 1½ inches in diameter. Designing men have procured such samples and with them have canvassed the country and obtained orders, which have often been filled with a spurious article easier to procure. Our farmers have been so shamefully humbugged with worthless trash, that they are of opinion that all willow is alike worthless. I have now six miles of it, three and four years old, and it is a substantial fence, ready to turn and defy any stock. I consider it worth more to-day than the land it encloses. For fuel I grow five times the amount I can consume. Every year I can cut enough poles to fence 2000 acres of land, and still leave me a substantial live fence when they were cut. You may say to the readers of the *Agriculturist* that the white willow is no humbug, and if any of them will call, I will show them six miles of fence, which will settle the question."

**Diehl Wheat.**—John Johnston writes the *Country Gentleman*, under date of near Geneva, August 9th: "I this day send you a sample of my Diehl wheat. After you have examined it, please, when convenient, hand it to my friend, Col. B. P. Johnson, to place in the Agricultural Rooms. They have some wheat raised by me there already, but I think there is nothing better than this at the Rooms. I have just about 105 bushels of 60 pounds; from 3 bushels and 27 pounds sowed. Had I sowed it on the other side of the field, I would have had a larger return, but I forgot that I had not had dung enough to go over the whole field when it was manured three years ago, and a part of that where the Diehl was sowed was left without manure. I think the Diehl wheat will be a valuable wheat for us here; it is quite early, and was cut before any Mediterranean wheat in this neighbourhood. My Witter wheat has yielded 33 bushels per acre by measure. I have not tried its weight, but I have no doubt it will go 61 or 62 pounds. The Diehl goes 62½ as it came from the threshing machine, but it seems as clean as it can be. The sample sent has not been through any fanning mill, except the one in the threshing machine, but I will put it through another by-and-by, and perhaps report the net weight of the whole. I understand there were some 800 bushels of Diehl wheat sown last autumn in Canada West, around Paris, and would like some of my old correspondents there to write me how it succeeded. I have no doubt it has done well, and I will sow Diehl only this season. I might add that I got 40 bushels of barley per acre last year, from the same land I raised the wheat on this season."

### The Dairy.

#### Letter from a Pennsylvania Butter Dealer.

A correspondent of the *Country Gentleman* writes that journal as follows:

"I have just received, and herewith transmit the rigid rules and general economy in butter-making, observed at the dairy of one of our Keystone Country Gentleman, where as prime, delicious butter is always made as ever came from the land of Goshen, or any other butter latitude. Here is the whole formula, clear, concise and reliable.

"To make superior butter requires a combination of superior materials and conditions—good feed, suitable place for keeping milk and cream, practical experience and strict attention to small matters. Extreme cleanliness and a sharp eye all around, comprises the requisites needed. Butter is of a very delicate and sensitive nature—the most easily affected by contact with unpleasant odors of any article devoted to table consumption. Some years ago we had a whole churning of butter ruined by placing it in a neighbour's vault over night to harden, in consequence of the mortar used in the construction of the vault not being thoroughly hardened.

"Our summer feed is principally clover and timothy grass. In winter, ground corn and oats in equal proportions, clover, hay and corn-fodder, with oat straw occasionally, if bright and in good condition. All fed dry. Formerly we cut the fodder and mixed the meal well through it. Then immediately after each feeding put a mess in soak for the succeeding one. But the cows neither looked nor produced so well as under the present management, while the expense of time and labour was largely increased.

"We use a cave built in the southern slope of a sharp hill, requiring but seven steps at the entrance, while the back part is nearly ten feet below the surface, the top being covered with about four feet of earth. The bottom is laid with marble, and the cave separated into three apartments—the first for straining milk, working and weighing butter, &c. The second is exclusively for milk and cream. The third—adjoining the ice-house—for hardening butter in warm weather.

"We usually milk from twenty-five to twenty-eight cows, and have them coming in fresh throughout the year, which keeps the butter uniform in quantity and quality. We use no thermometer in churning—set the milk four inches deep in tin pans. Have a butter worker, but keep it in the garret to season. Keep water and hands entirely from contact with the butter, or as much so as possible. Work the buttermilk out, and the salt in, with a paddle. Salt to taste. Make in pound and half-pound prints, and forward it to the city in butter tubs with coolers attached, the tubs holding from forty to seventy-five pounds, which enables us to furnish it to our customers in a condition equal to that in which it left the cave. In cold weather we use a coal fire in the cave to supply the heat necessary to make the cream rise freely, and enable us to convert it into butter expeditiously.

"Every manufacturer, vendor and consumer of butter ought to know that the effluvia from cooking provisions, raw vegetables, fish, musty cellars, &c., will spoil the finest butter in a few hours."

### The Oxford Cheese Factories.

Herewith we give a list and names of proprietors of the principal Cheese Factories of the County of Oxford, with the probable amount of cheese manufactured during the season of 1866.

James Harris & Co., township of West Oxford, with a branch in the township of Deroham, is using the milk of about 500 cows, and will make about 70 tons of cheese, all of which has been sold and contracted for at 12½ cents per pound.

Andrus Smith & Son, Norwich, use the milk of near 400 cows. The average estimate of cheese produced from each cow is somewhat over 300 lbs., which can be increased considerably by good feeding. Smith & Son have not yet sold.

Harvey Farrington, Norwich, uses the milk of between 300 and 400 cows, and has sold all his cheese at about 12½ cts. His average yield per cow is quite as good as any other.

Bailey, Norwich, has a nice new factory, which this season uses the milk of about 400; has sold at 12½ cents.

Samuel Elliot, West Zorra, uses the milk of 400 cows—a first rate factory—has sold all his dairy produce at 12½ cents.

John Ailum, West Zorra, uses the milk of from 350 to 400 cows, has sold a quantity of his early make at 1½ cents, and the balance of dairy at 12½ cents.

Jonathan Jarvis uses the milk of 250 cows; has a very good factory in North Oxford; and has sold his whole lot at 12½ cts.

Josiah Collins, Dereham, uses the milk of about 150 to 200 cows, and has sold his whole lot at 12½ cts.

The above are the principal factories of the County, and have all sold to one party—Mr. E Caswell of Ingersoll. Besides these there are quite a number of dairies which are manufacturing on the factory principle, and in the aggregate will make a large quantity.

**THE BUTTER MAKER'S GOLDEN RULES.**—The great secret in butter making, it seems, consists in attending to the following points:

1st. Securing rich, clean, healthy milk—milk obtained on rich old pastures, free of weeds.

2d. Setting the milk in a moist, untainted atmosphere, and keeping it at an even temperature while the cream is rising.

3d. Proper management in churning.

4th. Washing out the buttermilk thoroughly, and working so as not to injure the grain.

5th. Thorough and even incorporation of the salt, and packing in oaken tubs, tight, clean, and well made.

**TEMPERATURE IN BUTTER MAKING.**—According to experiments made by Pohde, the temperature of the cream affects—

1. The time required to make the butter; the colder the longer.

2. The quantity of the butter; the colder the cream the greater the quantity.

3. The quality of the butter—cold cream producing the best.

Hence, although by using warm cream there is a saving of time, there is a loss in quantity and quality.