

Farm Department.

Conducted by J. M. BEATY.

FUNGICIDES AND SPRAYING.

The Bordeaux Mixture.

The efficiency of fungicides depends upon the fact that many plant diseases are caused by fungi. These fungi gain entrance to the plant at the surface by the means of reproductive bodies called spores. The fungicide is a mixture which is spread upon the surface of the plant and by its poisonous properties prevents the spores from successfully germinating and gaining entrance into the plant. These mixtures have been in use only during the last quarter of the last century. Notwithstanding their recent discovery and introduction they have made rapid headway in gaining a permanent place as a necessary means of crop protection. Their efficiency is recognized by all who grow for profit fruits, or other susceptible plants, and by all lovers of perfect fruit and healthy plants. Spraying for fungus diseases is recognized as a necessary measure by the successful horticulturist.

The Bordeaux mixture, which takes its name from its place of discovery, Bordeaux in France, is the most effective fungicide. It consists of copper sulphate (blue vitriol or blue stone) and quick lime mixed with water in various proportions. The Bordeaux mixture first used contained 18 pounds of copper sulphate, 34 pounds of lime, and 28 gallons of water. This constituted a pasty mass. Profiting from experience this was quickly superseded by weaker solutions. The first of these contained six pounds of copper sulphate, four pounds of lime and twenty-two gallons of water, which may be called in brief a 6-4-22 mixture. This was superseded by 6-4-45, while to-day we find recommended 6-4-60, 5-5-50, and 4-4-50 for common use, weaker strengths to be used in special cases. There is no certainty as to which of these strengths is best. No danger can come from the use of as strong solution as 5-5-50, yet it is possible that all the good can be accomplished by the 4-4-50. If so, there would be a loss of material through the use of the stronger solution. This matter is open to experimentation.

The two strengths of Bordeaux are as follows:

- Copper sulphate or blue stone 4 lbs.
- Quick lime 4 lbs.
- Water 50 gallons.

This strength may be used on all plants of which the foliage is not susceptible to injury.

These plants with delicate foliage: such as the peach, plum, cherry, and apricot, demand weaker solutions, consisting of

- Copper sulphate ... 2 lbs.
 - Lime 2 lbs.
 - Water 50 gallons.
- Or—
- Copper sulphate... 2½ lbs.
 - Lime 6 lbs.
 - Water 50 gallons.

In the preparation of the Bordeaux mixture it is well to have on hand stock solutions of copper sulphate and lime. The stock solution of the copper sulphate should be made by dissolving a certain number of pounds of copper sulphate in one-half the number of gallons of water, e. g., 80 pounds of copper sulphate in 40 gallons of water. Every gallon of this stock solution will contain two pounds of copper sulphate, and the necessity of weighing is avoided. The stock solution will remain good for any length of time if protected from evaporation, or if any water evaporated is replaced. In order to dissolve copper sulphate it is best to tie it in a coarse bag and suspend it near the top of the liquid. In this way it will dissolve in a few hours. If it is placed in the bottom of the barrel it will dissolve but slowly, even with constant stirring. It is well to dissolve the copper sulphate the night before you are ready to make the mixture, and it will then be ready in the morning.

In a similar way a stock solution of lime should be made. Quick lime of good quality, which is not at all slacked, should be weighed out and placed in a trough and slacked slowly, using a very small quantity of water. By slacking slowly in this way a finer quality of lime is secured. After the lime is thoroughly slacked it should be mixed with enough water to make a putty-like mass. This

may be covered with more water to keep out the air, and may be used when needed. Since this mass was originally weighed you can estimate nearly enough the quantity for any given amount of Bordeaux mixture.

In preparing the Bordeaux mixture from stock, measure out the proper amount of stock solution of copper sulphate and dilute it with half the amount of water needed. In a similar way measure out the proper amount of lime needed from the stock and dilute it with the other half of the water, in a separate vessel. The lime should be passed through a fine wire strainer of about thirty meshes to the inch, in order to remove the particles of stone, or it will otherwise cause great difficulty in the pump nozzle when spraying. We now have the two ingredients each mixed with one-half the amount of water called for in the formula. All that remains is to mix these two solutions. They should be poured together slowly, and with stirring. It is a matter of considerable importance that the stock solutions be diluted before they are mixed with each other. The quality of Bordeaux mixture resulting from this method is superior in several respects to that which would be made if strong solutions were mixed together and afterwards diluted. The Bordeaux should be made fresh each time before using, and any that is left over should be thrown away.—F. L. Stevens, A. & M. College, West Raleigh, in The Progressive Farmer.

Hints for the Orchard.

Some time ago I promised to say more on the orchard question. Having served as an agent for the nursery, I have picked up a few experiences from all sorts of fruit growers.

Apple trees do best at a distance of two rods each way; unless the variety planted is known to incline upward rather than downward. Such may be set 25 to 30 feet apart.

Apples bear better if the orchard occupies a north hillside. The reason for this is that the winter frost comes out of the ground later, and the bloom thus comes out late enough to miss the usual frost. All fruit, injured by frost, do better on ridges or hills; because the frost is most severe in low places.

Trees of all kind will die if they stand in saturated soil. Therefore the tile ditch is a present-day necessity. Clay soil, well under-drained, is best for the orchard.

Put out a new tree wherever one dies. Trees bear best if every place in the orchard is occupied. In an old orchard the young tree should have a space spaded around it at least five feet back; for this makes it possible for the tree to be cultivated. The only reason for the failure of the little tree in the old tree's room, is that it chokes in the weeds and grass.

Fall setting is best when the winter is moderate, because the dirt falls about the roots best in a dry condition. In the spring it is not easy to find the soil free from water. Fall set trees will put out earlier and make a greater first year's growth.

One of my neighbors thinks the blight is due to the sting of an insect. If so, let some one tell how to keep off the insect.

Apples and pears keep better if picked a little green. That is, as soon as the seeds have turned brown, the fruit has attained its growth. Certain pears like Clapp's Favorite, will rot from the core outward if ripened on the tree.—W. S. Smith, in Indiana Farmer.

For eruptions, sores, pimples, kidney and liver troubles, constipation, indigestion, use Hollister's Rocky Mountain Tea. Carries now life to every part of the body. Tea or Tablets, 35c. A. H. Boyett; Selma Drug Co.

Progress is the activity of today and the assurance of tomorrow.—Emerson.

The Stomach is the Man.

A weak stomach weakens the man because it cannot transform the food he eats into nourishment. Health and strength cannot be restored to any sick man or weak woman without first restoring health and strength to the stomach. A weak stomach cannot digest enough food to feed the tissues and revive the tired and run-down limbs and organs of the body. Kodol Dyspepsia Cure digests what you eat, cleanses and strengthens the glands and membranes of the stomach, and cures indigestion, dyspepsia and all stomach troubles. Sold by Hood Bros. Beacon Drug Co. and J. R. Ledbetter.

No state can be more destitute than that of a person who, when the delights of sense forsake him, has no pleasures of the mind.—Burgh.

Nation of Small Land Owners.

The large estates and great farms and ranches all over the United States are from year to year being divided up into small farms which are cultivated by owners or tenants living upon them. The tendency to this condition here is greater than in any other country in the world. In a recent address upon small land owners at a St. Louis Exposition gathering, it was well said that if we educate the people to use the land themselves and enjoy it, they will get the land; because the man who lives on his own land will make a profit from it by his own labor, and not be the purveyor of the product of the labor of others. The very fact that there are large numbers of men ready to take the land and till it by their own labor, and get their living from it, and know how to do it, will make it practically impossible to compete with them in the production of crops raised with hired labor. That fact alone will necessarily regulate the price of land, so that we need never fear a land monopoly in this country under such conditions. The big farmer who hires his labor cannot stand the competition of the small farmer who lives on his own land and farms it with his own labor.—Indiana Farmer.

Lula Stanhope, St. Louis: "I used to have a horrid complexion. took Hollister's Rocky Mountain Tea and am called the prettiest girl in the city." Tea or Tablets, 35 cents. A. H. Boyett, Selma Drug Co.

Pig Dont's.

Don't neglect the pigs simply because you are very busy, for they will neglect you later on if you do.

Don't over feed the pigs because corn is plentiful and handy at this time of the year.

Don't think the pigs can go all day without drink, just because they are pigs and you are busy.

Don't think that a pig will be comfortable where other stock would not be when the cold wet nights come.

Don't feed those sows that are to raise the pigs next spring with the fattening hogs all winter, and then expect them to raise big strong litters for they can't and won't do it.

Don't sell the best sow on the farm to your neighbor and keep an inferior one for yourself, just because it will bring a few dollars more.

In short don't do anything or neglect anything that brings discomfort to the pigs, for if you do you can be mighty sure he will get even with you at the end of the game, for it is his nature and he can't help it.—Northwestern Agriculturist.

Chamberlain's Cough Remedy.

No one who is acquainted with its good qualities can be surprised at the great popularity of Chamberlain's Cough Remedy. It not only cures colds and grip effectually and permanently, but prevents these diseases from resulting in pneumonia. It is also a certain cure for croup. Whooping cough is not dangerous when this remedy is given. It contains no opium or other harmful substance and may be given as confidently to a baby as to an adult. It is also pleasant to take. When all these facts are taken into consideration it is not surprising that people in foreign lands, as well as at home, esteem this remedy very highly and very few are willing to take any other after having once used it. For sale by A. H. Boyett, J. W. Benson, Selma Drug Co.

How well he is read to reason against reading.—Shakespeare.

THE GOOD OLD WAY.

A severe cold or attack of la grippe is like a fire, the sooner you combat it the better your chances are to overpower it. But few mothers in this age are willing to do the necessary work required to give a good old-fashioned reliable treatment such as would be administered by their grandmothers, backed by Boschee's German Syrup, which was always liberally used in connection with the home treatment of colds and is still in greater household favor than any known remedy. But even without the application of the old fashioned aids German Syrup will cure a severe cold in quick time. It will cure colds in children or grown people. It relieves the congested organs, allays the irritation, and effectively stops the cough. Any child will take it. It is invaluable in a household of children. Trial size bottle, 25c; regular size, 75c. For sale by Hood Bros.

Proverbs were bright shafts in the Greek and Latin quivers.—Disraeli.

Better Than Pills.

The question has been asked—In what way are Chamberlain's Stomach and Liver Tablets superior to the ordinary cathartic and Liver Pills? Our answer is they are easier and more pleasant to take and their effect is so gentle and so agreeable that one hardly realizes that it is produced by a medicine. Then they not only move the bowels but improve the appetite and aid the digestion. For sale at 25 cents per bottle by A. H. Boyett, Smithfield; Selma Drug Co. J. W. Benson.

ANOTHER BIG BATTLE EXPECTED

Opposing Armies Still Facing Each Other Below Mukden.

Mukden, Oct. 24.—While no pitched battle has occurred during the last few days, the two armies are kept in touch with one another, holding the positions they occupied when the big battle ended. There is no evidence that the Russian army will rush north, as was the case after the battle at Liao Yang. In fact, the Russians have another line of defense to fall back on in the event that they are forced out of their present positions.

During the last few days there has been frequent artillery fire, occasional infantry attacks and daily clashes between outposts and scouts.

Unless the Japanese take the initiative soon, the Russians, it is expected, will resume the offensive and endeavor to drive the Japanese back, for the purpose of insuring the safety of their winter quarters, which undoubtedly will be north of Mukden unless a southward advance is successful.

Another big battle is expected shortly, as the weather is already turning cold. It will be impracticable for the two armies to winter in their present positions midway between Mukden and Liao Yang.

Russian Casualties 60,000.

Tokio, Oct. 24.—Manchurian headquarters reporting by telegraph says that the number of Russian dead found on the battlefield and interred up to October 22, makes a total of 10,550. Upon this total Russian casualties are estimated to exceed 60,000. The Japanese captured a total of 45 guns during the Shalke operations.

Fighting at Port Arthur.

Chefoo, Oct. 24.—The Japanese on the afternoon of October 15 resumed their attack on the Russian outer works at Rihlung mountain. After four hours' fighting they succeeded in capturing a number of the Russian trenches and one small hill. It is the belief at Dalny that a general assault on Port Arthur will be made soon.

HOW THE BRITISH TAKE IT

Sinking of Ships Means Ultimatum Or Apology Within 48 Hours.

London, Oct. 24.—No official view could be gleaned of the firing by Russian war vessels upon a British fishing fleet in the North Sea. The first reports of the affair received in London were regarded as almost incredible. When, however, cumulative evidence no longer left doubt of the general accuracy of the reports, astonishment became bewilderment as to what possible motive could have led Russian officers into such an extraordinary and inexplicable course of action, which, unless a satisfactory explanation is immediately forthcoming, could only be regarded as an act of war. This is the view taken editorially by all the morning papers. The worst feature of the story, as viewed here, is the heartlessness displayed by the Russian fleet in stealing away without taking the trouble to ascertain even whether their fire had inflicted any damage and without any effort to rescue the victims.

Sir Frederick Pollock, an authority on international law, said: "If the facts are as stated, it is an act of war. It must mean an ultimatum or an apology within 48 hours or so. It will probably be found, however, that some Russian commander lost his head, suspecting Japanese designs, and that he will be cashiered and an apology ordered."

JUMPED FROM HOSPITAL WINDOW

Dr. Purviance, Suffering From Nervous Disease, Plunged to Death. Philadelphia, Oct. 21.—Suffering from acute nervous disorders, Dr. George H. Purviance, of Washington, D. C., assistant surgeon general of the marine hospital service, jumped from the fourth-story window of the Orthopaedic hospital, in this city, and was instantly killed. Dr. Purviance was about 63 years of age, and came to the hospital for treatment on August 8.

A nurse who attempted to prevent the doctor from leaping to the sidewalk had a thrilling escape from death. Dr. Purviance had been closely watched. The nurse saw him open a window on the fourth floor and step out on a small balcony. She followed quickly and grasped the doctor on the shoulder as he was climbing over the balcony rail. He tried to free himself, and then caught the nurse about the waist and was slowly dragging her over the rail when she managed to break his hold on her. Before she could again seize him the invalid plunged head foremost down into an archway below the sidewalk. He was dead when picked up. Dr. Purviance was a widower. Two adult sons reside in this city.

Terrific Crash on Railroad.

Whitehouse, N. J., Oct. 22.—A coal train coming down the grade from Pickett mountain at high speed crashed into a combination passenger and milk train standing at the station here, killing one man, severely injuring two others and smashing 40 cars to pieces. The combination train had stopped to take on the milk cars and the engine left the main track to go on a siding for them. When the collision occurred the passenger cars were hurled over on the engine and the milk cars on the siding. The steel cars of the coal train were torn to pieces and piled high in the air. Both engines were completely demolished.

Died From Overdose of Drugs.

Baltimore, Md., Oct. 24.—Mrs. John B. Sewell, about 40 years old, died from taking an overdose of drugs of various kinds. It is stated that she swallowed 14 grains of morphia, 40 grains of chloral and a wine glassful of laudanum. The drugs were taken on Friday, and Mrs. Sewell remained in a stupor until she died. She had been suffering from insomnia.

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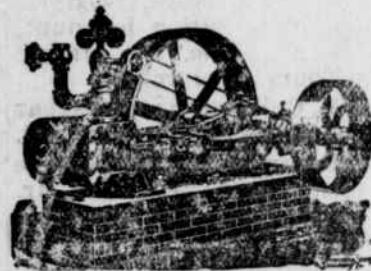
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Littleton Female College.

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The 23d Annual Session will begin on Wednesday, Sept. 14, 1904. J. M. RHODES, President, Littleton, N. C.

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Shoes! Shoes!!

I have a fine line of Ladies' Misses and Children's Shoes, all styles and sizes.

Capes, Jackets and Cloaks.

I have a full stock of Capes, Jackets and Cloaks, in all styles, color and prices. Also a full line of ready made Skirts and Waists.

Millinery Goods.

Hats of the newest shapes, styles and colors. Hats ready to wear in up-to-date styles. Call and see my line before you buy and I will save you money.

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I have a full stock of clothing. Shoes, Hats, Caps, Underwear, Cuffs, Collars, Ties and Dress Shirts, which I can sell low as the lowest.

Yours for business,

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