Domestic Economy.

Choice Treatment of Food.

In the choice of foods we cannot exercise too much care. It is cheaper to procure only the very best articles. All vegetables and fruits should be grown on the best soils, and the fertilizers used should be well decomposed and not fresh and rank. Partially decayed food of whatever kind should be avoided. For breads, the best white wheat is none too good. If grown in new soil it is likely to be better and to contain abundance of the mineral matter so needful to health. Fruits for eating without cooking should be ripe, tender and not too tart; while those for cooking may be either sweet or sour, but they must possess the peculiar quality of retaining when cooked their best flavors. Potatoes should be fresh and ripe—old ones are less wholesome, especially when they have been exposed to the light and air, and bruised by much handling, or long exposed to cold.

Animal food should be chosen with great caution. Only healthy animals should be used for eating. They should be neither too old nor too young, too fat nor too lean. In butchering, all the blood should be removed from the body, as otherwise the flesh putrefies readily. It should be thoroughly cooled before eating. It is also desirable that the animal be not killed for several hours after eating or after fatigue. The long journeys animals are sent in crowded, filthy cars, render their flesh unwholesome.

The treatment of animal food is a matter of importance. Why do we cook it at all? First, to render it more pleasing to the sight; second, to develop its best flavor; and third, to render it digestible and palatable. Flesh cooked too much is rendered innutritious and indigestible; if cooked too little, it is disagreeable eating. Liebig said he would never have flesh subjected to a higher temperature than 170 degs. Fah., except for a few minutes after it is put into the pot, when it may be submitted to a temperature of boiling water in order to coagulate the albumen into a sort of crust on the outside to hold in the flavors that might otherwise be evaporated. In roasting meat, also, let the heat at first be high, and gradually decrease to the boiling point for the same reason. Stewed meats are more wholesome and nutritious than any other. The process renders flesh tender and succulent and easy of digestion.

The Origin of Pumpkin Pies.

The pumpkin pie is considered a purely American dainty, and ample justice is done it at each annual return of the holidays. It is to be hoped the institution will lose none of its patriotism and favor, and that the digestion of its lovers will not suffer when they discover that this specialty of the Yankee, in which he, or, more properly speaking, she—for the wife is the concocter—takes pride, is no American specialty after all, but existed in England two hundred years ago, and is to be found in "The Complete Cook," published in 1655.

The English pie is a much more elaborate affair than that of the Yankee, and contains more ingredients. As the season of good things is now at hand, when novelties of this kind generally prove acceptable, we give the recipe, which is so old, it can, like the dresses worn at the same period, be introduced to this generation and called new:

"*To Make Pumpion Pie.*—Take about half a pound of pumpion and stew it; a handful of thyme, a little rosemary, parsley, and sweet marjoram slipped off the stalk, and chop them small; then take cinnamon, nutmeg, pepper, and six cloves, and beat them; take ten eggs and beat them; then mix them and beat them altogether, and put in as much sugar as you think fit; then fry them like a froize; after it is fried let it stand till it be cold, then fill your pie; take sliced apples thin, round ways, and lay a row of the froize and layer of apples, with currants betwixt them while your pie is filled, and put in a good deal of sweet butter before you close it; when the pie is baked, take six yelks of eggs and some white wine of vergris (ver-juice,) and make a caudle of this, but not too thick; cut up the lid and put it in; stir them well together until the eggs and pumpions be not perceived, and serve it up."

Now, any lady adventurous enough to try this pie can call it by a French name and give a dinner party to introduce it.

Oatmeal and Cocoanut.—Oatmeal mixed with grated cocoanut produces a very attractive cake to both old and young. Take three heaping teaspoonfuls of grated cocoanut, or two of the prepared dessicated cocoanut; add to it half a pint of the finest oatmeal and two heaing teaspoonfuls of sugar; stir it into one gill of boiling water, and mix it thoroughly together; turn out on the rolling board, well floured, and roll it as thin and cut out as for common cracknels; put a bit of citron and a half dozen currants into each cake, sticking them into the dough. Bake in a slow oven and watch carefully lest they brown a shade too deep. To make them crispy let them stand a day in an uncovered dish.

Graham Flour Puffs.—One quart of sweet milk, two eggs, flour to make in a thin batter, fill the gem cups two-thirds full, bake in a quick oven.

Good Health.

Death from Tight Lacing.—There has just died at Pimlico, Mrs. Kezia Wheeler, an old lady at the age of 77, on whom an inquest has been held. Mrs. Wheeler was found dead in her bedroom on Sunday morning last, dressed for church, and with her Bible in her hand, having apparently expired suddenly. The surgeon said death had resulted from the bursting of an aneurism, and the post-mortem examination revealed terrible evidences of tight lacing on the part of the deceased, who had been a very beautiful woman. In fact, one end of the old lady's ribs had been pressed against the internal organs, and had kept them constantly at half action, as it were, until apparently an aneurism was produced by the sudden rupture of which she died. Mrs. Wheeler must have been an exceptionally healthy woman to have thus lived in spite of the corset which imprisoned part of her organs and interfered with their natural development; had she not laced she would doubtless have been a centenarian. —*London Daily Telegraph.*

Chapped Hands.—The easiest and simplest remedy is found in every one's kitchen closet, and is nothing more than common starch. Reduce it to an impalpable powder, put it in a muslin bag, keep it in the table drawer. Whenever you take your hands out of dish water or suds, wipe them dry with a soft towel, and while yet damp shake the starch bag all over them and rub it in.

When to Take a Warm Bath.—A warm bath should be taken at night just before retiring, and if the system is weak the bed and sleeping room should be warm to prevent taking cold. Very few persons can take a warm bath in the daytime and go out into the air and attend to ordinary business without much peril.

Poisoning by a Lamp Shade.—At a recent meeting of the medical society in Bonn, Professor Zuntz brought forward a case in which a gentleman who had for several years been subject to migraine observed that for some days he had headache late in the evening, which, without interfering with sleep, continued in the morning, and was accompanied with loss of appetite and *malaise*. In about a fortnight the symptoms became more severe and lasted the whole day. At the same time similar symptoms, but much less severe, appeared in two students who sat at the same table in the evening. The green shade of the petroleum lamp was suspected of being the cause of the mischief, and on chemical examination it was found to contain arsenic. Its use being discontinued all the symptoms ceased in the three individuals. It was evident that the heat of the lamp had set free the arsenic, and the greater severity of the symptoms in the first mentioned individual was due to the fact that he was near sighted, and therefore sat nearer the lamp than the others did. Professor Zuntz said that he himself was some years affected in a similar way, though less severely, while using a green lamp shade, in which arsenic was found.

Starved to Death.—The New Haven *Journal* says: "A strange and painful fate was Policeman John Benson's, who died on Thursday in Norwich, at the age of sixty-eight. For three months he had suffered from a cancer on the tongue—possibly a result of too much smoking. For two months past the tongue has been so swollen and sore as to absolutely prevent all eating, and the sufferer was kept alive by semi-liquid food given by means of a tube. During the past ten or twelve days it has been almost impossible even to introduce this tube, so bad was the cancer growing, and for four or five days before his death the poor man was literally starving to death. The immediate cause of death was pronounced to be starvation. His relatives and friends, aware of the fate which as coming to him, stood powerless to avert it. Thousands will remember Mr. Benson as the excellent and efficient manager of the police every summer at the Willimantic camp-meetings."

A Whisky Diet.—The Baltimore *American* reports that the board of visitors of the jail in that city have assented to the testing of a novel and interesting experiment that is expected by those urging it to result in the radical cure of the insatiate thirst for strong drink. A number of the hardest cases, who yearn for the trial, are to be placed by themselves, and supplied with no article of food or drink that is not flavored with whisky. Coffee, bread, meat—in short, everything is to have a dash of whisky. It is believed that, in a few weeks, the tramps will become so disgusted that they will loathe the very sight of liquor, and thus cured of the degrading appetite, they may be restored to manhood, self respect and usefulness.

Ventilation of Clothes Closets.—Too little attention is paid in the construction of closets to their proper ventilation. It is not always convenient to have a closet door stand open, and if it were, full ventilation cannot be secured in this way. There should be a window or an opening of some sort from the closet to the outer air or to a hall, so that a current of air might remove any unpleasant odors arising from clothing that has been worn, from shoes, or from anything else kept in the closet. A garment that has hung for a length of time in a close closet is as unfit to wear, unless it has been thoroughly aired, as though the unwholesome vapors it had absorbed were visible to the eye. The charm of clothing new and clean lies far more in the absence of these vapors than many people are aware.

The Vineyard.

Australian Vines.

The Colony of Victoria is divided by a range of mountains having a general direction of from east to west. At the north side of this dividing range is the Sandhurst district, thoroughly protected from the chilling blasts of the south wind, and having its natural sun heat much increased by radiation from the broad, treeless plains which stretch to the banks of the river Murray, the boundary between Victoria and New South Wales.

This district is one of the largest and best adapted for the production of generous wines. It enjoys immunity from all danger of rainfall during the vintage season, and consequently the fruit is ripened to perfection and fermented at an even temperature. The climate is hot and dry, but not too dry for the vine, resembling, in a great measure, the climate of the upper Murray, and consequently the wines produced are entirely of a different character to those made south of the dividing range. The last and most important wine producing locality of Victoria is the district of the Murray and Ovens rivers.

South of the dividing range, the Yering district, about forty miles northeast from Melbourne, is the most important.

The Varieties.

The species of vines most generally cultivated in Australia, are described by Mr. Fallon in the following terms: The Reisling is one of the most desirable grapes to cultivate. Although not a large bearer, the vine is hardy, the fruit growing in small conical bunches, is far less liable to danger from rust before vintage than other kinds. The wine produced from this grape is not surpassed in quality by any other white wine made in the colonies.

Verdeilho produces a generous, rich wine, of fine bouquet; like the Reisling, it is a shy bearer, and easily affected by the cold winds during the blossoming season. It is a Portugese variety, cultivated to some extent in the Aporte district, and prevalent in the vineyards of Madeira.

The Aucarot grape makes a wine equal to any of the colonial white wines; but, like the Verdeilho, it is tender and delicate while in flower, and a full crop cannot always be relied on.

The Chasselas is a hardy plant, and generally bears a large crop, and from it a pure light wine, of delicate flavor, is made, which is much liked as a dinner wine.

The Pedro Xemeney is a large bearer and produces a strong wine of good keeping qualities, but rather coarse in flavor, not unlike sherry. Other white varieties cultivated to a less extent are the Palomino, the dominant Xerez grape, the Gouais, the Pineaublanc, with the Marsanne and Roussane, form a combination of which White Hermitage is produced, and the Furment or Tokay grape.

Among the red varieties the Shiraz is a hardy vine—a moderate bearer, yielding a fair crop, and makes a fine strong wine of good quality and flavor. The Shiraz, or Sirrah, as it is commonly styled in Europe, is the Hermitage grape.

The Malbec and Carbenet are both hardy varieties. The plants yield a larger crop than the Shiraz and produce wine of an excellent flavor and bouquet, recommended as the best wines that can be taken by persons of weak constitution. They are the grapes from which the finest Bordeaux is made.

The Burgundy is a small producer, but affords an excellent wine. The bunches are small and conical, like the Reisling. A fair average crop may be relied on.

The Roussilon is a prolific bearer, a hardy vine, not subject to blight, producing a most agreeable dinner wine. The Gamais and Mataro are two other varieties. Another popular vine is Brown Muscat, a large bearer, and producing a rich, luxurious wine.

Amount of Production.

The secretary for agriculture of Victoria reports that the vintage of 1875 has surpassed in productiveness that of any previous year. In every wine growing district of the colony the yield of wine is reported to have exceeded the average of years, and in some it has doubled that of any previous season. The Tabilk vineyard alone has yielded, this vintage, 68,000 gallons of wine, or about 525 gallons per acre over its entire area.

Some idea of the growth of wine culture may be had from the fact that the number of vines in the colony of Victoria during the year ended March 31st, 1875, was 8,545,364.

From these were gathered 19,999 cwt. of grapes, which were not made into wine; the quantity made into wine and brandy was 90,988 cwt. The total product of the vines is thus shown to be 110,987 cwt.

The quantity of wine produced for the year ending March 31st, 1875, was 577,493 gallons, being an increase of 14,780 gallons over the preceding years. At the end of March, 1875, the extent of land taken up with vines was 4,937 acres.—*Alta.*

Horticulture.

Manuring the Orchard.

We give the following article on manuring orchards, from the New York *Times*, written by Alexander Hyde, a practical orchardist:

Too many seem to suppose that fruit trees need no manuring Their corn and potatoes are well fed, but the orchard is left to shift for itself, and then they wonder that their apples are small and knotty, while another orchard half a mile distant, and on similar soil, uniformly bears large and fair fruit. The curse of barren orchards does not come causless. Here and there an orchard is favorably located on a saline soil, where the decomposing rock furnishes inorganic manure in such quantities as to supply the wan s of the trees for an indefinite time without artificial manuring. Happy is the orchardist who has such a site for his trees. Again, there are other orchards, located at the base or on the foothills of mountains, that are constantly receiving the wash of these greater elevations, and are thus supplied naturally with all the elements of tree and fruit growth. We knew some orchards located like this, and they seem to thrive by neglect, and make their owners rich returns with little outlay. The soil does not look rich with organic food, but the spring freshets and all the great rains bring down to these trees the saline elements, potash, lime, soda, etc., for which they are so hungry, and in return for which they produce large and luscious fruit. The mountains form a shelter of a great rock to these orchards, and the great rocks by disintegration from the action of air, rain and frosts, furnish just the food to make trees and fruit grow. The farmer who has land situated like this, where saline fertility is yearly washed upon it, had better make a specialty of fruit raising. Apples, pears, peaches, cherries, grapes, everything in the fruit line, will grow in such a locality without much artificial culture. Harvesting is the principal labor of the culturist so located.

Treatment Necessary.

There are comparatively few fruit cultivators who are so favorably located. Most orchardists must supply pabulum to their trees artificially, or the orchards will be short-lived and very unsatisfactory in their products while they do live. Trees cannot wander around like cows and sheep in search of food. They are confined to one spot, and though their roots forage more deeply and widely than is generally supposed, still if they are taxed in producing large crops of fruit yearly, they soon exhaust the inorganic food of the soil in which they grow. The organic food of plants—that which goes into the air when plants are burned—may be derived from the air again. The organic elements of plant life are few, mainly four, carbon, oxygen, hydrogen and nitrogen. The importance of these gaseous elements in the vegetable economy we are not disposed to deny. Every cultivator of the soil from Cain's day to the present must have noticed how animal fertilizers give growth to every part of a tree or plant. There is no danger that the dung-hill will not be measurably appreciated. The action of saline manures is not so obvious, and it is only within the last half century that their natures have been esteemed at anyt ing like their true value. Liebig did a great service to the orchardist by his analysis of the wood and fruit of the apple and other trees, and Prof. Emmons, of Williams College, followed up these investigations, showing conclusively that saline (inorganic) substances form the skeleton or bones of all vegetables as they more manifestly do in animals, and that these substances abound especially in fruit trees. It has long been known by observing farmers that the ashes of apple trees furnished a lye rich in potash, and were eagerly sought for by soap makers; still it did not occur to them that potash would be just the food on which apple trees would thrive, and the proper mode of manuring an orchard is not now so generally understood as it should be. We have little doubt that the trouble with our correspondent's orchard, and thousands of other old orchards, is that the soil has become exhausted of potash, carbonate and phosphate of lime, and other saline manures. He speaks of barn yard manures as producing little effect after a series of years. We recommend him to try a heavy dressing of wood ashes, say 100 bushels to the acre, and more will do no harm. In most parts of our country such a dressing can be given for $25 to $30—an expense no greater than that of a heavy dressing of barn yard manure.

We mention wood ashes because these contain all the inorganic elements which enter so largely into the composition of apples, and especially of apple-tree wood. Dr. Emmons' analysis shows that in the ash of apple wood three elements greatly preponderate, viz., potash, phosphate of lime, and carbonate of lime—in round numbers, sixteen parts potash, seventeen parts phosphate of lime, and eighteen parts lime. The bark of the apple furnishes an ash which is more than half lime. There is also a difference in the ash of the sap and heart wood, the latter giving more sulphuric and carbolic aid, but less phosphate of lime. The leaves of the apple tree also furnish an ash exceedingly rich in saline matters.

What Trees Need.

To make it perfectly clear what inorganic substances the apple-tree needs for it growth, we give Prof. Emmons' exact analysis of the ash from the sap-wood of a sweet apple tree nineteen years old:

Potash	16.19	Phos. of magnesia	.20
Soda	3.11	Carbonic acid	29.10
Chloride of sodium	.42	Lime	18.63
Sulphate of lime	.05	Magnesia	8.40
Phosphate of iron	.80	Silica	1.60
Phosphate of lime	17.50	Organic matter	4.00
Total			100.00

To make the analysis complete we add Prof. Salisbury's report of the inorganic constituents of the fruit of the Rhode Island Greening:

Silica	1.412	Potash	28.440
Phosphate of iron	1.277	Soda	22.781
Phosphoric acid	11.664	Chlorine	2.272
Lime	4.421	Sulphuric acid	8.019
Magnesia	2.211	Organic matter	7.503

Every intelligent orchardist can see by a glance at the above analysis what his orchard wants to make his trees healthy and his fruit of first quality. Barn yard manure will not furnish these elements in sufficient quantity, unless the soil is aided by some disintegrating rock, rich in saline substances, or these are washed on by overflowing rivulets. When first planted the trees may grow finely and fruit well for a series of years, possibly twenty or thirty, the time depending on the amount of inorganic matter in the soil; but the leaves and fruit will finally exhaust the land of its saline elements, and the trees will begin to decay and the fruit to deteriorate.

As we have already intimated, wood ashes furnish all these inorganic constitutents of apples and apple-trees, and this too at a cheaper rate than they can be bought in any other form, or at least this has been the case. Wood ashes are, however, more appreciated than formerly, and may not be comeatable in some places at any price. In this case, we should recommend the application of shell-lime, ground bones, German potash salts, gypsum, and the compost made of leaf-mold as the basis. It will greatly aid the orchard if the leaves which fall annually can be kept from blowing away. In their decay they furnish just the food the trees and fruit require, and we have no doubt that if the apples and leaves could both be left to perish under the trees the orchard would continue to thrive indefinitely.

The Dairy.

Butter Making.

It costs no more to make a good article than it does a poor one. For butter making, it is important to have plenty of good, pure water for the cows to drink, and for use in the dairy. The milk room should be so constructed that the temperature can easily be regulated, so that the milk can be kept in good condition without thickening until it has stood about thirty-six hours. It is very important that the milk-room should be kept at an even temperature of sixty-two degrees. The cream should be taken off at least as soon as the milk begins to thicken on the bottom of the pans. Be very careful about this part of the work, since if the cream is allowed to remain longer, the butter will lose, not only in quality but in quantity. The very poorest condition of butter arises from a

Neglect of Removing the Cream

Before the milk begins to form whey, and keeping the cream too long in cans before churning. Cream should never be allowed to remain in cans more than one day, and the sooner it is churned the better. If the cream is allowed to remain on the milk until there is a separation of curd and whey, then little particles of curd will rise up and mingle with the cream and also with the butter. This curd gives the butter a cheesy flavor, and it will soon become rancid and unfit for table use. In tempering the cream before churning, you should be governed by the temperature of the atmosphere surrounding the place of churning. If the air is very warm some allowance should be made and the cream should be tempered down to about fifty-six or fifty-seven deg., but ordinarily in this climate cream put into the churn at a temperature of sixty-one or sixty-two deg. will bring good solid butter. Water, either hot or cold, should never be turned into the cream to temper it; the one melts the cream and the other chills it. If water is used for that purpose the can containing the cream should be placed in a larger vessel, or tub, containing water, warm or cold, as the case may require, and the cream should be stirred gently to keep the outer edges from being either chilled or melted. The stirring should be continued until an even temperature is obtained through the entire mass. When the butter is well formed in the churn, draw the buttermilk; then turn in pure cold water, sufficient to rinse the butter thoroughly. Take up the butter and spread it upon the butter-worker, work it gently and turn on cold water until all the buttermilk is washed out, then salt with pure salt; if for immediate use, one pound to twenty of butter; if for packing, one pound to sixteen of butter. Work it slowly until the salt is thoroughly and evenly absorbed. If the salt is not evenly absorbed the butter will not be of uniform color.

Do Not Work too Much Nor too Fast.

For in doing so you destroy the grain and the butter becomes salvy and lard-like in its texture. Let it stand or put it away in the tray for twenty-four hours, then work it enough to remove whatever buttermilk there may be or surplus brine. Mould it into rolls, set the rolls away for twenty-four hours, or until they become firm, then clothe it with new white butter cloth, cut wide enough to lap over the ends of the roll. Butter ought not to be taken to market rolled up in brown house lining or or old cloth. Cloth should be cut in pieces of the right size and dipped or saturated in brine and applied to the roll when dripping wet.

Butter Should Never Come

In contact with the bare hand. When in bulk it can be handled with a ladle and a flat paddle very conveniently, and the rolls handled nicely with two of these flat paddles. The farmer who milks from three to five cows may say that the above rules are very good for a large dairyman to follow, but excuses himself by saying that he cannot afford to go to all this trouble. But I will say that he is the very man I am talking to and it is for his benefit that I write the above suggestions. There is no other article of

Produce that Speaks for itself,

And reveals the neatness or exposes the slovenliness of its producer to the public gaze so readily as butter. Mrs. A brings her ten rolls of butter to the store; her butter is fresh, sweet, hard, and neatly clothed, her merchant allows her the highest market price for it, say forty cents per pound. The town customers see this butter, and want to know who made it, the clerks tell them that it is Mrs. A's butter; they buy a roll. Now comes in Mrs. B. with ten rolls likewise. She declares her butter is good, and the clerk dare not tell her differently, when in fact chunks of lard alloyed with a little tallow, neither uniform in size or shape, with a strip of brown house lining round the middle, would be just as inviting as what she declares to be good butter. She demands as much for it as Mrs. A; finally, rather than offend her, the merchant is generous enough to allow thirty cents per pound, or sixty cents a roll, and then offers it to his customers at fifty cents. But it don't take at that, when Mrs. A's butter sells readily at eighty cents. Figures may induce Mrs. B to try and do better hereafter. Now suppose there is a difference of ten cents a pound in the price, as shown above, when there is in fact more than that difference in quality. Allowing each cow to make 125 pounds during the season, (and a cow that will not do this is not a good one for butter-making,) this gives a margin of $12.50 every year for each cow. Just take five or ten cows as a basis and make the calculation at your leisure and see what it will amount to in ten years. Is not this a handsome profit and worth saving?—*San Benito (Cal.) Advance.*

Stock Breeders.

Breeding for Useful Qualities.

At the recent convention of Short Horn breeders in Toronto, Canada, Judge T. C. Jones, of Ohio, one of the foremost Eastern stock breeders and writers, delivered an address in which he upheld breeding for those qualities which are of real value and usefulness rather than fancy points and estimates. This is what the farmer wants in a breed of cattle. He wants a breed that will do the best work with the feed he furnishes, either making the most beef or milk out of it, as the case may be. It is well for the success of the Short Horns that their advocacy can be put upon such grounds; for this is the ground they must stand or fall upon in the farm economy. Judge Jones took as his subject "Short Horn breeding conducted as a science with a view to maintaining the highest excellence in useful qualities." He submitted that the practice of breeders should be governed by a proper understanding of those general, principles that had been tested by the deduction of animal physiologists or the experience of practical breeders. While it must be admitted that mere speculative scientists had heretofore accomplished very little in aid of cattle breeding, it was nevertheless true that considerable progress had been made in establishing systematic methods founded upon the careful observation of facts and intelligently conducted experiments. All intelligent efforts for the improvement of domestic animals had been founded upon two principles: (1) The selection of the best animals to breed from; and (2,) proper feeding and care for the development of the highest excellence. Those principles were acted upon in a rude way at the very beginning of the history of races and breeds; and their observance was equally essential in the preservation of the valuable characteristics of the most perfectly developed races of the present day. In the early history of the Short Horn race there was a good deal of in-and-in breeding, a practice that seemed justifiable because of the limited number of cattle of approved excellence to breed from, and because the tendency was, within certain limits, to improve the symmetry, refine the bony and muscular structure, and increase early maturity. The multitude of the race now disseminated throughout the world were, therefore, all descended from a very few animals. The fact that close inter-breeding tends to refine the extremities and to impart elegance and style to the general appearance of the animal would explain why men of taste adhered to the practice, while we of a more practical turn of mind would have detected a diminution in useful qualities. In case of in-bred animals commanding high prices, it could not be expected that the owners would change their style of breeding and involve pecuniary loss, and so long as those linebred animals were in demand at higher prices than others, so long would they be bred. There was now no necessity for resorting to the refining system to give style and beauty of form, for, as observed by Professor Law, the external form has already been brought to all the perfection which art seems capable of communicating; and now those other properties remain to be attended to without which no further refinement in breeding will avail for the purposes of profit to individuals and benefit to the country. Gentlemen in the in-and-in practice seemed to be aware of its influence in impairing useful qualities, as was shown by the fact that they were constantly seeking bulls as remotely connected as possible with their cows. What was at this day the essential matter to be attended to in their practice? Had they not carried refinement far enough, and had not the external form been brought to all the perfection which art seemed capable of communicating? The form of the model Short Horn would seem to admit of very little variety in the way of types, unless they attempted something that was not essential to useful profitable excellence. They should bring up the average to the maximum of excellence and keep it there. He urged that cattle should be judged by a scale of points, which might be subdivided to suit the fancy. He objected to incestuous breeding, especially where it was practiced merely for the purpose of continuing in the line, because it tended to impair constitutional vigor and the growing and feeding properties, although it produced high refinement of form.

Poisonous Potatoes.—The sprouts of the potato when analyzed are found to contain a vegetable alkaloid called by chemists *solanine*, which is very poisonous. Solanine is obtained from various species of solanumagenus of plants comprehending the potato, tomato, nightshade, etc. This alkaloid does not exist in the tubers unless they are exposed to the light and air. If potatoes remain for any length of time after having been dug in too bright a light, or if the earth is accidently removed from them in cultivation, they are changed by the chemical action of light and become green in color, which is owing to the presence of solanine. Potatoes of a blackish-green tint are good for seed, and it is claimed by some that the poison they contain is a sure preventive of decay, but they should never be cooked for the table. If they are boiled in a large quantity of water and the water carefully drained off, they may be fed to stock.—*Ex.*

Preserving of Hops.—A newly patented method of keeping hops employs carbonic acid as a preservative agent. Air tight, tin lined boxes are loosely filled with hops. Carbonic acid (made in a soda fountain machine by the usual sulphuric acid and marble dust process) is then admitted to the box through a tube that reaches to the bottom. The gas fills the box, driving the air out before it as it rises from the bottom. The hops are then compressed, and more filled in with an additional supply of gas. This is repeated till the box is loaded with pressed hops saturated with carbonic acid. The cover is put on, and more gas is added under pressure to drive out the last trace of air, and then the box is quickly sealed hermetically. The first experiments in this direction proved entirely successful.

Cleansing Water Mains.—It frequently happens in iron water mains that deposits of rust are formed, sufficiently thick to reduce materially the diameter of the pipe. To clean the interior, Mr. E. Dodds, an English engineer, has lately devised a pipe scraper, which operates as follows: The pipe is cut, the scraper is inserted, temporary joints are made, and the water is turned on at highest pressure, which drives the scraper on at great speed. In the first experiment, a distance of 300 yards of pipe was thoroughly cleansed in two minutes and 20 seconds.

An alloy for locomotive whistles which will give a clear sound is made of copper, eighty parts, tin, eighteen, antimony, two.