

The Agricultural College Is a Friend to the Farmer

Bulletins and News Notes From the Staff at Pullman.



VIEW OF WASHINGTON AGRICULTURAL COLLEGE AT PULLMAN, WASH. ITS SOLE AIM IS TO AID AGRICULTURISTS.

Seasonable Notes for Window Plants

WINDOW plants at this time of the year require a temperature of about 50 degrees, and should be watered sparingly until an active growth is resumed, after which a more liberal application may be given. Any shoots which may be growing too long on the geraniums may be pinched back to the desired length. Such plants as primulas, cyclamens, cinerarias, will soon be in blossom and every few days it will be well to look the plants over for aphids and red spider as these pests will be sure to make their appearance, especially on Cinerarias.

A little tobacco powder sprinkled over the infested plants will soon eradicate these, or a wine glass full of kerosene to four gallons of water applied with a hand syringe is even better, but care must be taken to keep the oil well mixed with the water, the kerosene floats on the water and if an excess of the oil is sprayed on the plants, they soon become burnt.

A little air should be admitted on all favorable occasions, such plants as palms, aspidistras, arillias, must not be kept near radiators or red spider will soon become prevalent. This pest is caused by a warm and very dry atmosphere. The foliage of the plants should be washed once a week with a soft sponge and with tepid water; a little soft soap may be added. Dust collects rapidly on house plants, even at this time of the year, and if the glossy green color can not be maintained the plants soon lose their beauty.

If worms are in the soil a small lump of lime dissolved in water and applied carefully will bring them out.—J. H. Gooding, Instructor in Floriculture, State College.

How to Prepare a Hotbed.

Collect unheated manure from the horse barns and mix with the pure manure an equal amount of straw that has been used for bedding. Fork this over well and pile in a heap and let stand for about two days. If it does not start to heat in this time moisten the entire pile with warm water.

Prepare a pit for the manure bed. This should be located on the south side of buildings with a good exposure to the sun. The pit should be about two feet deep, not over six feet wide and as long as desired. It is preferable to have the long measure east and west. As soon as the manure has started to heat well, it should be placed in the pit and carefully tramped. This is the best method of packing the manure evenly in all parts of the bed. If it seems dry add enough water to dampen, but do not apply enough to saturate the bed. Let the bed stand until it is heating well throughout, then cover with five or six inches of good garden loam. Let this stand for three or four days and then work down the surface with a rake and the bed is ready for seeding.

A broad frame, 10 or 12 inches high on the south and double that on the north, should be placed about the bed when the pit is prepared. The glass sash or cloth covering used should be placed on as soon as the manure is packed in.

A bed prepared in this way will furnish heat about six weeks. The temperature will run high at the start and gradually go down.

A page of interesting items from the Oregon Agricultural College at Corvallis will alternate in the farm weekly with a page of news notes from the Washington State College at Pullman. This will afford an interchange of views from the two big agricultural colleges of the Northwest that should prove of benefit to the reader for the institutions deal with similar problems.

Advice on "Smiting the Mite"

BY HELEN DOW WHITAKER, Head of Poultry Department, State College.

SOME one computed the loss to Missouri caused by the surplus male. The slogan went forth "Swat the Rooster," and the poultry industry scored a point for its betterment. Having swatted the rooster, why not go a step farther to "Smite the Mite"? Tremendous as it is, no one has computed the damage done by the mite. While one was computing the number, the mites would have increased to millions.

The common chicken mite named *Dermanyssus gallinae* is not so long as its name, measuring less than one-twentieth of an inch. It is plainly visible to the naked eye; a little elliptical, flattened body with eight slender, tapering legs; a pair of short feelers and between them a pair of needle-like jaws with which it pierces the flesh of its victim to suck out the blood upon which it dines. In color the hungry mite is pale gray with darker dots on its back and sides. The after-dinner mite is reddened with the blood of its victim.

Incubation of Mite.

The mother deposits her tiny egg in a crack or crevice of the wood. Her idea of a cozy cradle for her baby is a crack lined with a mused, soiled old feather, or a crevice in which is a little heap of manure or other filth to furnish dampness and heat. Here is also an incubator which gives a 100 per cent hatch in about three or four days. The tiny whitish, six-legged baby feeds on the filth it is born in. A spoiled egg broken in a dirty nest will furnish delectable food for a thousand. In a few days they shed their skin and crawl forth upon eight legs like the parents that begot them. About 10 days elapse between hatching and maturity. Mites live upon the fowls only when feeding, preferably by night. Where they are numerous they can be found on the hens by day, or crawling about the building, but their habit is to eat at night, then desert the victim for a dark, dirty crack in which to sleep by day.

Remedies.

In considering remedies for these pests, first hold in mind the conditions under which they breed and thrive. Is there a dropping board in the henhouse that holds the accumulation of a week? If there is you have a mite incubator, a million or two capacity, set for a hatch. In the cracks and corners have the soiled old feathers of the molt heaped up?

Each one is an incubator for a thousand mites. Has the damp and dirty straw litter been raked out and the floor beneath scraped clean, or has new straw been piled upon old filth, thus making a giant hatchery for mites? Consider the nests, are any broken eggs left in their straw to decompose and feed the pests? Are there any sitting hens in soiled boxes to mother them? Any filthy, soured feed troughs to breed them?

The first remedy for mites is to rake up, scrape up, spade up, sweep up and scrub up. For the raking use a steel tool with close teeth. For the scraping of all packed ground and of all boards use a sharp garden hoe or narrow spade, applied with plenty of lubricating oil from the elbow. Do not be afraid to scrape down through the filth to fresh soil or clean wood. For the sweeping use a stiff whisk broom for all nest corners and crevices, and a deck broom for floors, dropping boards, etc. For scrubbing nothing is better than Pearline and Dutch Cleanser. At least three times a week each wet mash trough and box for feeding sprouted oats and drinking dish should be absolutely as clean as hot water and Dutch Cleanser can make it. At least two times a year every nest and roost and dropping board and feed hopper and shelf they rest upon and board floor and all walks and overhead braces and raft-

ers should be thoroughly swept free from dust. This much done, the treatment for the mite-infested house really begins. The deck has only been cleared for action, to use a figure of war.

Using Carbolineum.

If the house is in bad shape and one really means business, that is, if one seriously wishes to get rid of the mites, not just dabble around a little and in three weeks have as many mites as when he began—if one really means business, I repeat, use carbolineum avenarius with which to paint every quarter inch of the inside of the house where mites are in evidence or might be in hiding. Apply with an ordinary stiff paint brush. If heated before using, the carbolineum will be thinner, spread more evenly, and penetrate the wood better. It cannot be diluted with water, but one can use one-fourth carbolineum to three-fourths distillate, or, if the added cost is not considered, ordinary kerosene may replace the distillate. Apply the mixture with a spray pump having an agitator. Use a nozzle giving a very fine spray and considerable force in applying so that the liquid is driven into every rough surface and every crack or crevice in the wood. Two gallons of the mixture should cover thoroughly a 10 by 12 house, at a cost of material not to exceed \$1.

Crude carbolic acid costs about 35c per quart. One quart with two and a half gallons of lime should make whitewash enough to spray a 10 by 12 building. Neither air-slaked lime nor whitewash will eradicate mites. If whitewash is put on boiling hot, the heat may accomplish the result, but lime alone is not death to mites. The second spray suggested is not, therefore, as effective as the first.

Using Zenoleum.

A third spray material highly recommended is Zenoleum, which costs about 40c per quart. Use about one pint of Zenoleum to two gallons of water. Since Zenoleum is so readily soluble in water, it is not as lasting in effect as the crude creosote or carbolineum. It is, however, much easier to apply. It is perfectly harmless to the operator and to the feet or feathers of the fowls coming in contact with it. The carbolineum, on the other hand, is very irritating to the nose, eyes and throat while spraying, and if it comes in contact with the plumage of the fowls it discolors them, which discoloration will not be lost until the next molt.

Crude creosote at about 30c per gallon, mixed with one gallon of distillate at about 12c per gallon makes a very cheap and effective spray.

To clean up a badly mite-infested building 10 by 12, proceed as follows: Sweep and dust thoroughly, first removing everything removable. Scrub with pearline and water; paint the roosts and supports for the roosts with heated Carbolineum, cost not to exceed 25c. Next, spray the nests and every other bit of woodwork that harbors vermin or might do so, with crude creosote and distillate, one gallon of each to the mixture, cost about 40c. If there were no mites on the walls, or on the floors, and one was sure of this, whitewash would make a good spray for them.

Government Whitewash.

The recipe for Government whitewash, which is the most permanent that can be made, is reprinted here:

One-half bushel of unslaked lime slaked with warm water. Cover during the process to keep in the steam. Strain the liquid through a fine sieve. Add a peck of salt previously well-dissolved in warm water; three pounds of ground rice boiled to a thin paste; and finally stir in boiling hot, one-half pound of powdered Spanish whiting (this is plaster of Paris) and one-pound of glue which has been previously dissolved over a slow fire. Now add five gallons of

Operating Plan of Cow-Testing Association

A GROUP of dairy farmers, usually not over 26 in number, get together, elect officers and organize for the purpose of improving their herds by means of weighing and testing the milk from each cow, keeping feed and production records in a systematic way and working co-operatively to improve the dairy interests of their locality.

They employ a tester, recommended by an agricultural college, whose duty is to visit each herd one day a month. He usually arrives in the afternoon, weighs the hay and grain fed that night or estimates the value of the pasture or feed used, weighs the milk from each cow night and morning and tests it for butter fat. All records are carefully kept and profits and loss on each cow every month thus arrived at, so that by the end of the year or possibly sooner, the records will show whether a cow is profitable or not, whether she should be kept as a producer and breeder or sold to the butcher.

The cost of operating such associations usually is from \$1 to \$10 per cow annually, with a minimum charge of \$10 a herd where the herd is small. This money is paid to the treasurer of the association in semi-annual or quarterly installments in advance, and is used to pay the tester's salary and any incidental expenses. Each member also agrees to furnish board and lodging for the tester one day a month and to convey him to his next place of work. The tester also has his board and lodging over Sunday at the place where he works Saturday.

From 350 to 450 cows are necessary to profitably carry on such an association, and each member pays his share of the cost as determined by the number of cows set opposite his name when he signs the agreement.—A. J. Lashbrook, Dairy Field Agent, United States Department of Agriculture and Washington State College.

hot water to this mixture, stir well and let stand for a few days, then put it on hot. To this mixture may be added two pints of carbolic acid which will make it a better disinfectant. One pint of the mixture will cover one square yard if properly applied.

Thoroughness.

If the mixture is not thoroughly stirred as you use it, it will get thicker and thicker and it will be necessary to thin it by adding more milk. Carbolic acid or any other disinfectant can be added. It may be colored black by the addition of a little lamp black, or a dull green by adding ochre and a small quantity of Prussian blue. Six hours after applying this paint will be dry. It is quite lasting even in bad weather for outside work.

In conclusion it might be pointed out that for the extermination of both lice and mites there is a variety of methods. The vital thing is thoroughness and care in the application of the material used and the repetition of the process at such intervals as will kill the newly hatched pests before the mature and reproduce their kind. With birds and premises once free from vermin, the methods should be preventive, and the cheapest of these is every-day cleanliness.

During the past two years forest officers have killed nearly 9000 predatory animals, more than three-fourths of which were coyotes.

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