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

R. H.—Can I use lime as a filler for fertilizer containing nitrogen, phosphoric and potash?

Answer—Lime is quite unsuitable for the purpose suggested, for the reason that lime would cause a destruction of the nitrogenous portion of the fertilizer material.

A. McI.—Will you kindly advise what to do for hens which have large lumps growing between toes inside of which is composed of substance like hard black bone and one on the body about size of a walnut floating about under the skin. Have not noticed any mites but hens are constantly looking for dust baths. Would the eggs be O.K. for eating?

Answer—The symptoms described would indicate trouble of a tumorous nature. Unless the infected fowls are exceedingly valuable, it would be well to destroy them. Definite information regarding the character of the trouble could be secured by sending a specimen of an infected foot as well as the floating lump beneath the skin to the Poultry Division of the Experimental Farm at Ottawa. The specimens should be put up in a strong solution of salt and sent by express, prepaid. The eggs from such fowls should be quite wholesome.

G. H.—Please print a spray formula for blight on tomatoes.

Answer—Bordeaux mixture is regarded as an effective spray to prevent blight on tomato plants. It should be applied when the plants are quite young, again soon after the plants are set out in the field, and at such intervals following as the leaves are noticed to curl. The following is the method of preparation:

Copper sulphate (bluestone) ...	4 lbs.
Unslaked lime	4 lbs.
Water (1 barrel)	40 gals.

When spraying peach and plum foliage which may be injured by the ordinary formula, it is safer to use Bordeaux mixture in the proportion of 3 lbs. copper sulphate, 4 lbs. lime to 40 gallons water.

Dissolve the copper sulphate (by suspending it in a wooden or earthen vessel containing 4 or 5 or more gallons of water). Slake the lime in another vessel. If the lime, when slaked, is lumpy or granular, it should be strained through coarse sacking or a fine sieve. Pour the copper sulphate solution into a barrel, or it may be dissolved in this in the first place; half fill the barrel with water; dilute the slaked lime to half a barrel of water, and pour into the diluted copper sulphate solution, then stir thoroughly. It is then ready for use. Never mix concentrated milk of lime and copper solution.

A stock solution of copper sulphate and milk of lime may be prepared and kept in separate covered barrels throughout the spraying season. The quantities of copper sulphate, lime and water should be carefully noted. Bordeaux mixture deteriorates with age and should be used as soon as made. To test Bordeaux mixture, let a drop of ferro-cyanide of potassium solution fall into the mixture when ready. If the mixture turns reddish-brown, add more milk of lime until no change takes place.

Spreading Cheer With a Paintbrush

By Norman Collart and Berton Elliott

Farm homes offer many more opportunities to employ light colors than do city homes. The farm home is not subjected to the action of soot, dirt, smoke and grime, which cause the city home to lose its cleanly appearance, so that color schemes may be employed in painting the country home which are impractical in the city.

Though the farm home is less limited in range of effective color schemes than the home situated in a dusty, smoky neighborhood, there are a few basic principles in the choosing of colors which it will be well to remember.

It is fairly safe to say that no color is interesting of itself. Rather a startling statement? No! Any color project requires a favorable setting. An incorrect trim color on your house or a body color that does not harmonize with the surrounding background will cause you to dislike your favorite color. Without shadows nothing could be bright; without proper contrast there can be no interest. For example, if you expect a surface to be beautiful or interesting simply because the paint is snow-white, a season's grime will make it very ugly. But if your white seems pure and charming because it is contrasted with a rich trim color, time will soften the contrast but not destroy the interest.

If the house is to be painted in white or ivory, introduce a trim color. This need not mean painting cornice and corner boards in the trim color. Shutters, sash or flower boxes might be just right for your trim effect.

On the other hand, don't feel that you have to paint in some heavy, gloomy shade just to be practical. If your home is subjected to a great deal of road dust, paint the body color a cream gray or a dust color and trim with a rich antique brown or a moss green. The sash can be done in ivory or black as preferred. The scheme can be reversed, and the dark brown used for the body color if the setting is just right; but don't get the impression that the dark colors do not show dust. In reality dark colors show dust about as much as light colors.

The general effect of a color upon a surface is interesting. Red causes a surface to seem closer at hand, and, you will notice, is often used in large theatres to make the stage appear nearer the eye. Blue is usually a retreating color. Green is static. Yellow is expanding. Dark, cold colors are contracting, making objects seem smaller. This explains why houses painted in light, warm colors, such as colonial yellow and buff, are bright, attractive and conspicuous, especially against a bank of foliage. Small houses appear larger, and big houses still larger in light yellow. This expanding effect may be counteracted somewhat by using a dark trim color for corner boards and trim. A white trim is generally expanding.

PEPPING UP THE INTERIOR.

A tall house seems lower in an upper and lower body effect with light trim. A squatty house will seem taller in grays or greens with dark trim. With this type of house also avoid emphasizing any horizontal lines, painting them in the body color wherever possible. A home situated in an open exposed plot is best in neutral colors.

Now to the interior of the house. Walls are not for shelter alone. They are backgrounds. They can be suitable and pleasing backgrounds, or they can be irritating and unhomelike, according to their colors.

Color is so active a thing that it is necessary to study for a moment the influence of different colors upon human nature. When a man comes home from a hard day's work he wants relaxation. But, in addition, he needs the invigorating effect of a cheerful home atmosphere. It is astonishing how much the right color scheme in the living room will "pep" up a fellow after a trying day.

Don't think for a moment that the housewife isn't in need of just the same treatment, but with this added factor: much of her time is spent in the kitchen, laundry and sewing room. There should be well-planned color schemes for these workshops of the home as well as for those spots where quiet relaxation and recreation are sought.

What are good workroom colors? Generally speaking, they are neutral colors primarily, enlivened by a touch of sunshine in the form of cream wall paint or rich ivory curtains.

For the modern kitchen, for instance, there are two combinations which are eminently suitable: One is gray and ivory, using suitable tones of each; the other green and ivory in suitable tones. In all events, keep the woodwork and wall colors simple. A figured wall pattern in working rooms tends to make one nervous and fatigued. Also, enameled woodwork is more soothing in these rooms than where the grain of the wood is seen.

KITCHEN COLOR COMBINATIONS.

In the first color scheme mentioned—a combination of gray and cream—let the woodwork be in a soft French gray. Put the upper wall and ceiling in cream. Most kitchen walls are divided about four feet up from the floor by a chair rail. For the lower wall use a cream-gray enamel. A most charming effect may be secured by putting the wood-work in two-tone gray—the door and window frames, for instance, in French gray, with the panels, window sash, and the like, in cream gray, or some other combination of the two tones of gray especially adapted to the woodwork design in your home. The walls should be a soft cream or ivory, or possibly on the order of a buff yellow, so they will not soil too easily. A stencil design about an inch and a half wide, in blue or gray, may be placed just above the chair rail, completing the wall and ceiling treatment. The walls may be done with either enamel or flat wall paint in the desired cream color, enamel probably being more suitable for the kitchen, where walls and ceiling are subjected to grease and steam from cooking. Window curtains for this room may be ecru or white with a dainty blue figure. If linoleum is used, a blue and old-ivory block pattern would be ideal. If the floor is to be painted, one can use a dull terra-cotta color.

The second color scheme previously mentioned—in soft sea green and ivory—will have very much the same handling as the gray scheme. It will be appreciated that in the kitchen one wants to avoid colors that have too exhilarating or irritating an effect. For this reason too pure white has been avoided as being too glary.

The living room and dining room should be restful but of a richness of tone that seems to invite pleasant conversation. Haven't you ever observed how hard it is to be pleasant after you have been visiting friends and have sat in a gloomy room, or in a room where the colors of walls, rugs and furnishings were in discord? You do not have to have these surroundings in your own home. The sun room, which has now become so popular in modern houses, is a gay room. Plenty of sunshine and daring use of bright color are wanted. Like one's hobby, the sun room should be different—something to be enthusiastic about.

Now all this can be put into your home. The magic of the paint pot was never more effective than in the decorating of the home. Color will do almost anything for you. Light, warm colors, such as cream, will make a small, poorly lighted room seem larger and more sunshiny. Rich browns and greens will make a large, bare, over-bright room much more agreeable. With paint one can have any color and any wall finish he may desire—and all washable, sweet and sanitary.

Now that texture can be had in painted wall finishes through practical stippling and mottling processes, there is an increasing vogue for them. Unfortunately, in the past, painted walls meant something bare, shiny and without any suggestion of hominess. You couldn't blame folks for choosing beautiful patterns of wall paper, even with the easy cleaning, sanitary and enduring properties of painted walls.

There are two principal methods of stippling and mottling walls: One is by glazing and stippling with a cloth to produce mottled effects, the other by printing the texture on with a sponge. In both types the pattern is applied over foundation brush coats of flat wall paint in plain colors.

STIPPLED WALLS IN VARIETY.

The only equipment necessary in sponge tippling is a flat wall brush and a sponge. First, give the walls two or three brushed-on coats of flat wall paint of the desired color. Two coats will be sufficient for many colors if the walls are in good painting condition. If the walls are not in good condition three coats will be necessary to cover well.

After the plain color coats have been applied you are ready for the stippling. The sponge is now brought into use. In the selection of the sponge, one should be picked out that has an interesting, lacy open-work pattern.

As a rule ceilings should not be stippled, and generally a very light shade of paint in plain color should be used—something just a little off the white, such as ivory or cream.

If desired, two stippling colors may be used, the second one being put on after the first color has been applied over the entire wall.

Following are a few harmonius color schemes:

Foundation color, ivory tan; stipple color, cream. Foundation color, sky blue; stipple color, sky blue and white, equal parts. Foundation color, silver gray and cream, equal parts; stipple color, silver gray. Foundation color, pink and cream, equal parts; stipple color, pink, cream and ivory, equal parts. Foundation color, silver gray; first stipple color, sage green; second stipple color, silver gray and ivory, equal parts. Foundation color, silver gray and cream; first stipple color, shell pink, cream and buff stone, equal parts; second stipple color, sky blue and silver gray, equal parts.

A stencil border will add much to the room. It gives a finishing touch that is most pleasing. Suitable stencils for any room are carried by most first-class paint sores. Regular stencil colors in small tubes are also carried. A regular stencil brush should be used for the purpose, the color being applied by holding the brush at right angles to the stencil and pouncing the brush with a vigorous rotary scrubbing motion.

The application of a stencil border is really very simple.

Guides are provided, so that the stencil can readily be moved along length after length, joining perfectly, and two-color stencils are provided with guides, so that there is no difficulty in getting a perfect register of color.

This principle is sound: To appreciate a thing we must sacrifice to secure it. The man who has gone through years of ups and downs to get a fine herd of cows is usually the last one to sell out his herd.

POULTRY

Sudden deaths in the poultry yard are hard to deal with, since there is absolutely no chance of treatment. If, however, some inkling can be had as to the cause of the death, there is the possibility of preventing further losses in the flock. One of the causes of sudden death in the summer time is heat prostration. This does not always result in sudden death, since some birds will show symptoms of the trouble in time to allow for treatment. In extremely hot weather birds that crouch down on the floor or ground with wings outspread panting are undoubtedly affected by the heat. In extreme cases they drop insensible or paralyzed. Any birds that give the indications of being affected by the heat should be removed immediately to some cool, quiet spot and their heads and legs treated with cold water. Needless to say, the more shade provided in the runs—especially natural shade—the less likelihood of losses from heat prostration.

A very common cause of trouble in warm weather, although it may happen at any season, is poisoning. Ptomaine poisoning is the most common type and is caused by the birds eating decayed flesh or impure or moldy feed. In one case last summer several hundred growing pullets were lost because they were fed moldy wheat. Usually the birds die suddenly and in large numbers.

Before they die they show lack of control of their muscles, due to a partial paralysis, as manifested in an unsteady gait, finally resulting in loss of use of the legs entirely and in limber neck.

Usually the reaction to the poison is so quick that treatment is impossible. The cause of the trouble must be located immediately; examine the range or run carefully, looking for carcasses of dead birds or animals. I have known cases of ptomaine poisoning to be caused by a dead rat or rabbit under a near-by house. Such cases occur most frequently on range where the young stock is being reared. A careful examination of the range at least once a week in warm weather will eliminate the possibility of poisoning loss of valuable birds from such a source as this.

Controlling Insect Pests of Roses.

There is scarcely a garden that is not beautified by roses in greater or less abundance and the insect pests are ever present to weaken the plants and to destroy the foliage and flowers. Fortunately, however, a little care and the proper use of simple insecticides will eliminate most of these troubles.

The common pests are the leaf-eating insects, such as the slug and the sucking insects, including aphids or plant lice, leaf hoppers, and scale. White grubs occasionally attack plantings in new beds which were in sod the previous year.

The rose slug is readily controlled by arsenate of lead at the rate of one half ounce of powder, or about eight level teaspoonfuls (twice as much if paste form is used) to a gallon of water, and if aphids are present add a teaspoonful of forty per cent. nicotine sulphate. If slugs only are present, the arsenate of lead may be applied as a powder, either pure or mixed with equal parts of air-slaked lime or dry flour as a carrier. If aphids and young leaf-hoppers only are present, spray with a forty per cent. nicotine sulphate, one tesspoonful to a gallon of water in which is dissolved an ounce of soap. Applications should be thorough, a forcible misty spray applied and care should be taken to reach the undersides of the leaves.

Scale insects, when present, occur on the canes and give them a scurfy appearance. During the winter months the heavily infested branches should be cut out and burned and the remaining canes thoroughly sprayed just before the buds open in spring with lime-sulphur one gallon of liquid concentrate to eight of water.

Buy land that slopes toward the centre, and marry a girl whose mother is good.—Japanese Proverb.

Logically, the time to build up a beef herd is when conditions are in a bad way. Then, as these conditions improve, the producer's output increases and he is ready to sell when prices are relatively high.

PRINCE AT A LIVESTOCK SHOW

The Prince of Wales has a keen interest in the welfare of British livestock and frequently visits fairs where prize animals are exhibited. The picture shows him inspecting some prize sheep. Note how well the sheep are trimmed.

THE SUNDAY SCHOOL LESSON

JULY 29.

Matthew the Publican, Matthew 9: 9-13; Luke 5: 27-32.
Golden Text—I came not to call the righteous, but sinners.—Luke 5: 32.

LESSON SETTING—This week we study the life and character of Matthew. In the Gospels of Mark and Luke he is called Levi. This is accounted for by the fact that the Galileans had often a strictly Jewish name (Levi) and a Galilean name (Matthew).

I. MATTHEW, THE DESPISED PUBLICAN, MATT. 9:9A.

V. 9a. *As Jesus passed . . . from hence.* Jesus had been in Capernaum, where he had healed the paralytic borne of four friends. In the course of this miracle he had rebuked the scribes and Pharisees in fearless fashion. From this time onward the scribes lost no opportunity of accusing Jesus wherever they thought they saw an opportunity. *Saw a man, named Matthew.* Seeing men was with Jesus more than a physical and mental action. It was a spiritual estimate, an unerring moral judgment. *Sitting in the place of toll* (Rev. Ver.). The Roman government did not collect taxes directly. Wealthy capitalists undertook to raise the revenue from the different provinces and districts. Whatever they raised over and above the sum of money that they undertook to pay to the Roman government for this privilege, was their own. It is easy to understand how this system put a premium on dishonesty and extortion. The men employed by these capitalists to do the actual gathering of taxes were called Publicans. All over the empire there was a bitter cry against greed and unscrupulousness of these agents. North of the Sea of Galilee there was a great road leading from Damascus to the Mediterranean coast. At the point where the road passed from the territory of Philip the tetrarch to that of Herod Antipas, there was a customs house where goods were examined and duty collected. Matthew was probably at work here.

II. MATTHEW, THE CHOSEN DISCIPLE, MATT. 9:9B.

V. 9b. *He saith unto him, Follow me.* It was strange that Jesus should call humble fishermen to be his disciples,—James, John, Andrew and Simon Peter. It was stranger still that he should call one who, as a taxgatherer, belonged to a class that the people thought of as belonging to the same order as "heathen, assassins, robbers." He never dealt with men by their classification, but by their individual character. It was always the individual that he "saw" as he passed by. It was always the individual that he called. *He arose, and followed.* Luke says, "He forsook all, and rose up and followed him." His reason was like that of the Galilean fishermen,—without question, without reserve, without delay. It is not difficult to assume that there had been some previous preparation in the heart of Matthew. Matthew may have heard of Jesus. The message of Jesus was always for the outcast and the despised. As Matthew listened, he would hear the new note of sympathy in strange contrast to the note of scorn in the words of the scribe and Pharisee.

III. MATTHEW, THE BRAVE MISSIONARY, 10-13.

V. *Jesus sat at meat.* Luke puts it, "Levi made him a great feast." The home of Matthew is opened to Jesus as well as his heart. *Many publicans and sinners came.* Note how "publicans" and "sinners" are used as if they described persons of the same moral standing. *Sat down with him and his disciples.* All the old companions of Matthew are there. So also are the new friends of Matthew there. See the rare courage of Matthew. He holds this feast to introduce his new Master to his old companions. Matthew's sense of loyalty to his friends compelled him to bring to them the best he had to bring. His sense of loyalty to his new Master compelled him to show plainly what his friendships and life had been in the past. He makes a clean break and a clear break with his past. *When the Pharisees saw.* Jesus is under constant observation by his enemies and they lose no opportunity of accusing him when he makes what they think is a false step. *They said unto his disciples;* seeking to taunt them and undermine their loyalty to Jesus. *They that be whole.* A physician cannot choose his company. He must go where the sick are. Jesus is a physician of souls. He must go where needy souls are. *Learn what that meaneth . . mercy, and not sacrifice.* Jesus not only defends himself, but attacks. What the Pharisees were giving to God was only the mere outward forms of religion, mere religiosity. What God demands is the spirit of mercy that should prompt all religious service.

APPLICATION.

1. *A Man with a Dangerous Calling.* When he became a publican, Matthew threw in his lot with men who were far removed from the higher influences of life. He took up a calling which had few, if any, refining possibilities and which made worthy living difficult. Vocations do affect character. Every vocation has its own atmosphere, and it exercises a definite influence upon those who breathe it. There are callings which exalt men and increase their self-respect. There are vocations which degrade men, and can only be followed at grave spiritual peril. Matthew had chosen a calling which tended to dwarf the higher attributes of the soul and to develop a narrowing lust for money.

2. *A Neglected Man.* Because he was a publican, Matthew would be left alone as far as religion was concerned. What possible interest could a publican have in religion? Like Matthew, Zacchaeus had definitely cut himself off from the patriotic and religious Jews who hated Roman domination. The publicans were given a wide berth by their fellow-countrymen.

3. *A Man Waiting to be Called.* When Jesus called Matthew, how quickly he responded. He had been waiting for that very call. It may have been that he had often heard Jesus, as he stood shamefacedly on the outskirts of a crowd, and the Master's words had gone right to his heart. He is more than ready to obey when Jesus calls.

4. *Matthew's Gratitude and Joy.* Perhaps gratitude is hardly the word to express Matthew's feelings. There must have been at least an element of glad surprise that Christ should choose *him*—the man who had forfeited the right to be called a son of Israel. It was a new sensation. He gained his self-respect and passed over from the receipt of custom. Soon after, he showed his gratitude and new-found joy in a very practical manner. He prepared a feast to which were invited many of his old friends to meet Jesus. It must have been a sort of public acknowledgment of his discipleship. Then it sprang out of a double sense of loyalty. He was loyal to the men whose calling he had shared. He wanted to put them in touch with Jesus.

Feeding Beef Cattle.

The results of a number of experiments in the winter feeding of beef cattle, undertaken in the winter of 1921-22 at the Dominion Experimental Station at Lennoxville, Que., are recorded in the Report of the Superintendent for 1921-22. In the fall of 1921, ninety-two head of beef steers, mostly two-year-old Shorthorn grades, and including some fairly good stockers, were purchased for the purpose.

In a test of light versus heavy stockers for winter fattening, two lots of ten steers were used, one averaging 719 lbs. per steer and the other 886 lbs. per steer. A table presented in the report shows that although the lighter steers cost a cent per pound less when purchased, the extra gains made by the heavier steers, coupled with the extra price realized on account of their superior finish when marketed, enabled them to make a gain of $1.56 per steer over the lighter lot.

In a test to determine the length of time during which grain should be fed in order to produce the most economical gains in winter fattening, eighteen grade Shorthorn steers were selected in the fall and divided evenly, as nearly as possible, into three lots. They all received forty pounds of ensilage and as much hay as they could eat up clean. After grain feeding was begun, the ensilage ration was gradually reduced. Lots one and two are fed meal from November 15 and January 15 onward, respectively, while the third lot received only ensilage and hay until March 1. The meal mixture was made up of ground elevator screenings two parts and oats and bran one part each. During the last few weeks of feeding, cornmeal was used in place of oats. The steers were stabled the first week in November and marketed about the first of May. The same experiment has been carried on for several years and the results so far indicate that the steers in lots one and two made a greater average gain than those in lot three. The latter, however, the Superintendent points out, made their gains largly on cheap home-grown feeds, and therefore, show a greater profit over cost of feed than the other two lots.

An experiment with loose versus tied steers, which has been carried on for four years, shows that, independent of the saving in labor and equipment, dehorned steers, wintered and fattened in large pens, make cheaper and greater gains each year than tied steers.

Poison Bait for Cutworms.

Entomologists recommend an inexpensive poison bait for cutworms, either broadcasted in the field or, in the case of small fruits, sprinkled about the base of each plant. The following formula will provide enough material for five acres: Bran, twenty pounds; Paris green, one pound; cheap syrup, two quarts, three lemons, and three and one-half gallons of water. The bran and Paris green are mixed dry. The juice of the lemons is squeezed into the water and the peel and pulp chopped to fine bits and added to the water. The syrup is then dissolved in the water and fruit mixture and the liquid stirred into the bran thoroughly in order to dampen it evenly. If a smaller quantity is wanted, the amounts of the different ingredients may be reduced proportionately. It is recommended that the poison bait be applied in the evening, because the cutworms are night feeders and the bait will thus be in a fresher condition than if applied earlier in the day.

A farmer is known by the stock he keeps.

The unscreened home swarms with danger of disease.

"The Squarest Kind of a Square Deal—All for One and One for All."

Stint in the feed bucket this time of year means stint in the egg basket or milk bucket. Grass won't do everything.