THE FEEDING VALUE OF POTATOES.

The question is, what is the value of potatoes for feeding purposes when measured by market prices of other feed stuffs. First, let us consider them in the light of the findings of the chemist. Potatoes are about two-thirds water to begin with, one and eight-tenths per cent. protein, fourteen and seven-tenths carbohydrates, one-tenth fat, and eight-tenths per cent. ash. Much is being written of late about a larger use of potatoes in bread-making. In this connection it might be interesting to compare the food value of potatoes with that of wheat flour A fair analysis of which would be: Protein, eleven per cent.; carbohydrates, seventy-five per cent.; fat, one per cent., and ash, 0.5. It is safe to say, therefore, that it will require more than five pounds of potatoes to equal in nutritive value one pound of wheat flour in all save the mineral properties. However, it is not safe to assume that the relative values of potatoes and flour can be determined by the chemist alone.

In the feeding of pigs it has been found that five and one-half parts of raw potatoes are required to equal one part of grain, but if the potatoes are cooked three and a half to four pounds are equal in value to a pound of grain. The starch in the potato is probably more digestible than that in the grain and the presence of a larger proportion of mineral in the potato is a point decidely in its facor. In the early periods in the lives of all farm animals, lime and phosphorus are most important. The writer marketed a bunch of pigs last fall on which he would have lost money had he not had a quantity of cheap feed to use in fattening them. The loss in growth was occasioned by a lack of mineral matter in the ration, but to get back to the potato, it is safe to say, that if the potatoes are cooked from three and a half to four bushels of the tubers will equal sixty pounds of grain in feeding value, therefore, when grain is worth $50 a ton, potatoes may be figured for feeding purposes at from thirty-five to forty cents per bushel, less the expense and trouble of cooking them. This is not a very large price for potatoes, but it opens the way to dispose of a lot of small ones and in cases where the crop must be drawn a long way to market and the prices are very low it makes for the farmer a way out of his dilemma. Potatoes are of less value when fed to cows, providing ensilage is available on the farm, but in cases where there is no ensilage they may be fed in small quantities with profit.

From fifteen to twenty pounds of potatoes per day will answer very well with plenty of dry roughage. Coming back again to the discussion of potatoes as a food for the human animal, their liberal use should be encouraged in every practical way. We very much wish that some positive work relative to the consumption of potatoes might be included in the negative program of food conservation. Candor compels us to say that we shall probably save no money by the use of a larger amount of potatoes in bread, but we shall save flour. If the material used in bread-making were twenty per cent. potatoes we should be just as well off in the end and the saving of flour would be very considerable.

Cull beans, well cooked, are valuable pig-feed when mixed with cooked potatoes. It was found by our own experiment station that cull beans and corn meal made excellent feed and that pigs were grown in the proportion of a pound of live weight to approximately four pounds of the mixture. If three or four pounds of potatoes are fed for each pound of cull beans, and if both are well cooked, results should be equally good.

Horse

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Horse Sense

One of the biggest factors in making a horse comfortable is the care and protection it gets from heat and storms in summer. A paddock or pasture with access to a shed is preferable for idle horses. The barn may be used also, but it must at all times be free from drafts and well ventilated.

A box stall is always best, but it is not always practical. But a horse should always have a stall to itself, and this stall should be large enough so that the horse can lie down in comfort.

Have the hames buckled wide at the top. If they are buckled too tight they will pinch the neck and encourage an open sore. If necessary, use shorter hames so that they will not need to be tightened at the top to fit he collar. It is a good plan to clip the mane from under the collar during the working season.

It is important in profitable horse production to take good care of the horses' feet. The colt's hoofs must be given constant attention from the time the colt is foaled until it reaches maturity.

Even then it needs considerable attention. Often the feet of colts are left to care for themselves. This neglect results in later life in many of the unsoundness common to the feet and legs of horses.

The unsoundnesses caused by the lack of care when the horse is young are sidebones, ringbones, splints, bone spavins, bog spavins, and corns.

Hogs

Keep the young pigs growing from the start. It is the pig's business during this time to develop a good frame, to grow bone, muscle, and vital organs, and to lay on fat Plenty of pasture, some grain, exercise, and good sanitary quarters are all very necessary if the pig is to be both thirfty and profitable.

Give the pigs an abundance of good pasturage. They should be kept on pasture as long as possible and gain the benefit of its cheap nutrients especially mineral and protein, and its tonic and digestive qualities. But pigs on pasturage alone, even alfalfa, need some grain supplement. The amount of grain or other concentrated feed used would depend on how much pasturage is available, on the cost factor of grain or other feeds, on the age and condition of the pigs, and the time at which the farmer expects to market them.

Less protein supplement is needed when pigs are run on leguminous pastures. Under most farm conditions the pigs will gain well on a one to two per cent. grain ration. The self-feeding method makes for cheap and rapid gains. If the grain ration is limited, the hand-feeding method is better. By feeding once a day in the early evening, pigs take greater advantage of the pasture and graze hungrily during the cool of the morning or afternoon. Plenty of fresh, clean drinking water should always be available.

Pigs on pasture usually get enough exercise. They should have a clean, dry, well-ventilated shelter to guard against exposure to storms and to supply shade. A concrete wallow will add to the pigs' comfort, and a layer of oil on the water will keep down lice. Clean bedding also helps to keep away lice as will an oiled sack on a rubbing post, or sprinkle the pigs with crude oil every two weeks.

The poultry house should be built as low as possible without danger of the attendants bumping their heads against the ceiling. A low house is more easily warmed than a high one.

Most of the perennial plants, if started now from seeds, sown in carefully prepared beds, will produce good sized plants by autumn. These can be thinned out and allowed to remain where they were started, or they can be transplanted as soon as they are large enough to handle. They should have sufficient time to become established before frost. As soon as the ground freezes they should be protected with marsh hay or straw covered to a depth of three inches. Remove the covering at the first indication of growth in the spring. Aquilegia, Arabis, coreopsis, delphineums, gaillardia, Iceland poppy, pyrethrum, sweet william, pansies and the many other perennials can be started in this manner.

CONCRETE FEEDING FLOOR

Unless one has plenty of feeding space in a permanent hog house it is practically impossible to get along and produce satisfactory results in feeding hogs out of doors without a cement feeding floor. Although we selected about the driest, sandiest place in our permanent hog pasture for our feeding and fixed permanent troughs on one side, so that the hogs could not only be fed corn, but slop ods of heavy rains this muddied up so there also, we found that during peri- that it was impossible to feed the hogs where we intended. In fact, it got so muddy that the hogs could scarcely get to the troughs to eat their slop, and so it was necessary to build a cement feeding floor. In our case, we built a feeding floor seventy-five feet long and sixteen feet wide, with a cement trough running along one side and we have swing doors so that the pigs can be shut out of the troughs while the slop is fed from the outside. The size and shape, however, of the cement floor will depend entirely upon where it is to be located and the number of hogs to be fed. Each person will regulate the size according to his necessity.

It is better to make a good, permanent job while one is at it, and a trench should be dug which will mark the outside of the feeding floor and this trench should be about two feet deep. This should be filled with stones laid in cement, or else with pure concrete. If I hadn't had experience I would be inclined to think that this wouldn't be necessary but our hogs rooted under our feeding floor so that it was necessary to build this wall afterwards, consequently the best way is to build it at first.

The feeding floor should be entirely above the ground so that when it is finished the surface of the feeding floor ought to be three or four inches above the surrounding ground. This prevents water running on to the feeding floor in times of heavy rains. The floor should be planned also so that it will gently slope to one corner so that the water will drain off after heavy rains or the floor will be very sloppy. Again, there should be a ridge of cement around the outside of the feeding floor two to four inches high, otherwise in feeding corn, much of the corn will be rooted off from the platform on to the ground. This raised cement edge prevents this.

When the trench is built it should just come above the edge of the ground so that the cement floor can be laid entirely over the wall. Most land would contain so much moisture at certain times of the year that a tile drain ought to be placed around and perhaps through the middle of the feeding floor if it is a large one, otherwise, in freezing in the winter time the floor may be forced out of shape. The tile should be placed under the stone wall or in the bottom of the trench clear around, and one perhaps through the centre. This will drain this land so that there will be no trouble caused from freezing in the winter time.

The best way to build a foundation for the feeding floor is to pave ground with cobble stones. I would put the cobble stones right on top of ground and fill in between them with cement mortar or concrete mixed quite wet so that it will be evenly distributed all around these stones. This should come up flush with the top of the stones then the platform proper can be laid on top of the stones which should be just level with the face of your trench wall. Now put on a layer of cement two inches thick. This can be made out of gravel, pit run, no matter if it does contain some pretty good-sized pebbles. It ought to be fairly rich, say one part of cement to four of gravel, and this should be mixed rather wet also and poured on and leveled off with a straight-edge and it should be troweled down with a wooden trowel so that it will have a rough surface rather than a smooth one so that the hogs will not slip. An opening can be made at the lowest corner so that there will be good drainage for the surface of the platform.

It is usually advisable to feed some kind of slop with the corn to feeding hogs, and therefore it is very handy when building this platform to have a cement trough on one edge of it. This trough should be four inches high and a foot wide, then it can be easily cleaned out with a common barn shovel. Even if it fills full of rain water when heavy rains come, it takes but a moment if the trough is large enough so that the shovel can be used.

If one will place this feeding floor just outside of a yard and have swing doors that will swing back over the feeding trough, the slop can be fed and the pigs cannot interfere. I have seen farmers with large bunches of hogs have a trough in an open field yard and the slop had to be carried with the hogs all clamoring for it. Many times the slop is spilled and it is poured over the hogs and much of it is wasted. This can all be prevented by the permanent trough with the swing door, as I have suggested.—Colon C. Little.

The Sunday School

INTERNATIONAL LESSON AUGUST 11.

Lesson VI. Christian Helpfulness—Luke 10. 25-37; Gal. 6. 1-10.

Golden Text, Gal. 6. 2.

Luke 10. 30-37

Verse 30. A certain man—The implication is that he was a Jew. From Jerusalem to Jericho—One of the routes eastward from Jerusalem to the Jordan, winding down a steep descent of four thousand feet in eighteen miles through a wild region of beetling cliffs and chalky canyons. Fell among robbers—Jesus is calling attention to a well-known experience of the traveler of that day on this lonely road. The same thing has occurred in recent years in this region, inhabited by Arab tribes, to obtain protection from whom a good fee must be paid for the privilege of passing unharmed through their territory. They do not to-day beat travelers but content themselves with stripping and robbing him.

31. A certain priest was going down that way—The force of priests ministering at the temple services was several thousand, many of whom resided in Jericho. This man was returning home. Right in his road was the wounded traveler, just as in our ordinary comings and goings appear unfortunate claimants upon our sympathy and help. We need not go out of our way to reach them. They lie before us. He passed by on the other side—A wounded man, all covered with grime and blood, arouses in the dainty priest, afraid of ceremonial defilement, not pity but disgust. He passes by, as many another passes by the opportunity of loving service to a suffering brother. The priest does not even come over to look at him.

32. In like manner a Levite—A servant of the official religion, who with cold curiosity, looks upon him and continues his journey with no manifestation of interest. The priest and the Levite considered that they had done their part in the day's religious life in attending to their round of official temple duties, and were now going home. But outside of prescribed duties lie the countless providential opportunities for brotherly service.

33, 34. A certain Samaritan—Roundly hated by the Jew as the devotee of a mongrel religion; a heretic of the worst kind, who had defiled the temple, and whose testimony would not be accepted in a Jewish court. Came where he was . . . saw him . . . with compassion . . . came to him . . . bound up his wounds . . . set him on his own beast . . . . brought him to an inn—Left undone nothing that compassion and brotherly kindness could do. We may well fill out the picture in any way we please, remembering that the Samaritan went the whole length of sympathy, self-denial, helpfulness, generosity, and persistent kindliness.

36. Which now of these three, thinkest thou, proved neighbor?—The inference is inevitable. The lawyer finds himself compelled to give an answer, and only one answer can be given. He that showed mercy on him—The answer is virtually forced from him. We may imagine his very tones as he says, "I suppose, he that showed mercy on him." He would not defile his lips by saying "Smaritan" but alludes to him as "he." Go, and do thou likewise—Thus go down all walls of separation between men. Neighborhood is coextensive with humanity. No consideration of race or condition or religion must separate me from the needy world.

Gal. 6. 1, 2, 9, 10

Verse 1. If a man be overtaken an any trespass—Some sin due to the frailty of human nature. The weakness of men makes it possible for even those who profess to follow Christ to fall into sin. When this is the case, what are we to do—cast them out or lift them up? Ye who are spiritual, restore such a one—Paul elsewhere exhorts the church to "admonish the disorderly, encourage the fainthearted, support the weak, be longsuffering toward all." To restore a sinning brother is to convert "a sinner from the error of his way" and "cover a multitude of sins." "Ye who are spiritual" are the proper persons to undertake this restoration. Looking to thyself, lest thou also be tempted—The possibility of a similar temptation and a similar fall may well temper the judgment with charity.

2. Bear ye one another's burdens, and so fulfil the law of Christ—It is the law of love which should regulate the relations of Christian disciples. "We that are strong ought to bear the infirmities of the weak, and not to please ourselves" is the injunction given in the Roman letter (Rom. 15). The ideal church is where mutual help is the prevailing spirit.

9. Let us not be weary in well-doing—The spirit of helpfulness must continue as long as life itself, for as long as we live we shall be related to those about us and shall have obligations of service and mercy. In due season we shall reap, if we faint not—Sometimes in unexpected ways the harvest comes. It may be years before the fruitage appears. It is our business to sow the seeds of love and mercy and kindness.

10. So then . . . let us work that which is good toward all men—As we have opportunity. And, every day has its opporunity. Special times of crisis enlarge the opportunity. We are not merely to wait until the accasion occurs; we are to seek occasion to do good.

Aged Diggers Have Set Example.

Three old residents of the village of Ravenstone, near Ashby-de-la-Zouen, Leicestershire, whose ages are 78, 75 and 68 respectively, completed the digging and planting of 900 yards of potato ground.

Supply of Linen Vanishes.

The enormous demand for linen for covering aeroplane wings is rapidly absorbing the visible supplies of the world, and it may be years before this material can be bought at a reasonable price.

Mothers and daughters of all ages are cordially invited to write to this department. Initials only will be published with each question and its answer as a means of identification, but full name and address must be given in each letter. Write on one side of paper only. Answers will be mailed direct if stamped and addressed envelope is enclosed.

Address all correspondence for this department to Mrs. Helen Law, 235 Woodbine Ave., Toronto.

Reader:—1. If the leather is badly soiled use a weak solution of oxalic acid to clean it. Make this in lukewarm water or have the druggist prepare it. Do not saturate the leather with the liquid, but apply it with a cloth, cleaning a small piece at a time. If the furniture is not very dirty clean it with pure white soap and lukewarm water. Again do not saturate the leather, but rub a little of the soap on with a cloth wrung in the water. Clean, rinse and dry a small piece at a time, finishing each piece before you go to the next. 2. It is not correct for a woman to prefix "Miss" or "Mrs." to her name in signing it to a letter, etc.

S. M.:—A popular and useful remedy for warts is to get some ivy leaves, dry, and grind to fine powder. The warts having been moistened with strong vinegar, cover with the powder, and bind over with a strip of rag.

Augusta:—The bride enters the church walking on the left side of the aisle, with her right hand slipped through her father's left arm. On turning from the altar she walks down the same side of the aisle, the left, but she takes the bridegroom's right arm with her left hand.

Interested:—Elizabethville is the name of the Belgian village that has sprung up in the heart of northern England. The population is entirely Belgian and the town reproduces as faithfully as possible every feature of Belgian town life. The village is named after Elizabeth, Queen of the Belgians. Most of the men of the town—some 4000 Belgian soldiers—are engaged in making shells for the British army. More than three-quarters of the men have been wounded.

G. M. B.:—The most stubborn attack of hiccoughs will yield almost invariably to this simple procedure: Completely empty the lungs of air, then sip slowly eight or ten mouthfuls of very cold water, no air being inhaled until the last sip is taken. The nostrils and ears should be closed meanwhile by pressure with the finger tips. After the last sip a full inspiration is taken and the pressure removed from the ears and nostrils. This procedure has proved remedial when life was in danger.

Columbine:—1. Red noses very often are due to some digestive disturbances, resulting in faulty nutrition, eating of food that is unsuitable. Attention to diet, avoiding of rich foods, don't drink while eating, nor eat too quickly. 2. For removal of black heads: Dissolve in a glass of warm water one-half teaspoonful of boric acid. To this solution add one glass of warm or perhaps hot water. Use this wash (sapping it lightly on with cheesecloth.) Do not rub. Usually repetition of this every evening is sufficient. Talcum powder left on over night really seems to clog pores, so it is most necessary that remains of "daily dust" be removed.

Farm Girl:—Since you are near a town you could earn money at home in the following way: Go to the physicians of your town and obtain from them a list of the names of their tubercular patients, who are always advised to subsist on a milk-and-egg diet. By going to these patients and offering products which you know are absolutely fresh you can obtain for them prices which it would be impossible to get in the market. If you can not deliver milk every day, make cottage cheese. If carefully made and daintily handled, it brings good prices. If a stream runs through your farm, plant water-cress along its banks. Hotels and restaurants use it for garnishing. As it contains sulphur it is considered an excellent tonic for the hair and complexion and should be used whenever it is obtainable.

Farmerette:—Write to Miss Hazel Martin, Director of Farm Labor for Ontario, 43 King Street West, Toronto, for information as to how you can get placed on the land. If you can milk cows, so much the better. Most farmers are refusing to take girls who do not know something about dairying. Your experience on the farm as a child and young girl will prove immensely valuable. Good luck to you in your venture. According to the most recent statistics, 4,538,000 women and girls are now employed in classified trades under the jurisdiction of the British Board of Trade and the number is being steadily increased. These figures are exclusive of women employed in small trades and on the land. Domestic servants are also excluded. On the land there are nearly 300,000 women workers. Before war broke out less than 200,000 women were employed in Great Britain and these were mostly in textile mills.

Home Canner:—Here is a home canning calendar which may help you during the balance of the year:

August—Fruits, beans, cauliflowers, corn, Swiss chard, etc., should be put up this month.

September—Can plums, peaches, tomatoes, corn, etc. Remember also that this is the month when plans for winter storage should be made.

October—Store your crops. What about cellar and pit storage? See storage section of Food Board recipe book on canning, drying and storing vegetables.

November—Watch your stored crops. The attic in which onions and squash should be stored must be frost-proof.

December—Take note of any failures in canning, etc. Try some of your dried products.

Poultry

Hints on Goose Culture.

While geese live to a great age, the ganders are usually unreliable as breeders after about nine years old. Females, however, have been bred at from fifteen to eighteen years of age. An indication of advanced years is an abdominal pouch of considerable size.

Geese do not reach maturity until their second or third year, and their eggs do not show strong fertility.

Being naturally a grazing animal, the goose is provided with a bill that has sharp interlocking serrated edges, designed to cut and divide vegetables tissues easily, and the tongue at the tip is covered with hard hair-like projections pointing toward the throat, which serve to convey the bits of grass and leaves into the throat quickly and surely.

For a start, a gander and two geese are sufficient. Their eggs being very fertile, as a rule, quite a number can be hatched each year.

It requires a full month to hatch a goose egg, and incubation is performed by either a hen or a goose. A good-sized hen will cover five eggs, and a goose can take care of as many as fifteen. It is seldom that any of the goslings are lost, except through accident or exposure to hard storms while still very young.

The early hatched goslings must be protected from severe cold at first.

A DOUBTFUL COMPLIMENT.

The Duchess of Westminster tells a story about an ex-shah of Persia who was very fond of paying compliments to English ladies. When she was presented, the shah bowed graciously and said:

"I have heard much about you. Your worthy name is well known even in my country."

The duchess was surprised at first; then a light dawned upon her. "Gracious me!" she said to herself, "I do believe he mistakes me for Westminster Abbey!"

A few tactfully worded questions proved that she was right.

Bedtime Stories

Two Girls of Binbury Town.

Two sisters live in Binbury town,
As I will tell to you,
Miss Dorothy Ross, with eyes of brown,
And Alice, with eyes of blue.
These girls are as pretty as girls can be;
They are always trim and neat,
And they are a charming pair to see
When they go down the street.

Now all of the folks out Binbury way
Know Alice and Dorothy well.
"The Red Cross girls are coming," they say,
And this is the tale they tell:
Miss Dorothy Ross, whose eyes are brown,
And Alice, with eyes of blue,
Have set an example to all the town
Of something fine to do.

They spend no more in a foolish way;
They save the cents and dimes;
They eat not half of the sweets to-day
That they ate in former times;
They rarely visit the "movie" shows;
They pass the "bargains" by;
For there is a lot to give up, you know,
When people really try.

And all of the money they save that way,
Our Alice and Dorothy Ross,
They reckon carefully day by day
And give to the good Red Cross.
And that's the example they set the town
Of something fine to do—
The sweet little lass with eyes of brown
And the one with eyes of blue.

When the chimney does not draw well, try opening the windows in the room for a few minutes before starting the fire, and see if that will not help the draught.