



How to Care for the Farm Dog.

The farm dog has a large place in the heart of the boy. The dog is his companion during work and play. The dog loves the boy and worries when he is away from home. The boy often finds the dog one of his best-loved chums and one of the strong attractions that holds him to the farm. A dog can be made useful by proper care and training or it can be a nuisance because of its behavior. Every boy wishes to have his dog liked by the other members of the household and he can do a lot to properly train the dog.

The dog's training must begin at an early age. When a dog must be punished, go to the dog and do not call the dog to you and then punish him. If he receives punishment for coming when called he may lose confidence in his master. He should be punished as near as possible to the scene of wrong doing. Then he is more apt to know the cause of the punishment.

Always use the same commands, such as charge, lie down, get up, etc., when teaching the dog its first lesson. This avoids confusion and the animal soon learns the simple acts that are expected of him. When teaching a dog to charge, press down on the back at the time of giving the command. When the act is performed reward the animal with praise. The tone of the voice and the manner of the dog's master soon are understood by the animal. Praise is appreciated and the dog wags its tail, barks and rolls over and shows its appreciation. Censure is also soon understood and the dog hangs its tail, skulks away and shows its shame for wrong doing.

Dogs should be given no privileges while pups that they cannot have throughout life. The little pup that is allowed to jump into the chairs and sofa will dislike losing that privilege when grown up. Such a habit is difficult to break. Worrying stock and chasing chickens cannot be allowed and the habit is easily broken by whipping and scolding at an early age.

The dog has a very sensitive ear. Do not allow playmates to whistle, shout or blow in the dog's ear. It is a form of cruelty to the animal. They also have sensitive nostrils which cannot stand rough treatment without much pain.

A small A-shaped kennel is of great value in keeping a farm dog under control. A long swivelled chain attached to the side of the kennel will enable the dog to take some exercise. At night it will be under control.

Keep the kennel in the shade during the summer and provide a dish of cool water for the dog. Dogs can stand much cold, especially breeds like the Collie and Airdale. They cannot stand droughts or dampness and the kennel must have a dry floor and be somewhat protected from cold raw winds. A dog that is kept in the house soon becomes house broken and will learn its place. A box in the cellar or wood shed will be all the sleeping quarters it will need.

Many dogs are overfed, especially when the family is large and there are many table scraps. Other dogs are only half fed and are forced to forage for part of their living. Both conditions are bad and lead to sick dogs. Oatmeal, cornmeal and skim-milk can form the basis of the dog's diet. Add bones when they are available but do not give the dog much meat. Many dogs get along without much of any meat and they are healthy and vigorous. Three meals a day are about

right for a young pup. Two meals a day are enough for an old dog. Some owners only feed a mature dog once a day and find that it is sufficient.

Fleas are an unnecessary pest that may trouble the dog and also the family. Moisten a cloth with kerosene oil and wipe all over the dog's hair. Where the oil touches a flea the pest will be killed. After the oiling take a comb or brush and thoroughly comb out all of the fleas. Have the dog stand on a paper and burn the paper after the treatment. All of the fleas can be combed out by carefully working through the hair. Then keep the kennel free from dust and dirt or the infestation will soon be back on the dog. A thorough spraying of the kennel with a commercial coal-tar compound will destroy fleas.

Distemper causes the loss of many good dogs. It can often be prevented by keeping the dog clean and vigorous and properly fed. Also keep it away from other dogs, especially town dogs which have had the run of the streets. A dog that is sick with distemper should be isolated in a kennel or room that will hold as near as possible to sixty degrees temperature. The dog must receive good nursing and not be allowed to run and romp until cured.

Small cuts and scratches can be washed with peroxide of hydrogen if they are located where the dog cannot easily lick them. Dogs are wonderfully successful in treating their own wounds when they can be reached. In such cases the trouble can safely be left to the dog and healing will rapidly take place.

Often an unthrifty condition of a dog will be due to intestinal worms. Then it pays to buy one of the commercial worm medicines which can usually be procured at any drug store and used according to the direction on the bottle. Frequently worm medicine will turn a thin dog into a husky vigorous specimen in a short time.

The great usefulness of the farm dog is as a watch dog. It will give warning when intruders appear and often frighten them away without the farm owner knowing of their presence. By sending a dog on a poultry range the dog will soon learn to run and bark beneath every hawk that appears and the bird under these circumstances will seldom dare to come near enough to the earth to steal a chicken.

Placing the kennel near poultry houses is great protection to the birds. A good dog is also of value in keeping down the rats, weasels, woodchucks and skunks, which have little value on the farm.

The farm boy can take much pleasure with a pure-bred dog but just about as much with a cross-bred dog if it is of good type and intelligence. Scrub dogs are not always as scrubby as they look. They are sometimes very bright and vigorous and capable of learning many tricks as well as useful acts, such as watching the farm or rounding up stock. Often the dog that is classed as a mongrel cur bears a bad reputation because of bad training.

Boys can learn much about patience and self-restraint in their efforts to train an unruly pup. The boy who has thoroughly mastered his dog and taught it useful and interesting tricks has something of which to be proud because everyone does not have the patience to train a dog right. A dog that is properly trained to stay at home and be useful is a great source of satisfaction to the boy on the farm.

The Beginning of Christ's Ministry

From that time Jesus began to preach, and to say, Repent; for the Kingdom of heaven is at hand.—St. Matt., 4, 17.

Christ's ministry was very brief—only three years. It is not in length of time but in intensity of consecration and in definiteness of message that any human ministry must find its lasting character. And while the dear Lord's short life was ever leading to the great consummation of salvation for the world by His death and resurrection, we find as we study the gospels how wonderfully rich and full His ministry was both in deeds and words. The whole outline of Christianity and the eternal principles of life are to be found, as they are found nowhere else, in the things Jesus did and in the messages He gave. Those were wonderful years, those three that Christ gave to the world. Men have been studying them ever since and yet their truth and beauty are not exhausted, and only eternity will reveal to us their full significance.

The first message of the Master was the same as that of John the Baptist: "Repent, for the kingdom of heaven is at hand." It was a message of special significance to the Jews, for they were expecting a deliverance from their enemies of the Roman Empire; but it meant far more than they realized. The kingdom of heaven is a spiritual kingdom—"The Lord knoweth them that are His" (II Tim., ii, 19)—and it was established when

the dear Christ died for the sins of the world. It calls for sorrow because of sin, and for a turning away from sin to righteousness; but above and beyond all it calls for faith in Him who came from heaven to earth to create, even in this poor world, a family like unto the heavenly family. "Repent"—the word is still the message of the hour, as mighty and significant as when Jesus, the Son of God and the Son of Man, uttered it in clear tones in Capernaum by the Sea of Galilee. To follow Him in sincere trust, to love Him with the whole of heart and mind and strength, to do His will in telling others the gospel story—that is the real measure of repentance. I sometimes wonder whether we do not press too much in these modern times the establishment of an earthly and visible kingdom. We must, indeed, fight for righteousness and justice and purity in the world and seek to make human life everywhere as happy and strong as possible. But the gospel message calls for more than that. It demands a spiritual relationship to God gained through Jesus Christ, an entrance into His blood-bought family, a close union with Him who claims us and loves us as His own. There can be little hope of a better world, no matter how fine the laws and how exact the social honor prevailing, unless the kingdom—His Kingdom—is recognized as supreme; a kingdom in which His redeemed children do as He did on earth, a kingdom in which the life

of the soul is committed to His divine and never-failing care.

Co-Workers With Christ.

It is significant that Jesus, at the very beginning of His ministry, chose a body of men, by individual selection, to be with Him. We can hardly separate them from His ministry—they seem a part of it from the beginning to the end. It was a training school, indeed, that He began; but it was more than that; it was fellowship of service, the creation of a family which would be a type of the heavenly family. When Christ chose the apostles from the group of His disciples we are told that He desired them "to be with Him" (St. Mark, 3, 14). We might interpret this as a desire for human companionship, which our Lord manifested more than once, thereby sanctioning and sanctifying human ties and human associations, which are so helpful and so necessary. But chiefly we learn the message of working with the Christ, He working with us (St. Mark 16, 20). It is a wonderful thing that when the world was to be redeemed God called for the help of His children in accomplishing that redemption. Of course, we can only tell the story; but with the story we can serve and help and comfort, and in His divine love Christ accepts our efforts and blesses them and calls us His co-workers. That ought to lift up our humanity and make us know the sacredness to which Jesus calls us. Life becomes a marvelous thing when it is thus taken by the Master and made to share in His glorious work of salvation. The minister, the teacher, the Sunday school worker—they are all called by God's grace to be partners with Him. So that, as it were, the ministry of Christ is still continued, for He is always with us (St. Matthew 28, 29), and we, like Peter and John and the rest, are honored by being taken into the blessed service, which means at last the world's salvation.

Unceasing Ministry of God. May not the three years of our dear Lord's ministry reveal to us God's unceasing ministry to His children on earth? Christ reveals to us the Father: "He that hath seen Me hath seen the Father." And He makes His work God's work: "My Father, worketh hitherto, and I work." His deeds of loving mercy, His care for little children, His healing the sick in body and mind, His messages direct or through beautiful illustrations, word-paintings unequalled because touched by the Infinite—think of these as comprising Jesus' life, and then think of God as still doing the same for those who will receive His blessings and gifts, and grieving, as our Lord grieved, over those who refuse (St. Matt., 23, 37). Is it not a true understanding of God to know that He is the loving Friend who never forgets and whose words and works are ever with us? Nay, can we not go a little further and say that Christ not only reveals the ministry unceasing of God, but also teaches us what our lives should be—ministering in caring and loving and teaching and blessing, being assured that what is thus said and done can never fail of result, since we are following Him who overcame the world? Beautiful is that life of lives, as we study it. The perfect man stands out in gentle fellowship, made the richer because He was also God, and through Him we know what God is and what perfect manhood is. Wonderful are the words spoken by the great Teacher, made but the richer as the centuries bring new interpretations; little children and wise men alike find them blessed, and they never grow old or fail in their ringing love. But even beyond these is the great truth that still He ministers, unseen yet known; that still He calls us to follow Him; that still He companions with those who heed the call; that still in and through them the old Palestine ministry continues and will continue until the Saviour comes again in glory to claim His own.—Rev. F. W. Tomkins.

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THE NEW DIETETIC

BY DR. C. W. SALEEBY, F.R.S., EDIN.

It was hard to believe at first; but now we positively know that a wonderful and momentous new chapter in the study of the food of man, and, above all, in the food of the mothers and children of men, was opened a decade ago. It is what we may call an English-speaking achievement, for virtually the whole of the work has been done by a few men and women in England and the United States.

It had been known for scores of years that sailors on long voyages who ate only tinned and preserved food began to suffer from a disease called scurvy that killed hosts of them. It was learned that the disease could be prevented or cured with absolute ease and certainty by adding a little fresh fruit juice, such as lemon juice, to the diet. Then only a little while ago it was discovered that a disease called beriberi, which breaks out among people who live wholly on polished rice, could be quickly cured by the use of unpolished rice instead.

Three Essentials to Health. In 1913, when the International Medical Congress met in London, that discovery had recently been made, and we accordingly resolved that the governments of the world should be asked to abandon their orders about quarantine for ships with crews suffering from the disease. For it is not infectious, but is what we now call a "deficiency disease," owing to the lack of a priceless unknown something in the diet, which is present in the covering of the rice grain and which is lost when our modern milling machinery polishes the grain.

But all that is only a small fraction of what we now know. Dr. Gowland Hopkins began the work in Cambridge, England, ten years ago, by feeding rats with his own hands in a disused cellar. Since then many workers have carried it on at the Lister Institute in London and elsewhere, notably Dr. McCollum at Johns Hopkins Hospital, Baltimore.

There are at least three, or three groups of, precious things, probably ferments, contained in a healthful diet, which are called vitamins. The first is essential to growth, and its absence is the cause of rickets. It is especially contained in certain fats and is often therefore in America called "fat soluble A," or the "anti-rachitic factor." The second is also essential to growth, and its absence causes beriberi, a disease characterized by inflammation of the nerves, or neuritis. That vitamin in America is called "water soluble B," or the "anti-neritic factor." The third is that which prevents the development of scurvy, and we may call it C, or the "antiscorbutic factor." None of them has been isolated,—in trying to do so we should probably destroy them,—but we know where they are and where they are not because of the consequences that follow when we ourselves or animals eat foods that do, or do not, contain them.

It is not merely a question of avoiding the three "deficiency diseases"—

Armies of Peace.

After the tea things are put away,
After the paper is read,
After the noise and the cares of day,
And the youngsters are abed;
After the prayers and the good-night
kiss,
She by the fire and I,
And the winds may blow, but I'm glad
for this,
And the dreams that go smiling by.
After the children's time for play,
After the voices of care
Have echoed in distance and died
away
And night with its peace is fair,
After the little stories are told
And the lilt of the lullaby,
The day seems dross by the evening's
gold
And the joys that go laughing by.

After the crib and the trundle bed
Are canopied high with dreams;
After the last little curly head
Is shorn of its golden beams
By the snuffing out of the candle's
light,
When she by the fire and I,
And I'm glad for the stillness and
peace of night
And the hopes that go gleaming by.
After the gnomes and the goblins drift
Out to the sleepy sea;
After the hearth fire muses lift
Songs of the joys to be;
After the workaday world's asleep,
She by the fire and I,
In the dream a while time, when
fairies peep
And gladness goes dancing by.
And this is the strength that the na-
tion boasts,
And this is the nation's pride,
And these are grander than panoplied
hosts
And ships on the sea beside;
The lullabies and the hearth fires
bright,
And the cribs where the children
lie,
And the dreams of love that hallow
the faith
And the faith that goes smiling by.

To Disinfect Clothing.

For disinfecting clothing a Frenchman has developed an airtight tank in which garments are subjected to a mixture of compressed air and chlorine or other gas, heated by electricity,

rickets, beriberi and scurvy. The whole of healthy growth and development and the power to resist infectious disease are concerned. The most recent experiments show that the proper development of the teeth depends upon "fat soluble A," and that, in short, just as nothing is so good for making red blood as making milk, so nothing is so good for making hard teeth as soft butter!

The first important fact about vitamins is that, so far as we can discover they are made by green leaves in the presence of sunlight—by nothing else and nowhere else. Thus the herbivore, eating the green leaf, does well; and the carnivore, eating the herbivore, does no worse. Man and woman, and child above all, eating the green leaf, or vegetable foods that the green leaf has stocked with vitamins, or animal products that have obtained vitamins from the green leaf, will flourish also.

Such animal products are, for example, milk and its derivatives and cod-liver oil. True, we had not thought of the cod as a herbivore, nor is it one; but all the animal life of the sea depends upon the green vegetable plankton, just as the animal life of the land depends upon the grass of the meadows. If by grass we mean green, chlorophyll-containing vegetable matter, including plankton, then "all flesh (and fish and fowl) is grass." Presumably plankton is the original source of the vitamins found, for example, in the liver of the cod, and it is capable of working wonders of healing in children.

Treatment May Ruin a Food.

We know what foods do and what do not contain the first growth factor, "fat soluble A," or the "anti-rachitic vitamin." Enough of those foods must be supplied to mothers, and to children, at least until about the eighth year, when the calcification of the teeth is completed, if we are to have full-grown and healthy adults. Among the principal foods that lead in this respect are cabbage, spinach, lettuce, bananas, nuts, wheat germ, butter cream, fish oil (notably cod-liver oil), mutton and beef fat, raw whole milk, dried whole milk and fresh and dried eggs. On the other hand, there is none of this vital constituent in lard, olive oil, cottonseed oil, margarine derived from the white vegetable sources, white fish, pure wheat flour, pure corn flour, polished rice, custard powders and egg substitutes derived from cereal products. Beer is remarkable because, though it is derived from materials rich in various vitamins, no vestige of any vitamin survives in it. Indeed for us in many parts of Europe beer must be reckoned the most common and nationally important example of a preserved, stale, artificial and—because deprived of vitamins—devaluated "food." This I must insist upon, because the contrary has been asserted by some writers, not men of science, who have heard that malt and yeast are rich in vitamins, but who have not thought it desirable to ask

would be useless for a passenger ship. Where, for instance, engineering works were being brought into existence, such aircraft could be used for towing barges which, having no machinery, could carry substantial loads. Such a transportation facility brought to a point thoroughly workable would undoubtedly prove an important factor in commercial life, one profitable to use to which it might be put before that of developing great rich sections of the world which, largely due to their inaccessibility, now lie untouched. However, the sky train, like so many other desirable things in life, is of the future, not of the present; and though the advance that is being steadily made in successful air navigation gives every ground for belief that the air carrier is destined eventually to play an important part in the business of living, that goal is one that can be reached only by gradual, patient development.

Sky-Line Freight.

One of the subjects that brought forth no little interesting discussion at the concluding sessions of the meeting of the British Association for the Advancement of Science at Cardiff was the possibilities the airship holds out for development of sky trains capable of carrying freight over long distances. That such a development is not only a possibility, but a probability in the future, was the contention of Wigg Commander T. R. Cave-Browne-Cave, who maintained that the operation of towing one airship by another was successfully carried out at Farnborough even before the war. "One never thought," said the speaker, "of an aircraft as a lopsided weight-lifter, but on investigation it would be found that the airship in suitable form had considerable possibilities in that way. An airship capable, say, of only thirty-five miles an hour would furnish a valuable form of transport, although so low a speed

New Brunswick Mining Development

Though the east is lackadaisical in advertising its great natural wealth, it is inevitably found out. The rich natural resources of New Brunswick are being rediscovered, and of late there has been a considerable resuscitation of interest in this field and an influx of outside capital for development work. American interests are especially heavily represented in the exploitation of the province's mining possibilities. Recently the International Paper Company purchased three coal mines in the Great Lake district, and as a consequence will double their present output. The North American Antimony Co., of which Walter F. Dixon of New York was the principal organizer, has taken over the interests of the Canadian Antimony Company at Lake George, and will carry on operations on a large scale. Still more recently a party of New York capitalists made an inspection of the oil shale areas in Alberta county, in company with the Lieut.-Governor of the province, and as a consequence, will probably purchase rights there. Investigations made by the Canadian Department of Mines show that the oil shales are sufficiently exten-

selves what is likely to happen to those delicate agents when treated as the brewer treats them.

As for "water soluble B," I must note some of the foods that are rich in it. Generally speaking, they are the seeds of plants and the eggs of animals, where this precious agent is deposited as a reserve for the nutrition of the young offspring. First come eggs, fresh or dried, wheat germ—which we carefully remove when we make white flour—and even dried peas and lentils and beans and germinated pulses or cereals. Like "fat soluble A," it also occurs in vegetables, but there is no trace of it in butter or cream, white wheat and flour, pure corn flour or polished rice. As for the anti-scorbutic vitamin, it abounds in fresh vegetables and, above all, in fresh lemon juice and orange juice.

But all these things can be damaged or destroyed. Heat hurts them—A and B comparatively little, but C very quickly. The anti-scorbutic value of vegetables and fruit juices rapidly declines when they are cooked or dried, and many sailors used to suffer from scurvy, though carefully provided with preserved lime juice, until we learned that preserving the juice—at any rate, in the fashion then employed—spoiled it.

All our foods, then, have to be revalued in the light of these new discoveries. It is not enough to know merely how much fat or energy, how many calories, they will produce. Above all, for the young, foods containing the growth factors must be especially valued, and since young people do not digest fat very readily we must not waste their digestive powers on those vegetable fats that do not contain the indispensable "fat soluble A." Remembering the teeth, we must consider "the young" to include all up to eighteen years. The young mothers, are, if possible, even more important.

There arise, then, all the possibilities of using vitamins in medicine itself to heal disease. Long ago, as a medical student, I tried to avoid the nasty flavor of cod-liver oil by getting a chemist to prepare a similar pure oil and using that instead for my dispensary patients. But it did no good; and indeed even the "purified," "tasteless" cod-liver oil does little good in tuberculosis, compared with the crude, highly flavored oil. To purify it is to destroy the vitamin.

Knowledge Means Happiness.

Therefore, all questions of the preparation, preservation, sterilization and canning of food have to be reconsidered in this new light. Only too often we may ruin admirable material by our treatment of it, as the brewer does. The range of experiment required and the issues that hang upon it are almost illimitable. In England the Privy Council is this year spending the utmost sum available upon these researches, on account of their very great value at the present time and on account of the marvelous prospects that they offer.