SPONTANEOUS COMBUSTION IN HAY MOWS AND THE ANNUAL FIRE LOSS IN ONTARIO.

The farmers of Ontario have at last begun to realize, so says Prof. W. C. Blackwood of the Ontario Agricultural College, that each and every one of them is bound by the laws of national economy to play his part in the attempt to wipe out the disgrace of the past few years, when millions of dollars have been lost in the destruction of our best farm buildings. There is nothing surer than the fact that if a farmer persists in putting into the barn poorly cured, or moist hay, sooner or later his turn will come to stand the total loss of his buildings and crops through spontaneous combustion of the hay.

1. The Fire Marshal advises "caution."

2. The insurance companies plead "safety first."

3. The farmers who know by sad experience what barn fires mean speak loudly against attempting to store poorly cured hay.

4. The Agricultural College warns all farmers against the extreme danger which accompanies the practice.

5. The individual farmer places poorly cured hay in his barn at his own peril.

All who know agree that the practice should be stopped and stopped immediately, that means this year, now, before you put in that wet or partially cured load. It is not a case of "will there be fires," it is simply a case of whose turn it will be to suffer the loss. Only the reckless will fail to heed the warning. Let the hay spoil in the field rather than try to store it in unfit condition. If you do the latter the hay will lose its food value anyway, and it will show a lack of knowledge of good farm practice on the part of the farmer.

Increased acreage of clover hay in the past few years and the habit of curing only the leaves, leaving the stock improperly cured, is one of the two main causes which lie at the root of the increase in the number of barn fires. The other cause is *haste* in curing and storing crops with up-to-date machines (good in themselves but abused by many).

This article is an appeal to every man to act wisely this year and refrain from putting even one load in an unfit condition under the roof of any building upon which he places any value. Even if it is insured, *somebody pays the price.*

ERADICATE THE THISTLE.

The Canada thistle can be eradicated if thorough work is done at the right time, so says J. E. Howitt of the Botany Department, O. A. College.

1st By early after harvest cultivation on stubble ground.

2nd By careful and persistent spudding done in such a way as to prevent the plants developing above ground.

3rd By frequent introduction of hoed crops into the rotation.

4th By seeding with clover, taking one or two crops of hay, plowing shallow early after harvest, and cultivating frequently through the fall.

5th By summer fallowing.

CANADIAN VARIETIES OF FARM CROPS GROWN AT HEART'S DELIGHT FARM, CHAZY, N. Y.

The Heart's Delight Farm at Chazy, New York State, consisting of eleven thousand acres, is one of the most noted farms in America. It is interesting to learn, when on a recent visit to this farm, that the hundreds of acres of spring grains under cultivation were, in all instances, varieties which had been originated in Canada; the oats and the barley at Guelph, and the spring wheat at Ottawa. The O.A.C. No. 104 variety of winter wheat, originated at Guelph more recently, was being tested out.

JULY SEEDING OF SWEET CLOVER.

Experiments at the Ontario Agricultural College, conducted within the past four years, show excellent results from seeding sweet clover alone in the month of July. The seedings which took place later than July were unsatisfactory.

Thinning Apples — Both Size and Quality Improved by the Practice.

Thinning fruit is not at all general among orchardists in Eastern Canada, and attention is directed to the advantages of the practice in a bulletin "Modern Orchard Practices," prepared by the Horticultural Division of the Dominion Department of Agriculture. In the process of thinning, spotted or deformed apples are removed. Where there are too many apples in a cluster the poorer ones are removed, thus giving the remaining apples a better chance to develop. A safe plan is to thin so that no two apples will be touching each other on the same cluster. In the demonstration orchards at Kentville, N.S., Experimental Station, thinning experiments were carried out with the Blenheim Pippin with satisfactory results. The apples were removed about the middle of July. When the fruit was picked, it took 649 apples from the unthinned trees, but only 549 from the trees that were thinned to fill a barrel. The increased size of the apples on the thinned trees made up in bulk for the apples removed, and the percentage of No. 1 apples proved to be 58 per cent. against 32.3 per cent. from the unthinned trees. Shipped to the English market No. 1 thinned apples brought $2.01 per barrel compared with $1.67 for the unthinned. The conclusion drawn is that where the trees are at all loaded, it pays to thin. This is particularly the case of such apples as the Baldwin, which produce heavily every other year, as moderately large crops can be obtained every year if thinning is practiced to some extent.

No matter how they squeal, give the hogs their worm medicine. A farmer made a dollar a head more last year on pigs treated with santonin capsules.

Pointers on Painting by a Painter

A Business Where a Little Knowledge Often Saves Many Dollars

BY CLIVE B. PRICE.

One can safely say that fifty per cent. of the farmers' buildings in Canada need painting. The author reached this conclusion when crossing the country by rail between the Great Lakes and the Pacific over two different routes and noticing the condition of the buildings along the right-of-way in the country through which he passed.

If you are among the fifty per cent. whose buildings need paint, and you paint them this year, you will have made an investment that will be offset two ways. It will add more than what it cost you to the value of your place, and it will add years to the life of your buildings. However, the main purpose of paint, when composed of a good combination of ingredients properly mixed and skillfully applied, is to form a complete weather-proof covering to all the wood and metal in your structure. Without this protection both wood and metal soon deteriorate.

Although the usual procedure followed in getting a job of painting done is to call for competitive bids on the work and let the job to the lowest bidder, one should have some knowledge of just what a good paint consists of, and have it definitely stated in the contract as to the kind of material to be used and how applied.

A job of painting done with some of the cheap, adulterated materials that are found on the market to-day, and these improperly applied, is almost as good as no job at all.

It is not the author's policy in this article to boost any particular brand of ready-mixed paint, or to say a thing that will injure any brand. However, if a brand of ready-mixed paint that is put up by some good reliable house that has a large patronage, is being used, it is only reasonable to expect such a company will keep the quality of their goods up to a certain standard which will protect their future business.

The proper compounding of paint demands great skill and experience and it stands to reason that a manufacturer who has had years of experience in the business, the proper machinery for the grinding and mixing can put out a much better mixture than the local painter, who buys his material and mixes it on the job.

In many districts throughout the country the competition in bidding on jobs has become so keen between local painters that in order to keep up the standard of wages they have been forced to sacrifice the quality of the materials used and speed the work up to a point where it is impossible to do a thorough job.

This adulteration can be quite easily accomplished by a painter who mixes his own paint and has some knowledge of the many kinds of cheap materials that are being used.

These materials are found on the market under many different names. The raw material principally used in the manufacture of these adulterations is as follows: Carbonate of lime or chalk white from the chalk pits of England and France. Chalk contains magnesia, silica and clay. Paint containing a very large percentage of chalk has a tendency to be gritty and does not work freely under the brush. Sulphate of lime or gypsum (also known as plaster of Paris), is used extensively to adulterate zinc white. This can also be detected in the same manner, as it does not work as freely under the brush as the pure zinc or lead.

Baryta is a white stone found in veins with ores of lead, silver and mercury. This white stone is ground to a very fine powder then cleaned of all foreign substances by a process called floating. This consists of mixing it with water and running it through a series of settling tanks. In the last tank, the milk-like substance is allowed to remain until the water clarifies, then the water is run off and a pure white substance is left in the bottom of the tank. This is removed, dried, and ground again and is now ready for use.

In this form it is known as sulphate of baryta, and is used to adulterate both white lead and zinc. Baryta slides free from under the brush and makes a good paint, its only bad feature being the fact that it is less opaque, and does not cover as good as an all-lead paint.

These are just a few of the pigments used to adulterate paint. We should also give some consideration to the relative quality of oils.

For all exterior work there is only one available that is capable of drying reasonably fast and forming the film or binder required to produce a good lasting job, and that is the raw pure linseed oil.

However, there are a great many substitutes being used to-day by painters in doing cheap work. The cheapest and poorest of these is a by-product of crude petroleum. This oil is doctored up with dryers and called various names.

A job done with this kind of oil will look fine while it is fresh, but at the end of thirty days will have the appearance of a job of kalsomining.

Fish oil is sometimes used to adulterate linseed oil. In this case the binding qualities of your linseed oil is weakened in proportion to the amount of fish oil used.

The only substitute for linseed oil on the market that has any value as a paint oil is the true soya-bean oil. However, most of the so-called soya-bean oils sold to painters is merely the residue left after extracting the finer grades for cooking oils. The one bad feature of the soya-bean product is that it is a very slow dryer. This makes it necessary to doctor it with artificial dryers.

When red lead, litheroge, or Japan dryers are used, the quality of the paint is impaired. Tungate or cobalt dryers give the best results with soya-bean oils.

The most important feature in getting a good job of painting done is to see to it that all surfaces to be painted are first properly prepared.

All scale and blister should be removed with a steel scraper or steel brush. All surfaces where the old paint is decomposed so that it rubs upon the hand should be gone over thoroughly with a steel brush or a good stiff scrubbing-brush. If a good grade of paint is now used and well brushed in on the first coat, you will have a job of painting that will last and look well when the cheap jobs are being done again.

Haymaking Hints.

There is an old saying [illegible] hay while the sun shines," with which Prof. Wade Toole of the O. A. College agrees—and fortunate is the farmer who gets sunshine for the job. However, with hay to harvest, one cannot always wait for the weather. One of the essentials in the production of good hay is that it will be cut at the proper time. It must have sufficient maturity to ensure curing quality, but over maturity means coarse, fibrous, low quality feed. Sweet clover should be cut in the late bud stage. Alfalfa is ready just as it begins to blossom and the new shoots are starting at the base of the plants. Red clover is handled to best advantage when approximately one-third of the blossoms have turned brown, and timothy just after the second blossom falls.

In curing sweet clover two methods are followed. Perhaps cutting with the binder and stooking up like grain until the crop is dry saves leaves better and gives as good results as can be obtained. Or the crop may be cut down and allowed to lay in the swath for about two days' sun and then raked into small windrows. If the weather is dry about three days in the windrow with an occasional tedding makes it ready to harvest. If the weather is catchy it is advisable to coil the crop as soon as it is raked up.

Alfalfa is more easily cured than sweet clover. If the weather is fine it may be cut in the morning and raked the afternoon of the following day. It must not be allowed to remain exposed to the dew too many nights or bleaching results. After raking, if the sun shines, one more day in the windrow generally makes good hay. If rain threatens coil it up immediately and let it make in the coil. In any event be sure it is dry when harvested and be careful of the leaves in handling as they constitute the most valuable portion of the feed.

Red clover is the common clover hay crop. Much of it is allowed to get over-ripe because it then cures more easily. It may be handled in the same manner as alfalfa but, unless the crop is heavy, does not usually take quite as long to cure. The hayloader has changed methods to some extent. It is good practice to cut one day, tedd the following morning and rake the next afternoon. If the crop is very heavy it may have to lay over an extra day. It is surprising how much faster hay will make, after it has gone so far, when pulled or rolled into windrows. If it is to be coiled the work should be done soon after raking, and the hay should remain in the coils for a few days to sweat out. However, most of it is drawn out of the windrows and if dry makes good feed.

Timothy is the easiest to cure. If crop and weather are right it may be cut one morning and hauled the next afternoon and, in fair weather, is always ready by the third day. It is not necessary to coil timothy to cure.

No matter what the hay crop, cut in time, rake as soon as possible to hasten drying, tedd only when green or damp and coil in catchy weather. No doubt alfalfa and red clover may be made into the best hay by coiling but in good weather this extra work in not necessary and the loader hastens the harvest.

I Sell to a Hatchery.

I keep the purebred White Wyandotte chickens of from 300 to 305-egg strain. Instead of selling eggs to the stores at market price, I contract all of them from February 1st until August 15th or September 1st to a hatchery for 10 cents a dozen above the market price here. I have built up a reputation for good chickens, and sell lots of eggs by advertising in our town paper.—Mrs. L. H.

To criticize is one of the easiest things to do. To praise where praise is due is often left undone.

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The Sunday School Lesson

JULY 22

John the Apostle, Mark 1: 16-20; 3: 17; Luke 9: 49-56; John 13: 21-25; 19: 26, 27; 21: 20-23; Acts 4: 13-20; Rev. 1: 9. Golden Text — God is love; and he that dwelleth in love dwelleth in God, and God in him.—1 John 4: 16.

LESSON SETTING—This week we study the life of John the Apostle. Like Peter, he was called from the nets to become a fisher of men. We recognize a distinct difference between the characters of Peter and John. Peter is the leader of the disciples; John is the lover.

I. JOHN'S GREAT MISTAKE, LUKE 9:49-56.

Vs. 49-51. *Casting out devils in thy name.* Note that this person was doing a good work and also doing it in the name of Christ. This incident shows that the good work of the kingdom was not confined to the disciple band. Others without that small circle had been inspired to service and endowed with power. *Forbad . . because he followeth not with us.* John's objection is not that this person is not a follower of Jesus, but that he is not a follower of the disciple band, and therefore lacks true sanction and authority, and guidance. *Forbid him not . . not against us . . for us.* Although he was not a partner in the disciple band, he was a partner in the work which that band was doing, and not a rival. *He should be received up;* referring to his ascension after his death. *Steadfastly . . to Jerusalem;* braces himself to go to Jerusalem, knowing the dread experience that awaited him there.

Vs. 52-56. *Sent messengers;* to make necessary preparations for himself and the company that should go with him. *A village of the Samaritans.* He intended to go by way of Samaria and his messengers came to the village of Ginnea on the Samaritan border. *Did not receive him.* The religious hatred of the Samaritans would naturally be shown most to those going up to any of the great feasts. This was the time of the feast of Tabernacles. *Wilt thou that we command fire.* Here we see the fiery nature of John. He wishes to destroy the Samaritans by lightning. This bears out the name given by Jesus to James and John—Boanerges, —Sons of Thunder, Mark 3:17. *Even as Elias;* when at Elijah's request, fire consumed king Ahaziah's messengers, 2 Kings 1:5-14. *Know not what manner of spirit ye are of.* This spirit of retaliation was never the spirit of Jesus. He came to save and not destroy. John's proposed method was the method of anger, not love. *Went to another village;* turned eastward to go through Jewish territory.

II. JOHN'S GREAT TRUST, JOHN 19:25-27

Vs. 25-27. *There stood by the cross of Jesus.* The time of actual crucifixion has come. Matthew tells us that there were many women standing afar off viewing the sad scene. They had followed Jesus from Galilee in devoted friendship. Then there was the smaller group standing nearer the cross, within hearing of the words of Christ. *Jesus his mother.* The time had come when Simeon's words were to be fulfilled, when he said that a sword would pierce the soul of Mary. *Mary Magdalene;* of whom it was said that seven devils went out of her. Now she is possessed of a great love for Christ that will not suffer her to forsake him in his last agony. *Jesus . . saw his mother, and the disciple . . whom he loved.* John, alone of the disciples is near. John seems to have some acquaintance with Caiaphas which gave him the privilege of being with Jesus through Christ's trial and crucifixion. *Behold thy son . Behold thy mother.* Even in the midst of his pain, the thoughts of Jesus are not of, or for himself. He thinks of his mother and, what is more fitting, that he should commend the mother whom he loved to the disciple whom he loved. *From that hour that disciple took her.* John accepts unhesitatingly the trust committed to him.

III. JOHN'S GREAT MESSAGE, I JOHN 4: 7, 8.

Beloved, let us love one another. Many years have passed since John said, "Wilt thou that we command fire . . and consume them." We see how his character has mellowed. Love is the whole duty of life. *Love is of God.* Love must reign in the human heart because love reigns in the heart of God. We can only interpret God to men through the spirit of love. *He that loveth not knoweth not God.* It is only the loving heart that can understand God. *God is love.* This is the briefest and fullest definition that we can have of God. For John, Christ was the living definition of God.

APPLICATION.

John's Intolerance, Luke 9: 49-55. In a valuable study of New Testament characters, Rev. George Matheson insists that John has been much misunderstood. Instead of a man of placid and unobtrusive disposition, he says that John was a born leader. It does seem as if, when he first came to Jesus, he was decidedly aggressive. He made a bid for one of the two uppermost seats in the Messianic Kingdom. Mark 10:35-37. He comes forward when the people of a Samaritan village shut its gates and counsels a return to the policy of fire and sword, Luke 9:54. He sharply rebukes one who, while evidently doing good, was not a professed follower of Jesus, Luke 9:49. The impression produced by reading these things is that John was assertive and intolerant. He was loyal to Christ, but with a hot and misguided zeal. He had at this time the same spirit which led men to crucify Jesus. It was the same spirit which, from time to time, has made conformity to certain narrow views, a test of Christian discipleship. There have been many who would have made communion with them a test of communion with Christ. Jesus said, "I am the door." Many Christians have tried to arrogate to themselves Christ's prerogative, and have thought their particular church was the door into the Kingdom.

John, the Transformed. John became a different man after he had fellowship with Jesus. John 19:25-27 shows us a man who is a contrast to the picture we get earlier in the lesson. If the former picture shows us a man, self-assertive and intolerant, these verses portray a disciple who was self forgetful. It is deeply significant that when John came to write his Gospel he does not mention himself. It is not that he conceals his name, rather he never seems to think of himself. There has been an amazing change in the man who earlier on wanted an uppermost seat in Christ's Kingdom. The lesson for us is that Christ loved men, not for what they were but for what they could become. It was said recently of a great choirmaster that he could detect at once the qualities of a good voice, even if the owner was singing wildly out of tune and in the wrong key. Christ loved John even when that disciple showed egotism and intolerance, for withal John had great possibilities which were revealed in later life.

When John loved, he loved with all his heart. He remained with Jesus until the last. To John's care Jesus committed his mother. John had entered into the deepest experiences of Christ's life and that probably is the reason why Jesus committed his mother to him rather than to his brothers. John gladly accepted this legacy. From that hour John took her unto his own home.

John, the Apostle of Love. John's Epistles reveal such a man as is set forth in the Gospels. With the passing of the years John grew in Christian love. Love, he points out, is not simply an attribute of God, it is his being. We must prove our sonship by showing that we have that love in our hearts. If we know not love we know not God, for God is love. John had not the impulsiveness of Peter, but with advancing years the love of God burned brighter in his heart than ever. When a fire is first kindled there is much noise; the crackling of sticks and leaping of flames. After a while these is less noise but there is a warmer and steadier glow. Immature enthusiasm passed away from John, but not the calm, intense, purpose of his surrendered life. When at last the curtain is about to fall on the life of John, we see a man whom arguments have ceased to interest and whom theories no longer excite, but one whose love to Christ is greater and deeper than ever it had been before.

POULTRY

Egg eating is a habit that seems to come from idleness and the fact that the eggs are laid in open nests. Sometimes it can be stopped by filling an egg with mustard and red pepper and placing it in view of the hens. The best remedy is to have nests which are slightly darkened. The hens enter on a track at the rear and the eggs are removed by lowering the door in front. Then the eggs can be gathered often.

Keep the hens busy in scratching litter and turn them out on range if possible. When they are busy outdoors they have less time to form bad habits in the poultry house. Provide the hens with plenty of oyster shells so the eggs will have firm shells and not break easily in the nests.

Care of Milking Utensils.

Milking utensils during the hot weather should be kept clean. Cleanliness is not only essential to the production of high-grade dairy products, but also to the health of the family, especially if milk is used on the table and butter made on the farm.

At Forest Grove Farm we separate our milk. The separator is thoroughly cleaned daily. As soon as separating is finished we cleanse the bowl by running eight quarts of hot water (not quite to the boiling point) through the separator. Boiling water will set the casein and make it more difficult to wash. The bowl is then taken apart and each part washed separately in warm water then scalded. We do not use any special preparations in washing our dairy utensils.

In hot weather the sun is one of the most effective germ destroyers we have. All dairy utensils used I hang or set in the sun for four or five hours. I know that it requires more time and labor to keep dairy utensils clean in hot weather, but it is time profitably spent.—Leo C. Reynolds.