Soils and Crops

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

VITAMINES FOR DAIRY COWS.

It is known that milk contains in abundance those mysterious, little understood, vital principals called vitamines, which seem to have so much to do with life itself.

So essential are these vitamines that lower animals, like rats, rabbits, guinea pigs, etc., soon die if a sufficient quantity is not contained in their ration. So vital are these vitamines that it was observed in the great war that soldiers having a ration containing butter recovered from their wounds much sooner than those deprived of butter. Hence it is, that dairy products are becoming more universally used in our diet than ever before.

Now it is learned that cows' milk has a greater number of vitamines in summer than in winter, presumably due to the fact that they have greater access to sunlight in summer than in winter, and that they have more green leaves of plants in their rations. From this fact it is to be observed how very essential it is to have a well-lighted stable, one with plenty of windows to let in the sunlight. Also, how important it is to secure forage crops for winter feeding in such a manner as to preserve the green leaves, as in clover and alfalfa hay and the corn plant for silage and to be fed in the dry state. Some people have seemed to think that the leaves of plants, because they did not weigh very much, were of little importance to the ration; but now we know they contain these vital principals.

Just recently it has been shown that if cows are given cod liver oil in their ration in winter, the number of vitamines in the milk is greatly increased. Cod liver oil contains these vitamines in abundance, the cod getting them from the green leaves of sea weed. Hence the vitamine can be maintained in milk during the winter by adding the oil to the cow's ration.

But it will be much better and more economical to furnish the vitamines to the cow in her regular food than to feed her cod liver oil. Certainly if the practice should become common, the price of the oil would so advance that it would become prohibitive.

The first thing to do is to have the stable well lighted and well ventilated. This allows the cow to function normally.

The next thing is to prepare forage crops that they will retain their leaves.

If clover is cut and allowed to lie in the swatch in the hot sun until nearly all the moisture evaporates, the leaf and stem become very brittle and when handled the majority of the leaves drop off. But, if raked soon after it is cut while only in a wilted state and put in cocks immediately and allowed to cure in these cocks, even if it takes several days, the leaves are tougher and adhere to the plant more tenaciously and are saved.

If one has hay caps to cover the cocks with they have ideal conditions. However, if the clover is put in cocks before it dries too much, it will settle down more compactly so it will shed rain more readily and in case of wind will not blow over to be exposed to the weather.

When the clover, or alfalfa, is in proper condition to cut, it should be cut at once, whether you have five acres or forty, and immediately put in cocks. Then when cured it can be drawn into the barn with the least loss of leaves. This gives the hay the greatest degree of palatability, the largest percentage of digestible nutrients, and, not of the least importance, an abundance of those essential vitamines.

Then we will not have to feed cod liver oil to get normal milk.

A Cloak for Brides.

Something entirely new for the bridal trousseau is a cape of hyacinth pink baronet satin with tinted peonies under its draped bolster collar.

I Can Break a Colt in Eight Hours.

How many of you will believe me when I say that a colt can be trained in eight hours? I hear a few say "I do"; a lot say "I don't," and the rest ask "Just what do you mean by trained?" By "trained," I mean just what a lot of people mean when they say "well broke." In other words, a well-trained colt is one that will go steady, stop and back at command without the aid of whip or lines. He will not shy or balk, or attempt to run away if you want to catch him in the pasture, all you have to do is to get close enough to speak naturally and say "come here," and he will follow you to the barn.

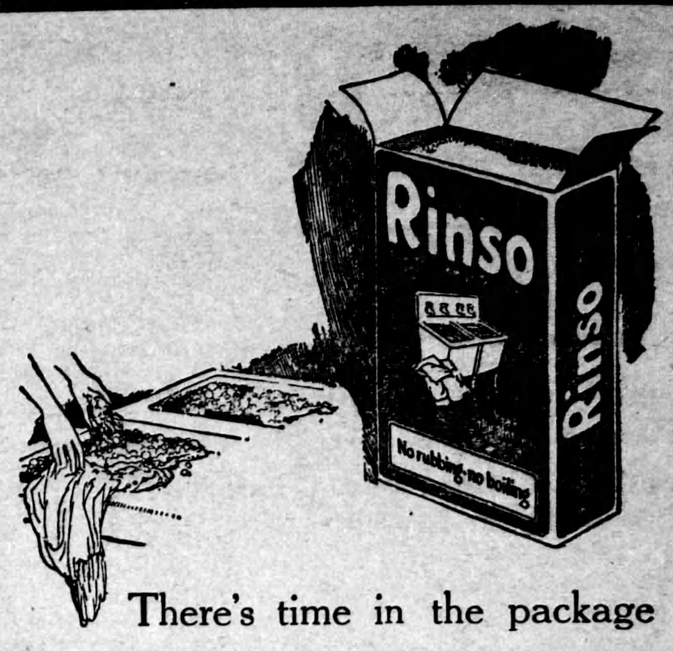
That seems quite a lot for a colt to learn in eight hours, but I know what I am talking about when I say it can be done, because I've done it. But here's the point I wish to make emphatic: A colt can not be trained in one day, or two or three days; but give him on an average of an hour a day for eight days, and the rest of the time to himself, and you can work wonders with him.

But right there is where the average farmer or his helper falls down in colt training. They give him too long lessons. They don't seem to realize that his brain is receiving impressions for the first time, and like any unused muscle of the body, it tires very quickly. When once the brain and the nerves which convey the impression to it become weary, they refuse to work properly and the colt ceases to learn. He begins to get slow, and if the lesson is prolonged, it does more harm than good. Teach him one thing at a time, and as soon as you are sure he has caught the point of the lesson, put him away for the day and let it "soak in."

It is not uncommon to hear a farmer say: "I thought that young colt of mine was going to be a bad one, but once we got him hooked up, he went off like an old cow." I'll tell you why. The usual haphazard way of harnessing a colt and hitching him beside another horse—usually the "safest" horse on the place—so excites and wearies his mind, that by the time you are ready to drive off, he is in a kind of stupor and partially insensate to his surroundings. This is especially true of very young horses. Older ones sometimes resist for the first mile or so—which is more than any horse should be driven the first time.

It is often the case that a farmer whose farm just teems with systematic management, is one who uses the crudest hit-or-miss process when it comes to educating his horses. As a result, his young horses are never considered safe except in the hands of his best drivers, and no one knows just how much the colt knows, or just how far he can be trusted for the first year or two.

When your horse is two years old, then is a good time to train him. In the first lesson, teach him what the whip is for; show him that it will not hurt him unless he does wrong, and you will have gained his confidence. Next get him used to the touch of harness and the sounds of it, and teach him "get up." Then teach him what "whoa," "back" and "steady" mean in separate lessons, and be sure that he obeys them instantly. Upon seeing a strange object in the road for the first time, your colt is subject to two sensations—fear and curiosity. Now if you handle him right, prove to him that the object won't hurt him, he will soon lose the tendency to run, and will gradually acquire an inclination to investigate anything he doesn't understand.—J. D. H.



There's time in the package

Time to do the many things ordinarily put off on wash-day. For Rinso does not keep you standing over the wash-tub, rubbing until your back aches and your hands are red and sore.

Rinso, an entirely different kind of soap, soaks clothes clean. Rubbing and boiling are unnecessary. The big soapy Rinso suds gently loosen the most ground-in dirt without weakening a single thread.

Buy a package today.
On sale at all good grocers and department stores.

LEVER BROTHERS LIMITED
TORONTO

R306

THE SUNDAY SCHOOL LESSON

MAY 13

David, the Poet-King. 1 Samuel 16: 1 to 31: 13; 2 Sam. 1: 1 to 24: 25; 1 Kings 1: 1 to 2: 12. Golden Text—Surely goodness and mercy shall follow me all the days of my life.—Ps. 23: 6.

LESSON FOREWORD—Saul has been rejected from the kingship. His successor must be appointed. Once again Samuel, at the command of God, plays the role of kingmaker. As a seer Samuel is gifted with unusual insight and this time he chooses as Israel's king, David, the youngest son of Jesse of Bethlehem. Subsequent history justified the choice. As a youth David had personal qualities and charms which endeared him to all Israel—his comely person, his valor, his prudence in speech and his musical skill. And during his term of the kingship he made such unqualified success of it that Israel always looked back upon his as their ideal ruler.

I. THE SACRIFICE AT BETHLEHEM, 1-5.

V. 1. *How long wilt thou mourn,* etc. Ch. 15:35 shows that Samuel experienced a feeling of deep personal grief at Saul's rejection; Saul had turned out so differently from what Samuel had expected of him when the two men first met and communed on Samuel's roof, 9:25. *Fill thine horn,* etc. Perhaps this was the same horn that Samuel had used at Saul's anointing. Oil made from olives was one of the chief products of Palestine and formed an important element of the national wealth. It was used not only as an article of food, but, as here, for ritual purposes. *Jesse;* was a native of Bethlehem, an important town situated in a fertile region of the Judean hill country, seven and a half miles south of Jerusalem. Jesse appears to have been a fairly well-to-do burgher but is now an old man, 17:12.

V. 2. Samuel must act in privacy as far as possible, else Saul will suspect him and wreak vengeance upon him. Consequently he is directed to take a heifer for a sacrifice to be held in Bethlehem. Gen. 15:9 indicates that a heifer was used for the ritual by which an alliance was concluded, while Deut. 21:3-9 shows that it was used for ritually cleansing a city after a murder had been committed.

V. 3. *Call Jesse.* The sacrifice was designed especially for Jesse and his sons, although other Bethlehemites seem to have been present, vs. 4 and 5. In the earliest times the killing of an animal even for food was always of the nature of a sacrifice. The entrails were consumed on the altar, while the flesh was eaten at a feast, either by the family alone or with invited guests.

V. 4. *The elders of the town;* the heads of the leading families of the town. As the principal townsmen they would go forth to meet their distinguished visitor. Nevertheless they were perturbed at the coming of the seer, lest a man with his strange powers should bring some calamity upon them. Hence they ask, "Does thy coming betoken good, O seer?"

V. 5. *Sanctify yourselves;* purify yourselves by lustrations. Those who participated in holy rites of any kind were required to observe the proper lustrations. To this day the Mohammedans always wash themselves carefully before engaging in prayer.

II. JESSE'S OTHER SONS, 6-10.

V. 6. During the course of the feast, Samuel was closely scrutinizing Jesse's sons for the future king of Israel. He was pleased with the appearance of Eliab, the eldest son, and judged by his appearance that he would make a good king.

V. 7. While Samuel was debating within himself, Jehovah spoke to him in such a way that the others present did not hear. *The Lord seeth not as man seeth.* The Lord looks at a man's heart, at his mental and spiritual endowments, while man is attracted by mere physical appearance. In that age the strong man physically would likely be the popular hero.

V. 10. Jesse introduced his seven elder sons to Samuel, but Samuel received no clear sign from God that any of these had been chosen.

III. DAVID CHOSEN, 11-13.

V. 11. *Behold, he keepeth the sheep.* To-day in Palestine most of the shepherding is done by boys. During their youth, the sons of peasants look after the sheep. When they arrive at manhood, they till the soil. The story of David would lead us to suppose that such was the case in ancient days.

V. 12. A description of David's personal appearance is given. For a similar description see ch. 17: 42. *Ruddy.* Some commentators have thought, with much show of reason, that this indicates that David was red-haired and it has also been claimed that among the Hebrews red hair was regarded as a distinct mark of beauty. The Hebrew says, "He was ruddy, with fine eyes, and goodly appearance."

V. 13. Samuel having received a favorable sign from God, proceeds to anoint David as the future king of Israel. From the description of Saul's anointing, we learn that the oil was poured on the head of the king-elect, ch. 10:1. The consistence of the anointing oil appears to have been thick and treacly. Ps. 133:2 mentions that the oil trickled down on Aaron's beard where it lay on the collar (not skirt) of his outer garment. *The spirit of the Lord.* The spirit of God came upon David as upon Saul at his anointing. The spirit of the Lord was conceived as an outgoing of divine energy which entered into and possessed certain men, thus giving them unique endowments and fitting them for special tasks.

APPLICATION.

We read two accounts of David's introduction to king Saul. In one story David, the youngest son of Jesse, is introduced as the skilful musician who charmed the evil spirit away from Saul. In the second narrative he appears first on the scene as the valiant antagonist of the giant Goliath. Saul's interest was aroused by this unexpected feat, and he made inquiries concerning David's antecedents. (See 1 Sam. 17:55.)

These two traditions were current when the biographer of David sat down to his task, and it did not occur to him to attempt the modern idea of harmonizing them. Anyway the two accounts suggest two prominent features of David's character,—the "poet-soldier." And yet these two words come far short of describing the wide range and richness of David's personality and wonderful career.

Let us set down some of his prominent characteristics:

1. *His unusual capacity for friendship.*
2. *His self-restraint and magnanimity.*
3. *He shared his people's sorrows, dangers, and hopes; he was never aloof from them.*
4. *David had very strong natural affections.*
5. *David's strength had its source in his reliance on Jehovah, the God of Israel. He was a religious man.*
6. *David's weaknesses, and the defects of his religious faith.*

Poultry Record of Performance.

A correspondent wants to know what he shall do in order to enter the Record of Performance for poultry, established and conducted by the Poultry Division of the Dominion Live Stock Branch, Ottawa. First, he must send to the Division for entry forms and a copy of the rules and regulations. He can do this without placing any stamp on the envelope containing the application. He also wishes to know how many eggs a bird has to lay so as to qualify for a certificate. For an R. of P. certificate she must lay 150 eggs in 52 consecutive weeks and for an advanced certificate 225 eggs in 52 consecutive weeks. The eggs must be up to the grade "specials" in the Canadian standards, and after April 1, must average over two ounces in weight.

The best time to get rid of the scrub bull is to-day.

Spring paint on old furniture covers a multitude of mars.

COMMON DISEASES OF THE STRAWBERRY AND THEIR CONTROL

Leaf spot, leaf blotch, etc. There are two fungus diseases causing a spotting or blotching on strawberry foliage. One is called leaf spot; the other a leaf scorch. The leaf spot is readily recognized in the field by the small circular areas scattered over the leaves. At first these are purplish but later become greyish or brownish in the centres shading to reddish brown towards the margin. The margin itself remains purplish.

The leaf scorch disease is first observed as small reddish purple spots appearing on the leaves, petioles and fruit pedicles. On the leaves these areas gradually increase in size and finally coalesce to form irregular blotches, sometimes covering the entire leaflets. They remain dark in the centre and hence are easily distinguished from the leaf spot which has a light grey or brown centre. On the petioles and fruit pedicles, sunken lesions are formed which frequently girdle these parts and thus weaken if not kill them.

Control. These two diseases are controlled by the same operations. When setting out a new patch, old leaves showing symptoms of either disease should be removed. If all the foliage is affected it is better to discard the plants. As soon as the first symptoms of either leaf spot or leaf scorch appear in the field spray immediately with Bordeaux mixture, using a 4-4-40 or a 4-6-40 preparation. Keep the plants well covered with spray throughout the season; spraying every two or three weeks if necessary.

The following season spray thoroughly with the same material before the blossoms open, in order to protect the plants until after picking. Then apply another covering of Bordeaux at that time so that the young developing leaves may be given every protection. It is essential to keep the leaves comparatively free from disease in order that they may function properly and store up food for the crop of fruit the following season. The second year if either of these diseases is present, spray before the blossoms open and again after the fruit is picked. The plants are usually plowed down after the second crop.

Powdery Mildew. During the early part of the summer another disease is found affecting the strawberry foliage. This is also a fungous disease—powdery mildew. The symptoms are a curling upward of the margin of the leaflet along the mid-rib so that the under surface is exposed to the sun. Following this a white, powdery fungous growth appears on the under surface of the leaves. The growth thus formed produces reproductive bodies throughout the remainder of the season which are carried by the wind to other leaves and plants, thus spreading the disease.

The best means of controlling mildew is to dust with sulphur, using an 80-20 mixture, as soon as the first symptoms of the disease are observed. Repeat the applications every week or ten days if necessary. This dusting will also aid in the control of the strawberry weevil which proves troublesome in some districts.

Root Troubles. There are various diseased conditions of the roots encountered in strawberry culture. Included among these are winter injuries as well as root rots. As yet no satisfactory means of control have been found but a good winter mulch has proven useful to decrease materially the losses from such troubles.

THE CHILDREN'S HOUR

TO THE GREAT CITY.

Once there was a little gray pony which longed to go to the great city and see all the sights. He had often set out in gay spirits, prancing this way and prancing that way, but he had never gone anywhere near the great city.

One day when he was prancing this way and prancing that way he heard a great sound. For an instant he stopped and listened. The sound came from the swaying branches of an oak tree.

"Where do you want to go, little gray pony?" it asked.

"To the great city to see all the sights," replied the little gray pony and began to prance again.

"Very well," said the great oak tree. "Stop prancing this way and that way and go straight ahead. Then you will surely find the great city and see all the sights."

"Thank you," said the little gray pony. "I will do it."

But he didn't do it at all. He kept right on prancing this way and that way, and so of course he didn't reach the great city that day or see any of its fine sights.

A second day the little gray pony heard another great sound as he was prancing this way and that way. He pricked up his ears and stopped again. Was he hearing sounds from the great city? No, it was the great voice of the sea as its waves splashed noisily on the shore.

"Where do you want to go, little gray pony?" it asked.

"To the great city to see all the sights," replied the little gray pony.

"Very good," answered the great sea, "but you must stop prancing this way and that way and go straight ahead. Then you will certainly come to the great city and see all the sights."

"Thank you very much," said the little gray pony, "I will do it."

But he didn't do it at all. He kept right on prancing this way and that way, and so of course he did not reach the great city that day or see its wonderful sights.

A third day the little gray pony was prancing this way and that way when again he heard a sound, this time, gentle and soft, the voice of a child. The little gray pony stopped prancing to listen.

"Oh, where are you going, you dear little gray pony?"

"I am going to the great city to see all the sights," said the little gray pony, beginning to prance this way and that way again.

"That would be fine," answered the child, "but don't you know you can never reach the great city by prancing this way and that way? Let me get on your back and I will guide you straight ahead, and then we shall surely come to the great city."

So the little gray pony let the child climb upon his back, and together they went straight ahead until at last they reached the great city and saw all the wonderful sights.—Mary L. T. Tufts in Youth's Companion.

An Ounce of Prevention and a Pound of Cure.

A certain farmer, who returned home from town one day to find his six-year-old son at the top of the windmill, prevented the repetition of this dangerous feat by cutting the lower section from the ladder and providing it with hooks by which it could be suspended out of reach of the youngsters.

The hooks were attached to the upper end of the section so that they would engage one of the ladder-rungs above, and the piece was suspended at a height where it could be easily reached and lowered by a grown man, but in such a position that youthful acrobats would be discouraged in attempts to climb.

Fertilizing for Flowers.

Relative to fertilizing for roses, peonies, perennials and annuals generally, Dr. Shutt, the Dominion Chemist, says that for loams in fairly good condition, more especially in regard to humus-forming material, as supplied by manure, leaf mould, etc., the following formula may be advised: four parts ground bone (bone meal) and one part muriate or sulphate of potash, mixed thoroughly and worked well into the soil at the rate of, say, four pounds per square rod, as a top dressing.

A woman is sometimes known by the company she isn't at home to.

Be Safe!

Don't wait for someone to be in pain to get Kendall's Spavin Treatment in the house.

For all external hurts and pains—for all muscular troubles.

Kendall's Spavin Treatment makes good.

KENASTON, Sask., December 8th 1921

"Please send me one copy of your TREATISE ON THE HORSE. I have used your Kendall's Spavin Cure for over eleven years and found it one of the best liniments I have ever used for all kinds of sores. (Signed) M. ZEMAN."

Get a bottle at your druggist's today. Regular for Horse Treatment—Refined for Human use.

DR. B. J. KENDALL COMPANY, Enosburg Falls, Vt., U.S.A.

KENDALL'S SPAVIN TREATMENT

$ You Make Most Money When You Speed Up Farm Yields

It takes 12 hours labor to produce you 1 acre of wheat.
At 12 bus. per acre yield you might pay costs.
At 25 bus. per acre yield you make good money.

200 lbs. SHUR-GAIN Fertilizers make gains from 50 to 60% on grains and other crops.

Order SHUR-GAIN Fertilizers NOW.

Consult our Agent or write us. Agents wanted in territories where we are not represented.

Gunns Limited

St. Clair Street TORONTO

$