

CHEMICALS FOR WEEDS

HOW THEY CAN BE USED TO KILL ROOTS.

Copper Sulphate Has Been Found Useful for Destroying Mustard in Grain Crops, But Care Must Be Exercised - Spray Should Be Applied While Weeds Are Young and Easily Attacked.

While the hoe and the cultivator are likely to remain as the most efficient weapons to use in the combat with weeds, there are certain cases where the use of some chemical may be extremely desirable. A good example of the latter is the case of a grain crop infected with an annual such as Wild Mustard, where it is possible by spraying with iron sulphate or copper sulphate to injure the weed to such an extent that it is unable to ripen its seeds.

There are also numerous plots of waste ground in towns, sides of roadsides all over the country, rail road tracks, and large areas of stony or rocky ground that cannot be cultivated, where the employment of chemical means for keeping down weeds might be profitably considered.

The spray should be applied in fine, calm weather, when there is a probability that no rain will fall during the next 24 hours. The amount of spraying mixture will vary somewhat with the kind of spraying machine used, but as a general rule, at least 50 gallons are necessary to cover an acre. The spray should be applied while the weeds are young.

The chemical substances that are most employed for killing weeds are sulphuric acid, iron sulphate, copper sulphate, common salt, caustic soda, sodium arsenite, carbolic acid, orchard heating oil and fuel oil. After the use of some of these the soil remains sterile until the chemical has been washed out by rain. In calculating the strength to be used it has to be remembered that a gallon of water weighs 10 pounds.

Sulphuric acid or oil of vitriol has a corrosive effect on the spraying apparatus, and can be used only in a weak solution, varying from 3 to 10 per cent. It has no injurious effect on wheat, oats or barley crops, and has a fertilizing effect on the soil.

Iron sulphate or copperas is used in a solution of 15 to 20 per cent., but cannot be applied with safety to a crop of beans or flax.

Copper sulphate or bluestone can be used instead of iron sulphate, but only in a solution of 1 1/2 to 2 1/2 per cent.

Common salt or sodium chloride is used in a strength of 20 to 25 per cent. It checks the growth of other plants besides weeds until it has been washed out by rain.

Caustic soda or sodium hydrate is used in a 5 per cent. solution. It kills all kinds of vegetation.

Sodium arsenite is used at the rate of 2 pounds to 50 gallons of water. It is very poisonous and the powder is dangerous to health if inhaled. It kills all vegetation.

Carbolic acid is used in a solution of 12 1/2 per cent. or stronger.

Orchard heating oil is applied at full strength in a fine mist. It destroys all vegetation, but is not poisonous and does not injure the soil.

Fight Cattle Disease.

A new line of activity for army men is promised, and this time the live stock industry is responsible for the departure. A theory is advanced, to the effect that the virus of foot-and-mouth disease is air-borne from the continent to Great Britain and though pilots of flying machines will not be expected to hunt for the disease germs in the air, it is expected that they will be able to render valuable service by ascertaining at periods when outbreaks of the disease occur, whether there existed negative air currents over infected areas - which would account for the air-borne virus floating along, suddenly dropping to earth.

Light on the part of army men can play in assisting scientists engaged in research work with regard to distribution of the foot-and-mouth disease virus is shed by Sir Stewart Stickman, chief veterinary officer to the British Ministry of Agriculture, who, in an interview with the Weekly Dispatch, London, contradicts the erroneous impression held by many who have heard of the proposal to employ army men in tracing down foot-and-mouth disease. Sir Stewart Stickman's job will be to hunt for these disease germs in the clouds.

"Research," says Sir Stewart Stickman, "is still in the preliminary stage, and it might take years before results are obtained, but I am convinced, however, fanciful it seems, that the air-borne virus theory is the most favorable one we have."

To Improve Cows.

As practical evidence of their interest in the "Better Sires - Better Stock" campaign, which is gaining recruits rapidly in a majority of the states, the owners of large stock farms in Florida have written the Bureau of Animal Industry that the Holstein bull and Hampshire boar owned by them have been made free community sires. The services of a Duroc boar will likewise be made free as soon as he is old enough. All are fine animals, with pedigrees. "We give the services of these animals free," write the owners, "because this region is cursed with scrub sires. They roam everywhere at will and are a great menace to those keeping pure-bred stock. Please tell us what to do to have our farms enrolled in your campaign and our sires recorded."

The offer of the bull is made with the desire to improve the milking qualities of cows. The owners of the bull specify that all cows brought for service must be tick-free. A fee is charged for service to registered Holstein cows.

KEEP CALVES GROWING.

If They Are Once Stunted They Never Recover.

It is a well-known fact that capacity is one of the essentials of a good dairy cow and in order to develop this characteristic the calf must be kept growing from the very beginning. A stunted calf will never recover from the handicap. The calf should be induced to begin eating grain and hay at as early a date as possible and there should always be an abundance of the hay accessible. Roughage develops capacity in the digestive organs - an item of importance - as the amount of feed that a cow will consume depends largely upon the development of these organs.

Heifers should not be bred too young, the age depending upon the breed to which they belong as well as the development of the individual. Holstein heifers should not be bred to freshen before they are 24 months old, as a rule, and a great many would do better if given 26 or 28 months. Heifers should be in good condition at time of freshening, although not fat from an excessive carbohydrate ration. After freshening, they should be worked up to full feed very gradually, receiving all the roughage they care to consume without waste; alfalfa or clover hay fed in connection with silage or roots being a very good combination.



Splendid Type for Dairy.

The grain should be light in character to begin with and gradually changed to a mixture of grains that will supplement the roughage; 300 pounds ground oats, 300 pounds ground corn, 100 pounds wheat bran and 100 pounds gluten feed being a good combination to go with the roughage mentioned above. The grain can be increased a fraction of a pound a day so long as there is an increase in the milk flow, but as soon as there is no response to the increase it must be cut down until there is a falling off in the milk flow and then the increase may be begun again. When on full feed they will be consuming about one pound of grain to every 3 1/2 pounds of milk produced.

In the absence of silage or roots, dried, best pulp may be used, but if none of these are available or are too high in price, oatmeal can be used in the grain mixture to advantage. In the absence of silage and roots, the cows will consume a large quantity of alfalfa. Sometimes it is advisable to chaff and moisten a portion of it when fed under these conditions.

Perches in Chicken Houses. When making readjustments in the poultry houses it is always well to look over the perches and see if they meet the requirements of the birds. If fowls are of the heavy, large breeds the perches should not be as high, for many ill effects are the result of jumping from high perches. The lighter weight fowls are usually better flyers and can assist themselves in getting up and down much better than can the heavy ones. The two kinds should never be kept in the same house at night if for no other reason than the above. The height of the perches also brings trouble if every one is not on the same level. In endeavoring to secure the safest place in the house all fowls will try to reach the highest perch and the lower ones are practically useless except to the ones that could not fight their way higher.

Always aim to have the perches at the same height and have room enough on them to avoid crowding. There are dangers in crowding the hens at night, to say nothing of the discomfort. No hen likes to be uncomfortable, nor does any animal, in fact, and if we make domestic fowls of the hens we must give them the privileges and liberties, as nearly as we can, resembling that of their natural state.

High jumping from the roosts is likely to injure the legs of the hens, and if the birds have not attained their growth they will be more liable to deformities. It is the natural instinct of the fowls to want to roost high, away, as they suppose, from their enemies, as they do in the wild state; and while rats should not be permitted to infest the houses there is less danger from them when the fowls are high up. Then, too, the little streams of air (that should not be allowed to flow in on the hens) will do less damage if the roosts are not too low. While very high roosts are disapproved of it is, nevertheless, advantageous to have them high enough so that the birds may feel safe and at the same time have them on the level for the whole flock that inhabits the one house.

Don't Feed Dead Carcasses.

Don't feed dead carcasses of cattle to hogs until after a careful autopsy has shown that they are not affected with tuberculosis. You may infect your whole herd by feeding the carcass of a cow that has died after a lingering illness. Such carcasses should be burned or buried deeply.

Buying Small Farm Tools.

If possible all small tools for the farm should be purchased on one order. This will save time and, usually, money. Also, it will entail a total expenditure sufficiently large to impress the farmer with the importance of giving systematic care to his small tools.

A Kansas Family Problem.

(Emporia Gazette) An Emporia family takes the family dog to church once in a while. Last Sunday the dog was tied to the motor car during the services. It was a question whether to take the dog away to keep from disturbing the peace or stop the choir to keep from disturbing the dog.

A Repeater.

(Winchester Press) The Farmers' Sun repeats the lie that Premier Meighan referred to the farmers as Bolsheviks. Every time the Sun publishes that, it publishes a lie, a deliberate lie, a lie that every farmer ought to be ashamed of, even if the Farmers' Sun is not.

USE A MILLION A YEAR.

Fund Helps Provide Adequate Education for Country Life.

An insight into the progress that is being made in agricultural instruction, both for adults and juniors, is to be gathered from the report on the Agricultural Instruction Act for 1919-20, recently submitted to the Dominion Parliament. Under this act \$1,100,000 is now divided annually between the nine provinces of Canada with a view, as the report says, of aiding and advancing the farming industry of Canada. That the objects sought are being attained is shown by the review of the situation regarding agricultural instruction as it now exists in this country. Schools have been established, colleges extended and brought nearer to the farmer, research has been greatly encouraged, the agricultural representative system has been aided and fostered, home life improved, school fairs have been brought into being, and knowledge in every branch of agriculture and domestic science has been made more readily available. How the funds forthcoming under the act are applied is illustrated by the fact that of an allotment \$256,413 was devoted in 1919-20 to the Agricultural Representative system, and \$644,079 to instruction and demonstration. Boys' and girls' clubs were extensively aided, and women's institutes, homemakers' clubs and similar organizations, had their funds augmented in such a manner as led remarkably to their growth and increased spread of their usefulness. How important a figure in the direct advancement of agricultural instruction the act is, will perhaps be best appreciated by the fact that in the six years of its existence \$1,890,143 has been allocated to colleges and schools of agriculture, exclusive of veterinary colleges, to which a special grant of \$20,000 is made annually. The problem facing those responsible for educational policy, says the report, is to provide adequate educational opportunities for those destined for country life, and that in large measure is the purpose for which the funds granted by the act are being used.

Spring Setting.

Even under the best possible conditions of winter management, and often under rather unideal conditions, the eggs produced in time for spring setting are sadly lacking in number of specimens likely to hatch satisfactorily, and in order to ensure a good return for the time and labor spent in attending to their incubation, the poultryman must give careful attention to selection of eggs intended for setting. Eggs that are abnormally small and poorly shaped should be eliminated, as should



A Good Chicken Run.

those having thin or very poor shells. Dirty eggs should not be used. If it is found necessary to set eggs that have been slightly soiled they should be cleaned by rubbing lightly with a damp cloth, care being taken not to remove any more of the natural bloom than is necessary. It is never advisable to use for hatching, eggs that are more than two weeks old. Neither a hen nor an incubator will hatch strong chicks from eggs containing weak germs or from those which have not received proper care.

In preparing the nest for the sitting hen, it is advisable to put from three to four inches of damp earth or a piece of grass sod in the bottom of the nest before the nesting material is put in to provide moisture. When the hen becomes broody, and before she is transferred to the nest for sitting she should be dusted with insect powder of some kind. In doing this hold the hen by the feet with the head down, working the powder well into the feathers. This should be repeated about the eighteenth day of incubation so as to be sure that there are no lice present when the chicks are hatched.

Hatch Early.

With the average small-farm flock where hens of a general purpose breed are kept, it is most satisfactory to let the hens do the hatching. If the hens are of a non-broody breed, however, it is necessary to use incubators or to purchase baby chicks. Whatever the method of hatching, it is most important that it be done at the right time of the year.

The proper time of hatching varies with different localities, being earlier in the south and later in the extreme north. The aim should be to hatch the chicks at such a time as will allow the pullets to reach their full development and begin laying in October or November, as these earlier maturing pullets must be depended upon very largely for the fall and winter egg production.

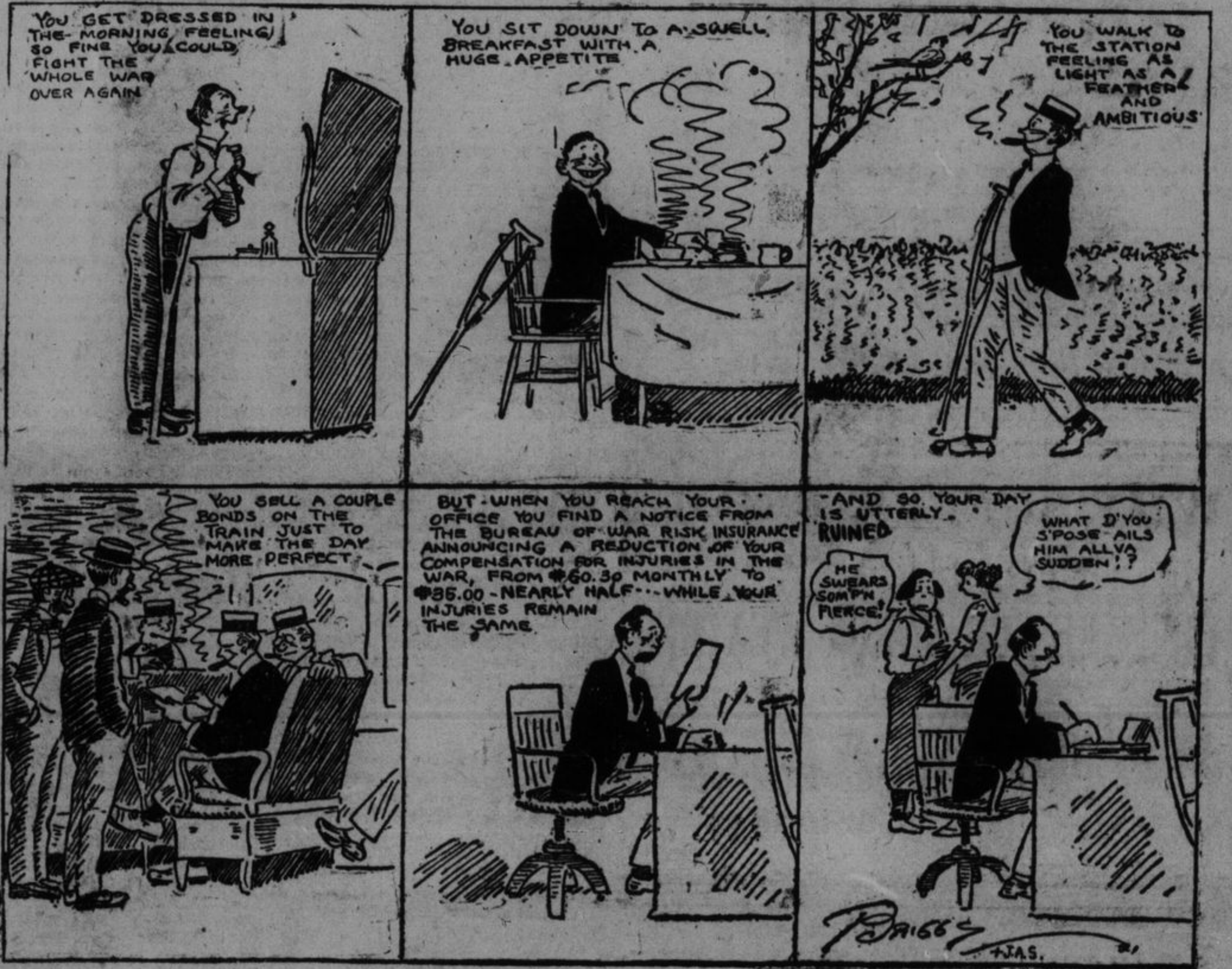
The Farm Wood Lot.

Too often the size of the farm wood lot, the material it contains, and its value to the farm are left entirely to chance. The farmer's problem is to determine what parts of his land are suited to wood rather than other crops and to develop these portions for wood crops, just as he would develop land for other crops.

AIN'T IT A GRAND AND GLORIOUS FEELING?



HOW TO START THE DAY WRONG



OH, MAN!



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