Soils and Crops

Address communications to Agronomist, 73 Adelaide St. West, Toronto.

Our Own Type Berkshires.

It has been claimed that a tendency to lengthening side is noticeable in the Berkshire breed in Canada within the last few years. Commenting on the bacon class awards at the Canadian National Exhibition, an agricultural writer states that the Berkshire "has shown very satisfactory improvement in the past few years, the heavy shoulder and ham giving way to smoother quarters with increased length between, making them more suitable for the production of Wiltshire sides."

The comment brings right into the forefront the difficulty which many farmers face in the Berkshire breed. They scarcely understand sufficiently that the breed lends itself to two types, almost opposite in character.

"In the United States," says Professor G. E. Day in his work, "Productive Swine Husbandry," "it is only natural to expect them to conform to the fat or lard type and some breeders have gone rather to the extreme in breeding for fine bone, smoothness and quality and neglecting size and fecundity. In Canada the tendency is to select for a lengthy, strong-boned type, which looks somewhat coarse and leggy when compared with the extremely fine type, but which is a first class farmer's hog. The demand for the bacon type in Canada and competition with the bacon breeds have had an influence in bringing about this modification. The Berkshire is better suited for supplying the market demand for fat hogs than it is for producing bacon hogs. Where backs, shoulders and hams are the main requirements the Berkshire fits in exceptionally well, but for the export bacon trade in Wiltshire sides it has scarcely enough length of side and has too heavy a neck and shoulders.

The fat type of Berkshire is utterly unfitted for the Dominion bacon trade, which depends so largely for its outlet in Great Britain. This warning about choosing the proper type within the Berkshire breed is probably most applicable to the Canadian West where the breed has attained popularity because it does not "scald" under prairie heat. Even within this sub-division of the breed producers should pay strict attention to getting the right conformation. It is the common experience of buyers to-day that, as Professor Day has stated it in general, there is "scarcely enough length of side and too heavy a neck and shoulders."

It may be with the growing demand for bacon breeds, that it would be advisable for the Canadian Berkshire Breeders' Association to draw up what might be termed the requirements of a distinctly Canadian-bred Berkshire. This might differ from the standard set in Great Britain; presumably it would differ very considerably from the actual standard of the breed in the United States, which is the outcome of their special and peculiar catering to the fat, lard market.

Useful Poultry Litter.

We once had an earth floor poultry house that was a little too low and inclined to be damp. There was no time to raise the level by hauling sand so we covered the floor with loose corn fodder to a depth of about six inches. Over the fodder we placed straw. The tough fodder formed a good foundation for the lighter straw litter. During the winter fresh straw was occasionally added as the old litter became packed down. The hens in the house were thrifty and laid very well. This is not as good as a cement or board boor, but worked out all right on an earth floor where an unusual depth of litter was needed to build it up.

Straw is the best litter we have ever used. About six inches can be placed on the floor in the fall. The hens gradually break it up and pack it down. A litter that is not replenished becomes almost as hard as a floor and the scratch grain is not hidden. The purpose of litter is to make birds exercise by scratching. So new litter must be placed on the old to furnish that loose top layer that easily hides the grain. When litter becomes damp and tough it must be removed.

The broken hay from a clover huller sometimes can be used for scratching litter. Dry leaves are useful in small poultry houses if an abundance of leaves can be obtained near at hand. The leaves break up very easily and are not as good as wheat or oat straw.

Shredded corn fodder is also used for litter. It absorbs moisture and does not break up easily, thus lasting a long time. On poultry farms where only corn is raised, the use of shredded fodder saves the purchase of straw. If straw must be purchased for the poultry flocks and storage room is limited, it pays to buy baled straw. This saves time in replenishing the straw litter in the laying houses. In some sections poor grades of hay can be used for poultry litter. We find that the important point is to have a mixture that is dry and clean and hides the grain. The material produced at home is often the cheapest and in place of straw the other materials will give fair satisfaction.

Poultry

To-day I asked one of my friends why he was so strong for the incubator as a help in poultry raising. His argument is so plain that it will bear repetition. He says, "I haven't anything against the old hen as a chick hatcher and raiser, except that she doesn't want to sit when I want her to, and the chicks she raises usually come pretty high."

The line of reasoning runs something like this: This particular farmre keeps a flock of about 150 hens each year and, by the way, this is the number in the average farm flock in this section. He culls each fall until he has about sixty old hens to use for breeders, while he plans on raising ninety pullets each season for his winter layers. With his White Leghorns, it takes about six months to get them matured enough to lay, which means that if they are to start laying in early winter, they must be hatched by the middle of April.

His past records show him that he must set five eggs for each pullet raised. Some eggs will be infertile, chicks will die, and half of the young stuff will be cockerels. He must set 450 eggs to make sure of getting ninety pullets, and these must be set the last week in March. If each hen were to sit on fifteen eggs, this means that thirty hens would be required to incubate the 450 eggs; and bearing in mind that there are only sixty hens in the flock, it is very unlikely that half of them would want to sit by March 20. In fact, so unlikely that it never has been so.

In his case, the artificial hen is the only one that will incubate the number of eggs he wants to set and bring them off in time to give the chicks good growth during the summer. And this is entirely aside from the fact that the incubator gives him chicks of uniform age. In his particular case, the incubator makes it possible for him to maintain a high-producing flock and continue it in production from year to year.

Live Stock Betterment.

A statement issued by the Live Stock Branch of the Dominion Department of Agriculture shows that since the adoption in 1913 of the policy of distributing pure-bred bulls in newly settled districts and backward sections of the different provinces, in all 3,408 bulls have been so distributed, an average of 878.6 for each of the nine years. Of the total, Alberta has received 765, Saskatchewan 752, Manitoba 333, Quebec 928, Ontario 277, the Maritime Provinces 201, and British Columbia 162. What is known as the Car-lot Policy was adopted by the same branch in 1916. Under the terms the reasonable transportation expenses insurred by farmers residing in Canada who purchase stock at central stock yards for return to country points, are met. Under this policy farmers in eastern Canada are entitled to ship from stock yards to country points female breeding stock—cattle, sheep, or hogs—without payment of freight, provided the animals are not purchased for speculative purposes. In western Canada the policy includes stocker and feeder cattle as well. The policy came in force regarding the western stock yards in 1916, and as regards the eastern yards in 1918. Altogether, in the four years and three months involved, the expenses have been met of the shipment of 74,744 steers, 57,776 heifers, and 26,910 sheep.

A third policy in force is the loaning of pure-bred rams and boars and the payment of premiums for the use of such stock. This system has encouraged many farmers throughout the Dominion to purchase pure-bred animals. Up to the end of 1920, 506 rams and 92 boars had been distributed and 622 premiums paid. In connection with this policy demonstrations are held in sheep husbandry methods. In future, the policy will apply only to soldier settlers, to new settlements, or to districts where sheep and swine improvement is a pressing need.

The loneliness of the country woman ten miles from a railroad is nothing compared to that of city dwellers too proud to make friends with their neighbors.

Hen health can almost be assured by providing living quarters that are dry and well ventilated but free from drafts, food that is clean and sufficient to maintain bodily vigor and produce eggs besides, and exercise to create an appetite.

Each winter many trees are injured beyond recovery in Canada by mice. This can be prevented by wrapping the trunks of the trees with building paper just before winter sets in, having the paper close to the ground and putting a little earth about the lower end of the paper so they will not get at the tree from below. Mice will not usually eat through the paper and, as in most cases they are close to the ground, the paper need not be more than eighteen inches to two feet high. The paper should be tied after wrapping so that it will not come off.

Holiday Cakes from Scotland, England and Mexico.

By NELLIE RYDER GATES.

When the holiday season comes around housewives all over Christendom don their aprons and go into the kitchen to bake cakes after their own favorite recipes. For variety's sake it would be very interesting this Christmas for us to try some of the tried and true recipes of our sister cooks on the other side of the world.

England and Scotland are famous for their shortbreads. Legend tells us that these delectable little concoctions were brought into Scotland by Queen Mary from one of her visits to France. The French name for them is petits gateaux tailes, but as near as the rough Scotch tongue could come to this was "petticoat tails," and petticoat tails they have been ever since. At Christmas and New Year's they are made into round cakes and decorated with mottoes which are put on with little candies, candied fruit peels or icing forced through a tube.

"Petticoat Tails"

One of the most popular recipes calls for a pound of flour sifted with a teaspoonful of baking powder and half a teaspoonful of salt. Three-fourths of a cupful of sugar and a cupful of butter are creamed together very carefully, then worked into the flour. When the dough is smooth and well mixed it is divided into two round cakes, pinched around the edges with the fingers, perforated with a fork and baked in a moderately hot oven till done. It is served whole and broken up with the fingers into pieces.

Gingerbread Cakes.

Hard gingerbread is used for Christmas cakes in many countries. A good English recipe says to sift together four cupfuls of flour, one of sugar, a tablespoonful of ginger and a teaspoonful of salt. Rub in a half pound of butter and just enough molasses to bind them all together. Let it stand overnight in a cold place, and the next day roll very thin, cut in fancy shapes and bake.

"Azucarillo."

The Mexicans make a delicious little cake they call azucarillo. They cream together a quarter of a cupful of butter and half a cupful of powdered sugar. Into this pour gradually a fourth of a cupful of milk. Stir in a scant cupful of flour, flavor with vanilla, and spread very thinly on the bottom of a baking pan. Sprinkle with chopped blanched almonds, crease into squares and bake a delicate brown. When done cut apart and roll up into little rolls.

Dress Up Christmas Gifts With a Bit of Green.

Many legends surround the use of evergreens at Christmas time. St. Winfrid, after hewing a huge oak which had been the object of druid worship, saw behind the fallen oak, unharmed a young fir tree pointing a green spire toward the stars. Turning, he spoke to the people:

"This little tree, young child of the forest, shall be your holy tree to-night. It is the word of peace, for your houses are built of the fir. It is the sign of an endless life, for its leaves are ever green. See how it points to heaven. Let this be called the tree of the Christmas Child. Gather about it, not in the wildwood, but in your own homes. There it will shelter no deeds of blood, but loving gifts and rites of kindness."

The custom is also explained as being derived from the ancient Egyptian custom of decking the houses at the time of the winter solstice, with branches of the date palm, the symbol of life triumphant over death and therefore perennial life in the renewal of each bounteous year.

With hardly an exception, every European country has some myth or legend connected with the use of greens. With such a wealth of legendary lore behind the custom, it is not surprising that a bit of green has come to be looked upon as an essential part of the Christmas program. Therefore, the homeliest and humblest of gifts are dressed up with spoils from the woods or garden.

In addition to the spruce or fir trees, pines of various sorts, juniper, cedar and hemlocks and ground pine are all used, as well as such berries as holly, bittersweet, wintergreen, bayberries and mistletoe.

Boxes or packages look very "Christmassy" with a spray of berries thrust through the ribbon or string with which they are tied. If berries are lacking, a small spray of spruce, pine or hemlock can be used with good effect.

A pretty table decoration representing a miniature landscape can be made with clumps of moss, tiny trees and vines. Arranged on a shallow tray it can be dampened and kept fresh for weeks.

Christmas Dont's.

Don't leave the cost-mark on presents.

Don't let money dominate your Christmas giving.

Don't let Christmas giving deteriorate into a trade.

Don't embarrass yourself by giving more than you can afford.

Don't try to pay debts or return obligations in your Christmas giving.

Don't give trashy things. Many an attic could tell strange stories about Christmas presents.

Don't make presents which your friends will not know what to do with, and which would merely encumber the home.

Don't give because others expect you to. Give because you love to. If you cannot send your heart with the gift, keep the gift.

Don't wait until the last minute to buy your presents, and then, for lack of time to make proper selections, give what your better judgment condemns.

Don't give too bulky articles to people who live in small quarters, unless you know that they need the particular things you send them.

Don't decide to abstain from giving just because you cannot afford expensive presents. The thoughtfulness of your gift, the interest you take in those to whom you give, are the principal things. The intrinsic value of your gift counts very little.

Don't give things because they are cheap and make a big show for the money. As a rule it is a dangerous thing to pick up a lot of all sorts of things at bargain sales for Christmas presents. If you do, there is always the temptation to make inappropriate gifts. Besides, there is usually some defect in bargain articles, or they are out of style, out of date, or there is some other reason why they are sold under price.

Good-bye, old cow, we boarded you for many a thankless day; we kept you warm and fed you, and yet you would not pay. You fooled us for a little while and then there came the rub; the tester said: "My records here proclaim your cow a scrub." We're feeling mighty happy, and are celebrating now, for dad has promised mother he will buy a tested cow. We're glad to see the last of you; no tear is in our eye; you paid us ill for all our care; good-bye, old scrub, good-bye.

The Welfare of the Home

The Outgoing and Homecoming of the Child

BY NELIA GARDNER WHITE

Did you ever watch pigeons circling about the pigeon house, and listen to their cooing before they settled down for the night? The flying in and out of the pigeons suggests "the glad outgoing,—sweet homecoming" of childhood, around the mother's knee. Froebel recognized in this scene a symbol of life, a lesson for us, as mothers, which we cannot study too faithfully.

The "outgoing" and the "homecoming," there is a world of meaning in each word. Do you send your child out each day, to school or to play, happily, trustingly, lovingly? Is he glad to go, but gladder still to return? What sort of a homecoming does he have? Aren't we, Mothers, too apt to make that homecoming full of scoldings for tardiness, or nagging over table deportment, or rushing the children off to bed so we can have the evening to ourselves? Those things seem of small importance, but wouldn't it be of more lasting value to us and to our children if, instead, we made of that homecoming a happy summary of the day's affairs?

There is no child who is not glad to tell what he has been doing all day. If he has been at school there are often little difficulties, little vexations that the teacher has not had time to satisfactorily explain or smooth out. A word or two from Mother may make it all clear and right. And if he has been at play there will be so many things to tell. It is while out at play that the child becomes acquainted with the fascinating realm of out-of-doors. Flowers, birds, trees, bees and butterflies,—he may become closer acquainted with them all through the retelling of his experiences among them. Wouldn't he be more interested in insect life if he knew the life history of the butterfly or of the ant with its almost haman arrangement of home and work? Wouldn't he find more satisfaction in the fields if he knew that there were weeds that are bugs and some that lived on other plants, like selfish folks? And wouldn't you like to have him so form the habit of telling you things that he goes on telling them even after he passes out of childhood? Wouldn't you like to be the one he always comes back to for understanding and intelligent enlargement of his small ideas?

And isn't it in this deep abiding faith in Mother and Father, and in the intimate comradeship with the outside world, that the faith in the Infinite is born? Perhaps, in childhood, the connection between the Creator of the Universe and a white-fringed, golden-hearted daisy may not be overly clear, and if the connection is made at all, if the child sees the manifestation of the Divine in all the forces of nature, it will not be such a far cry to discovering such manifestations in his own soul. Then, as you help him to weave his daily experiences into a happy whole at the day's end, so may his larger experiences fashion themselves into a life pattern that he will not be ashamed to show to himself or his Creator at the "twilight hour" of life.

"Let knowledge grow from more to more,
But more of reverence in us dwell,
That mind and soul according well,
May make one music as before."

THE SUNDAY SCHOOL

DECEMBER 18

Paul's Last Words, 2 Tim. 4: 6-18. Golden Text—2 Tim. 4: 7 (Rev. Ver.)

Lesson Setting—Tradition says that Paul was acquitted at the first imprisonment of two years described in Acts 28, and visited Spain (see Rom. 15: 28). From Spain the apostle seems to have gone to the east, visiting Corinth and Melitus (2 Tim. 4: 20), Troas and Macedonia (1 Tim. 1: 3, etc.), Ephesus (2 Tim. 4: 13), and Crete (Titus 1: 5). After leaving Crete, he decided to spend the winter at Nicopolis (Titus 3: 12). Of the eight places bearing this name. Hastings' Bible Dictionary decides for the one on the west coast of Achaia as the place chosen by Paul as his residence for the winter, while Dr. David Smith thinks that the Nicopolis in question was in Syria-Cilicia. He was again arrested, and after a second imprisonment at Rome, suffered martyrdom A.D. 68. The First Epistle to Timothy and the Epistle to Titus were written during the interval between the first and second imprisonments, the former probably from Macedonia to Ephesus, where Timothy was laboring, the latter from some unknown place, when Paul had decided to winter at Nicopolis. The second Epistle to Timothy was written during the second imprisonment at Rome. The three Epistles are filled with advice concerning the way the young ministers, Timothy and Titus, should conduct the affairs of their congregations. Hence, along with Timothy, they are called the Pastoral Epistles.

I. Paul's Conflict, 6, 7.

V. 6. **Ready to be offered** (Rev. Ver. "already being offered"). I am being poured out as a drink offering. The reference is to the drink offering of wine which among the Jews frequently accompanied sacrifices (see Num. 15: 5; 28: 7). (Compare Phil. 2: 17). **Departure.** (See Phil. 1: 23.) The figure is taken from a ship going out to sea loosing the cables and weighing the anchor. So Paul looks across the narrow sea of death to the blissful port of heaven.

V. 7. **Fought a good fight.** Compare 1 Tim. 6: 12.. The image may be from the Greek games, and if so, it refers to the mimic contests of war between combatants. **Finished my course;** the foot race which was a leading feature in the games. **Kept the faith;** the faith in the Son of God by which he had been saved, and by which he had lived (see Gal. 2: 20). The teaching which had meant so much for himself, he had kept as a sacred "deposit" (1 Tim. 6: 20, Rev. Ver. Margin) to be handed on to others.

II. Paul's Crown, 8.

V. 8. **The crown of righteousness** (Rev. Ver.); either the crown that consists in the possession of righteousness like the "crown of life" (James 1: 12; Rev .2: 10), or, more probably, the crown with which righteousness is rewarded, which marks its recipient as righteous in God's sight. **The righteous judge;** so different from the unrighteous Roman Emperor before whom Paul was so soon to stand. **That day;** the day of judgment. **All . . . that love his appearing;** all who look forward to the appearing of Christ. If we long for Christ's return, we shall receive the crown. Thus Paul, though standing on the verge of death, sees victory awaiting him, the object of his life is gained, and he rejoices to think of all those who, along with himself, and so many of them through his efforts, will receive the great reward.

III. Paul's Companions, 9-15.

Vs. 9-13. **Do thy diligence;** make an earnest effort. **To come shortly.** These pathetic words reflect the loneliness of Paul in his Roman dungeon. **Demas hath forsaken me.** Demas is mentioned in Col. 4: 13 and Philemon 24. He was apparently a native of Thessalonica. **Having loved this present world.** He chose earthly wealth or ease rather than the "crown of righteousness," v. 8. **Crescens. Titus.** No blame is laid on these for their absence. But the apostle was the lonelier for their going. **Luke;** the beloved physician and historian. He would feel that of all men, his place was with the apostle whose end was so near. **Take Mark;** to whom Paul was now fully reconciled and who had (Col. 4: 10), before this completely justified the risk run by Barnabas in giving him a chance to recover his character. **Tychicus;** the bearer of the Epistles to the Ephesians (see Eph. 6: 21, 22) and the Colossians (see Col. 4: 7, 8). **The cloak . . . left at Troas;** when on his way to Macedonia (compare Tim. 1: 3). It was a heavy overcoat, which Paul would need in his damp, cold dungeon. **The books.** There would be the papyrus rolls in use for ordinary purposes. **Especially the parchments;** the more costly skins containing likely portions of the Scriptures in Hebrew. Not even the near approach of death turned the apostle away from the studies which he loved.

Vs. 14, 15. **Alexandria the coppersmith;** probably the Alexandria of 1 Tim. 1: 20 and possibly Acts 19: 33, 34. **Did me much evil;** injuring the apostle in deeds as well as words. **The Lord reward him.** It is the Lord's business to punish, not the apostle's. **Be thou ware also.** It may be inferred that Alexander was in Timothy's neighborhood. **Greatly withstood our words;** strangely appeared the doctrines taught by Paul and also by all Christians.

IV. Paul's Confidence, 16-18.

V. 16. **At my first answer;** the preliminary investigation before the Emperor or his representative, through which Paul had already passed. **No one took my part** (Rev. Ver.). There was no one to speak for Paul as his advocate. **All . . forsook me;** as the disciples forsook their Master, Mark 14: 50. **Not to be laid to their charge.** Compare Stephen's prayers for his enemies (Acts 7: 60), of whom Paul has been one.

V. 17. **The Lord (Christ) stood with me.** He did not fail when all others failed. **Strengthened;** according to the promise of 2 Cor. 12: 9. **Preaching . . . fully known.** All present at Paul's trial would hear the gospel, and what happened in Rome would become known throughout the world. **I was delivered.** At the "first answer" Paul was not condemned, but the decision was postponed. **The lion.** The meaning may be that he escaped being thrown to the lions of the Roman amphitheatre, the awful form of martyrdom which many early Christians suffered.

V. 18. **Unto his heavenly kingdom** Paul is confident of God's help Through death he will pass out of the power of his foes and enter the kingdom. The apostle was at last beheaded at Rome between A.D. 66 and A.D. 68.

Application.

In his last words St. Paul had something to say in reference to the present, past and future. As to the present he is face to face with death, and is able without a tremor to look into the dark countenance of that shadow feared of man. I am already being offered and the time of my embarkation is at hand.

As to the past he is in a measure satisfied.

As to the future he is hopeful. No "wistful perhaps" fills the eyes with tears. "Henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous judge, shall give me at that day." We note several things in St. Paul's vision of his certain future.

(a) "The day." "After that the dark." His eye pierced beyond the brief night to that eternal day. Do we as vividly anticipate the great tomorrow, or are our poor hopes rounded by a sleep?

(b). "The Lord," in the midst of that evolving glory even as he was seen amid the light at the Damascus Gate. The essence of heaven will not be gorgeous scenery, nor the gracious society of just men and women made perfect, but the fellowship of Jesus Christ.

(c). "The crown of righteousness." A crown woven out of righteousness for those who shall one day be made perfectly righteous in his sight. Let us not be like that man in the Pilgrim's Progress who could look no way but downwards and had a muckrake in his hand. Over him stood one with a celestial crown on his hand, which he proffered him for the muckrake; but the man did not look up nor regard but raked to himself the straws, the small sticks and dust of the floor of time.

Gifts We Want.

Some gfts I'd like on Christmas morn,
To make my dairy life complete.
A patent sheller for the corn.
A modern plant for winter heat.
I'd like two silos of the best,
Cream separators—well, say two.
(They'll give us all a needed rest)
It's what progressive farmers do.

I want electric lights this year.
And power—and a tractor fine,
Macadam roads running near,
A telephone—my private line.
I'd like a slicked-up motor car,
To take me to the movie show,
Where all those other racers are,
A handsome motor truck or so,
New cows to make a wonder-herd,
All pedigreed and milking-wise.
My heart, then, like a singing bird,
Will raise its paean to the skies.

Hang on the tree these minor gifts,
These little things I want and need,
And, when the day its glory lifts,
'Twill find me worthy of the deed.
My boughs be strong and purses wide,
And may your Christmas list be long.
Contented dill I here abide,
Head high in air—soul filled with song.

Worsted stuffs were first made at the village of Worstead, in Norfolk, about 1313.

Value of Farm Manure.

Farm manure pays. In five years on four acres at the Experimental Farm, Ottawa, the use of such manure increased the value of the crops by $291.20. Each year where farm manure was applied there was an increased yield, and consequently increased profit. Dealing with 1920 alone, mangels produced an increased crop of 15.5 tons at $2.88 per ton, a profit of $44.31; oats increased 8.8 bushels at 58c a bushel, a profit of $5.10; clover hay showed an increased crop of 1.7 tons, which at $24.30 per ton means a profit of $41.31. These increases are shown by comparison with the yields on unmanured land that year adjoining. Thus a direct profit is shown on these three crops by the use of farm manure of $90.72. In addition the soil of the manured land was left in much better condition for cultivation the following year than was the unmanured. The manure used was valued at only $7.45.

Too often the poultry breeder will neglect the flock for a long time and when the birds are half sick expect to find an easy remedy to quickly return them to health. In such cases the treatment is often unsatisfactory. The hen that is half dead with roup or bronchitis is usually a victim of neglect. The trouble can be prevented rather than cured.