EGG PRESERVATION.

The Superior Quality of Eggs Kept In Water Glass.

According to the experiments made by the North Dakota station, water glass more closely conforms to the requirements of a good preservative for eggs than any of the substances commonly employed. It was found in these experiments that a 10 per cent solution of water glass preserves eggs so effectually that "at the end of 31/2 months eggs that were preserved the first part of August still appeared to be perfectly fresh. In most packed eggs, after a little time, the yolk settles to one side, and the egg is then inferior in quality. In eggs preserved for 31/2 months in water glass the yolk retained it's normal position in the egg, and in taste they were not to be distinguished from fresh, unpacked store

"Again, most packed eggs will not beat up well for cake making or for frosting, while eggs from solution in water glass seemed quite equal to the average fresh eggs of the market." To this summary of the Dakota experiments Dr. Beal of the office of experimental stations adds, in bulletin 103: Of 20 methods of preserving eggs tested in Germany the three which proved most effective were coating the eggs with vaseline, preserving them in limewater and preserving them in water glass. The conclusion was reached that the last is preferable, because varnishing the eggs with vaseline takes considerable time, and treating them with limewater is likely to give the eggs a disagreeable ordor and taste. There is, however, one drawback with eggs preserved in a solution of boiling water. This may be avoided by cautiously piercing the shell with a strong needle.' The following directions for preserving by this method are

Use pure water that has been thoroughly boiled and then cooled. To each ten quarts of water add one quart of water glass. Pack the eggs in a jar and pour solution over them, covering

Keep the eggs in a cool, dark place. A dry, cool cellar is a good place. If the eggs are kept in too warm place, the silicate is deposited, and the

eggs are not properly protected. Do not wash the eggs before packing, for by so doing you injure their keeping quality, probably by dissolving the mucilaginous coating on the outside of

For packing use only perfectly fresh eggs, for stale eggs will not be saved and may prove harmful to the others. Water glass is a very cheap product, that can usually be produced at not to exceed 50 cents per gallon, and one gallon would make enough solution to preserve 50 dozen eggs, so that the cost of material for this method would only be about 1 cent per dozen. Water glass is sodium and potassium silicate, sodium silicate being usually the cheaper. If wooden kegs or barrels are to be used in which to pack the eggs, they should first be thoroughly scalded with boiling water to sweeten and

Wall Manuring In the Orchard. Fall is the best time to apply manure to the orchard. It should be put on after the leaves have dried up and not while they are still green, says Farm, Field and Fireside. The reason for this is that if the manure be put on while the leaves are still active the fertility or a part of it will be used in the trees this fall and in the case of some late growers or of trees on moist land may start a new growth of wood that will make the trees less able to withstand the severe breezes of the coming winter. After the leaves have dried or fallen the: is no danger of such a result. The advantage of manuring at this time of year is that the manure has time to decay, and the fall and early spring rains will incorporate it with the soil before the leaves start in the spring. As the ground is quite hard at this time of year, the work will be done with greater ease than to wait till the spring, when the ground is soft from spring rains and melting snows and from the effects of the frost in the ground. Even if we have fall rains the soil is far more compact in the fall than in the spring from the causes mentioned. When manure is applied in the spring, the frequent necessity of waiting till late on account of the softness of the ground prevents the manure from being washed into the seil by the early rains, and it remains on the ground through the drier period following. Then late in the summer the trees get the benefit and are overstimulated. The object in applying manure should be to let the trees get the full benefit of it before the end of July, at which time the buds for the fellowing year have

The Corn Shredder. The preponderance of evidence seems to show that the corn shredder is gaining in favor, according to American Agriculturist, which says: The process (shredding) received a severe blow when the modern machines were first put on the market. The capacity was so small that the cost of shredding and husking was beyond the reach of the average farmer. Then the earlier machines were very dangerous to operate. Both defects have now been remedied. Self feeder attachments make it un necessary for the operator to endanger his limbs. Larger cylinder heads increase the capacity of the machine

It is said that Danish farmers grow the yellow tankard turnip in pro

LOADING STO Portable Device Which Is Conven-



16 inches from ards. The floor the end of the floor

Now put the axle other end on ground and wheels under t and wheels under too the axle will be a too. And then drop down over the axle the price to the spike or pin the upright. Cleat the bottom to keep Before loading wwagon and down makes the hogs ta shoot and locate makes the hogs ta shoot

Live Stock a

a farmer who is The American Cul-ill continuing his hods to make at The way out : heavily in debt, sa tivator, is while ordinary farm improvements in many inexpensi these as he can a pay a little bet Meanwhile he sh d nse strategy as d call it tooking ad some branch of terested him and his farm and localmilitary men w farming which which is adapted ity. This he she beginning in a si he can thorough When he finds it make a specialty.
I way at first until
learn the business. beginning in a since all way at first until beginning in a since all way at first until beginning in a since dear the business. It is well, then he can and perhaps in a more dear profit from one bear in 20 years and even hundre in farming by lifted themselv made farming have done it by growing the chocest stock. This red any other method, but it also makes he most rapid gates and the profit of the paid and the original stock be still or hand at the close of the third year. There is risk in this if valuable animals die or if they cared for that But to the extent of grading up his even stock by crossing with pure bred more valuable is within the reach of every farmer, however poor When he has a relation to the store of the third year. ery farmer, however poor. When he has a calf growing up into a better cow than was ever on the farm before, the farmer in debt can see the day of his deliverance every year drawing nearer.

more than carnivorous animals, and especially seem to need it when their food has a large proportion of woody ideal feeder, however, is the sheep fiber, more than they do when having a that lacks the fat that can be put on succulent food, like green grass, reots and ensilage But with salt they need water. Sheep drink but little at a time, water. Sheep drink but little at a time, yet in winter, feeding upon dry hay, they drink very often. The water should grain. be pure and clean. Stagnant water is often one of the causes that bring on ach worms, which kill many lambs, and, if not fatal to older sheep, will keep them weak and in poor condition.

If our 75,000,000 people est as much mutton per head as the half as many British do, we would want fully 100, made a profit and staved off the sher-000,000 sheep, and then we should not iff. There are many other cattlemen eat in projection to our actual mode of life.-Sheep Breeder

Wintering Breeding Megs.

The brood sow or the male hog can be kept very well through the winter at small argense. They will keep fat small argense. They will keep fat small argense with a few raw roots and a handful of clover hay each day.

FEEDING SHEEP.

A correspondent of Tree Breeder's Breeder's for loading and can be moved as readily barrow. It can be backed wagon and by a rope or cit tent pen or lot where he loaded. It saves moving their feed lot to some stree of a hurdly or two as many oan be cut drove as will load the shoot and wagon can be shoot and wagon can be the door of house or pen, enter the wagon without This cut represents on shoot set ready to load in the boards 1 inch thick long. Each side has one mensions and two be wide and 1 inch thick four inches. This make a sinches high. The two and by 4, with a mortiss 4 by 4, with a mortiss 4 bottom to receive ties to each years on the best possible dry, coarse feeding for the winter. Ewes may be kept in the heat condition on this feed without to the shoot of the shoot of the shoot of the shoot of the contrary they need every possible attention and conformity with their habits and constitution, says The Sheep Breeder. This is most applicable to their feeding. They are naturally adapted, as to their teeth and digestive organs, to short, fine food. To graze on short herbage and to clip the tender shoots of bushes is their vocation. Hence the "roughness" of a farm is not desirable or even suitable for them. It will not do to throw a bunch of stalks of corn to sheep, as it may do for cattle or horses. The blades of corn even are too rough fodder for them. The best possible dry, coarse feeding for the winter. Ewes may be kept in the heat condition on this feed without for the winter. Ewes may be kept in the best condition on this feed without grain. The addition of some grain later, when the lambs are to be thought of, will be necessary, but only a moderate ration need be given.

Sheep are naturally herbivorous, and

mischief is frequently done by overcrowding them with grain when their digestive apparatus is suitable only for herbaceous fodder. Grain eating animals do not need a large stomach nor a series of them for the gradual reduction of the hard and concentrated food to soluble pulp Doubtless the majority of sheep lost during the winter feedthe end of the floor boards also rest on the boards also rest on the buggy wheels used shoot. A third or mi slot cut in the lower to drop down over the the slot four inches the slot four inches are the slot four inches a forty penny spike through the upright will keep it in place feet in the clear, and of the side is uailed helps to stiffen floor. It will be more the shoot without the and before locating of the shoot in the Now put the sale shortage of coarse fodder. but we never the shoot in the Now put the sale shortage of coarse fodder, but we never the short in the clear, and of the shoot in the shoot ind er heard of any person but the discoverer of this new method of feeding in the winter who tried the experiment. This is a typical instance of natural re quirements of herbivorous animals. Nature has been an exemplary pro-

vider for her own needs, and the natural habit of feeding of any race of animals which has been in existence for we know not how many thousands of years cannot well be set aside or disturbed by modern invention. The shepherd must take his flock as they were made and now exist. And the closer he can imitate the natural methods and habits of the race the better success he will meet with in rearing the flock. Hence the winter feeding should be spare of grain except for the fattening flock, and fattening any animal is only a method disturbing the balance of nature, and excessive fatness is a true disease, so that the safest kind of feeding will be that which most nearly approaches the natural habits of the sheep. Fine, tender, sweet, nutritious fodder, with a moderate proportion of coarser stuff, as roots or straw, to distend the bowels and help their most effective mechanical (the vermiform) motion of them. by which the eaten food is gradually passed along the digestive channel, will be far more congenial and healthful than overcrowding them with unnatural rations of grain. Of course it is understood that this applies to the flock in its ordinary condition, as ewes kept for the increase of the flock and not for fattening for the market.

Ideal Feeders. It is something of a question as to how fat the ideal feeder should be when bought, says John G. lekis in The National Stockman—whether to buy them fat and run them through the winter on just sufficient grain to keep them in order or to buy them thin and try to fatten through the winter. Something will depend on the kind and amount of feed you have on hand. With corn scarce and high, even though hay be plentiful, you could not expect to get sheep that were thin at the beginning of winter ready for an early market, while with plenty of good hay little grain will be needed to carry a fat sheep through the cold weather. To my mind, at the present price of wool more money can be made out of a given amount of feed by carrying fat Grazing animals seem to need sale sheep through the winter than by attempting to fatten sheep that are thin when they go to the feed lots. The

> Cattle Dividends. A Colorade cattle company reports dividends of 125 per cent on its last year's business, says The National Stockman. Yet this same company was only saved from bankruptcy 10 or 12 years ago by the fortunate purchase and sale of a big herd of cattle which and cattle companies who can now look back and see where a little lift at the right time would have saved them to make good profits later on.

More Baby Mutton: The scarcity and high price of beef are turning many a good liver to more liberal use of baby mutton.—Sheep

AGRICULTURE UP TO DATE.

Points From Secretary Wilson's Re port For 1899.

Much work has been undertaken on behalf of tobacco, looking to as wide a substitution as possible of home grown for imported product, by improving the quality of the former. Interesting investigations as to the causes affecting flavor and aroma are being carried on From a study of the imports of Den-

mark, especially of American grains

and oilcake, the secretary concludes

izes our lands at the same time that summer and from freezing in winter, it supplies other countries with the Professor I. P. Roberts advises as folmeans of producing meats and dairy products for foreign markets which we could ourselves supply.

The interesting fact is noted that the tea gardens at Summerville produced 3,600 pounds of tea the past season.

Irrigation experiments, improvement of varieties by importation and by hybridization, are indicated as important steps to be studied.

In regard to public lands the secre-tary deplores the ill results of injudicious grazing due to the indifference of the occupiers under the present system. He advocates leasing in large areas and for a sufficient time to invite improvement and suggests that the revenue from such leases might be turned over to the states for educational purposes or irrigation. Of the abandoned farms of New

England he says that they are not abandoned on account of sterility; that they will be studied by the soil physicist, agrostologist and the forester, and the valuable suggestions resulting from their studies will be distributed

throughout New England. The secretary discusses the subject of irrigation at considerable length, giving strong reasons for a general study of the whole subject. He points out the wide difference in laws and methods prevailing in the different states dependent upon irrigation and states that most important rivers have streams supplying irrigation to half a dozen states. Inevitably, under these circumstances, differences will arise calling for legislation by congress, which should, therefore, be put in possession of all the facts affecting this important subject as early as possible. He also points out that the usesible. He also points out that the fulness of this investigation is by no fulness of this investigation is by no means limited to the arid region, but the full region is by no per and seal with narrow matched lumber. The joists overhead should that irrigation could be profitably employed in large areas in and southern states.

Our imports of oranges, lemons, cocoanuts, bananas, and especially coffee, of which in 1898 we imported over \$65,000,000 worth, could, in large part, be produced in Porto Rico. The secretary especially recommends experiments in the production of india rubber, for which we are now largely dependent upon Brazil.

An Iowa Homestead correspondent sketches and describes a sack holder which he finds useful: Take two strips 1 by 1½ inches

by 42 inches long and nail them together by two pieces of lath 17 inches long, one at the top and one at the bottom. Then get two pieces of board 18 inches long and nail them on the outside of the concern. Then brace crossways with lath. The hooks should be three A SACK HOLDER

inches from the top. They can be made of tenpenny wire nails driven through, then filed sharp (so as not to tear the sack) and bent into shape. All braces should be on opposite side of the hooks. For filling sacks a tin pail answers better than a scoop shovel.

The World's Wheat Crop. According to Broomhall: World's wheat crop of 1899, 2,496,400,000 bushels; world's wheat crop of 1898, 2,886,-144,000 bushels; world's wheat crop of 1897, 2,269,352,000 bushels. This makes the crop of 1899 fall short of that of last year by 389,744,000 bushels, though exceeding that of 1897 by 227,048,000 bushels-that is, according to Broom hall's estimate, it is considered better than the very short crop of 1897, but decidedly nearer to that than to the large one of 1898.

News and Notes. The United States department of agriculture has in press and will soon ssue bulletin No. 72, office of experiment stations, entitled "Farmers Reading Courses." The bulletin was prepared by Professor L. H. Bailey, M. S., professor of horticulture in Cornell university, and gives a history of the organization of farmers' reading courses, which have become an important factor among the agencies for diffusing knowledge and promoting enthusiasm among the farmers. The bulletin contains lists of books used in various reading courses. No marked crop departure from the

ten year average is noted for any of the principal tobacco growing states this season, says the crop circular. The indicated average yield per acre

of potatoes, according to government reports, is 88.7 bushels per acre, as compared with 75.2 bushels last year, 64.6 bushels in 1897 and 75.2 bushels, the mean of the preliminary averages of the last ten years. The average per cent of quality is 91.4.

Practical forestry in the Adiron-dacks, bulletin No. 26, contains an ac-count of work accomplished under the offer made in 1898 by the agricultural department to assist farmers, lumbermen and others in handling their for

AND GARDEN

ICE AND COLD STORACE.

Plan For a Double Purpose Fr. On the very practical proposition of

constructing an icehouse with cold storage room for fruit and vegetables, strongly against a policy which steril- which will protect from the heat of lows in Country Gentleman:

Construct the icehouse on land which has some descent. At one end, where the ground is lowest, construct either a wooden, stone or brick building. Pave it with grout or brick. The walls of the cold storage room may be partly of stone and partly of wood or entirely of wood, as may be most convenient. This cold storage room should have few openings in it and should be provided with air shafts next to the icehouse, that the cold air from the ice may de scend into the storage room. In winter the air shafts can be closed, and if the storage room is built as it should be, protected on one side by the icehouse and on the other from sweeping winds, little danger may be apprehended from freezing during the winter. During extreme weather it would be well to have an oil stove ready to raise

the temperature if necessary. The walls of the cold storage room may be built as follows unless it is very large; if so, then the studding described should be increased in size: Cut 2 by 4 studding the length desired and erect with the flat side placed the opposite way from the usual custom. Upon this studding tack carefully heavy tarred building paper. Then erect studding as before on the outside of the building paper and unite them with a few spikes to the studs first used. The studs will now be 4 by 4 and may be placed either 16 inches or two feet from center to center. On the outside again cover with tarred building paper and nail upon the studding flatwise strips 1 by 2 inches. Tack to these another layer of building paper and then side or board.

the storage room a window should be provided, which should be kept open in hot weather, and a ventilating tube should extend two feet above the peak of the roof and about one foot into the attic at the end where the storage room joins the icehouse. The object of this provision for ventilation is to relieve the attic of hot air in the summer. The icehouse should have roof ventilation, for if it does not the hot air next to the roof is confined, whereas it should have free escape. A draft of air under the peak of an icehouse is very beneficial. The entrance door to the cold storage room should be constructed upon the same general lines as the wall. It should be double—that is, one hung to swing in and one hung to swing outand, if possible, this door should be on the north side of the building. Carefully fitted double windows should be provided. If the summer's sun is likely to make the cold storage room too warm, a few poles or long posts can be placed at the side where the sun is most fierce. Upon these nail slats and plant Virginia creeper (Ampelopsis quinquefolia). In two or three years

this plant may be made to shade the

Rendy Money Crops For Spring.

sides and roof of the building.

covered with paper before the

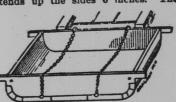
If spinach has grown well and winter comes on late, some may be cut out in the fall or perhaps early winter, when the price is usually high enough to make it very profitable, but most of the crop should be lightly covered with salt hay, straw or other mulch as a protection from freezing and thawing during the winter. This mulching should be taken off early in the spring and a dressing of about 400 pounds per acre of nitrate of soda or sulphate of ammonia put on to force leaves and dark green color which attract buyers. In some sections of the crop of this kind leaves the land in better condition in the spring than lyand the money is usually most accept able to the farmer at that season. is acceptable at any time, but in the spring there will be seeds, tools, fer tilizers and other things to be bought, and ready cash buys cheaper than any

The "Big Four" Potatoes For Market. White Mountain is a vigorous grower and good yielder and will probably stand close to the Enormous. I think that both of these varieties will yield rather more than Carman No. 3 or Sir Walter Raleigh, but the latter are smoother than Enormous or White Mountain. Carman No. 3 and Sir Walter Raleigh are never prongy, and almost the entire crop is marketable. Even when the conditions are unfavorable for a crop and many small potatoes might be expected there are but few that are unsalable. If I were trying for a big crop, the Enormoris would be my choice, but for a good crop, with the least amount of waste might be called the "Big Four" for market. We have not tested the quality of the White Mountain, but none of the others is in our cellar for winter use, for late spring use-Ohio Farmer.

SCALDING VAT.

Convenient Device In Use Many Years.

The accompanying cut illustrates a scalding vat we have used for ten years, writes E. C. Dray in The National Stockman. It is a great improvement over the old method of scalding in a barrel. I will describe it so that any person can make and use one at a very small cost. The body of the vat is made of 11/2 inch lumber, poplar or oak, 6 feet long, 21/2 feet wide and 14 inches deep on the outside. The end boards are mortised one-half inch into the side boards, and just inside of these one bolt is put across each end. The bottom is galvanized sheet iron No. 20. It is 8 feet long and 42 inches wide. One solid sheet should be used, which will cos about \$1.75 or \$2. It should be nailed on with steel roofing nails. The iron extends up the sides 6 inches. The



SCALDING VAT. ends are rounded, and the iron extends nearly to the top of vat at end. The handles are 6 inches long, 3 inches wide and are just extensions of the sides. Two bands or iron are needed across the bottom. These are fastened on the sides. Old wagon tires are used to good advantage. The vat is used at end of sled the same as the barrel is generally used. Two or three armfuls of wood will be all that is needed to scald six or eight hogs. A trench is dug 18 inches wide and 12 inches deep under the vat the entire length. An elbow and joint of stovepipe are used at the end of the trench to carry the smoke and produce a draft. There are four books, two on each side 24 inches apart. Two chains are used to turn and lift the hogs out of the vat by hooking one end of each chain to the hooks on the side where the sled is placed. Four books are needed so you can set the sled on el-ther side of the pan. Two men can handle the largest hogs in this pan, and in one-half hour after you start the fire under the pan you may begin scalding. You need not stop to heat the water, as you can replenish your ter hot as long as wanted. Not having seen anything of this kind in any of the farm journals I submit this so that those who wish to make the work of butchering much shorter may make and use one of these at a very small

Pure Bred Stock For Breeding At present there is great demand for good cattle, and there seems to be a diversity of opinion as to what constitutes good cattle, writes A. C. Sanford a trip to any of the state fairs, we there see a lot of very fat stock-in fact, some very much overdone, so that the flesh is hard and bunchy. These are represented as breeding stock, and they are pleasing to the eye, and the country visitors exclaim: "What large, nice animals these are. I must have some of them." Of course if they purchase they pay a large price, and then they like to have folks say, "What fine cattle Mr. So and So has purchased." This all seems very nice, but another problem soon arises. The cattle soon grow thinner when put on ordinary rations, and the chances are that the stock soon looks common and often are worthless for breeding purposes. Now, the former owner of the stock demonstrated its early maturity, feeding qualities, etc., which was right, but the buyer is greatly fooled if he thinks that show stock will keep in show condition all the

It seems to me that the place to demonstrate the qualities of stock in tended for meat would be at a fat stock show and of dairy stock at the milk and butter test and at fairs where breeding stock is exhibited in its normal condition, as it naturally is when taken from pasture or ranch without the crop along and give it the broad grain feeding. Let cows be shown with the greatest number of produce, also sires with their get, and east curled kale is used upon a part of if under these conditions they make a the ground instead of spinach. An good record then let them be classed exchange says the winter treatment is as good stock. Barnum once said that much the same, even including the spring dressing of chemicals. A spring seems as if it were true, for my experience is that the fattest and largest stock are sold first and for the ing bare and prevents it from washing, largest price, and often purchasers leave the best behind because they are thin in flesh and of course not so pleasing to the eye. The cow that is a regular breeder is apt to be thin unless highly fed, and the same is true of other animals. It is not uncommon to see a fine young thing beside its mother, and to me this demonstrates the value of the dam.

Germany and American Meat. The department of agriculture is still working on the problem of German restrictions on our export meats, says The Breeder's Gazette. It presents & ense very difficult of solution, because the restrictions are allegedly rested on bygienic grounds, whereas there is ample reason to believe that a desire to protect the German producer lies at the bottom of the embargo. Notwithstanding this, our government officials case for the purity and wholesomeness of our meats, and as one step in that plan it has been decided to send to possible, it would be Carman No. 3 or Germany a practical working exhibit Sir Walter Raleigh. The above list of our methods of meat inspection, including the instruments used in microscopical examination of pork for trichinæ. It is believed that an exhibit of this kind will carry some aor will they be as long, as we can get Sir William for winter and Uncle Sam of the severe restrictions now impose