

Study in Honey Color Problems

Three Government Bureaus at Washington Examine Over 450 Samples

Problems involved in the commercial handling of honey have led to a series of studies in which two other bureaus in the United States Department of Agriculture have co-operated with the bureau of entomology, which maintains a special bee culture laboratory at Beltsville, Md.

Work of color grading of honey, which has been carried on recently by this laboratory in co-operation with the office of grades and standards of the bureau of agricultural economics, has been completed. More than 450 samples of typical honeys have been examined for light transmission by the spectrophotometer. This is the most extensive study of colors of honeys yet undertaken.

Suitable Color Holders.

It has been difficult to devise suitable color holders for the color grades which have the proper opacity and are color permanent in solution. When made for these grades have been duplicate grades will be determined with the several inspection of the bureau of agricultural economics and directions will be issued for the manufacture of grades for use. It is hoped that this will increase the number of controversies between buyers and sellers of honey as to proper color.

Coloring Materials.

The work on the coloring materials in honeys of various types, undertaken by the bureau of entomology in co-operation with the carbohydrate laboratory of the bureau of chemistry, has now reached the stage when it is possible to undertake routine analyses of the samples of honeys from different plant sources collected for the purpose. Five plant pigments have been isolated from honeys examined, occurring in varying proportions in different honeys. The economic purpose of this work is to determine whether there is any reliable correlation between the color grade of honey and its suitability as winter stores for bees in long confinement. Determinations are also being made of honey dextrans.

Area Plan of Wiping Out Dread Disease of Cattle

In the interests of improved live stock throughout the surrounding country, the First National bank of Petersburg, N. D., is not only actively supporting the "Better Stock - Better Stock" campaign, but is aiding in financing it. An officer of the bank, in a recent letter to the United States Department of Agriculture, states that there are now over 90 pure bred sires in the immediate vicinity, most of them shipped in by the bank. In addition the bank has arranged to ship in 13 sires of breeding ewes from the West to place among its customers, and along with the ewes, there will be distributed pure bred rams of four leading breeds.

The relatively low price at which pure bred live stock is now available has encouraged officers of the bank in their activity, thus laying the foundation for herds and flocks of good quality that will be valuable assets to the community later.

Wheat After Soy Beans Particularly Desirable

The idea seems general that a soybean hay crop removed from a piece of land leaves it particularly desirable for wheat sowing as far as fertility is concerned. Such is not the case when the beans are removed. It has been practically proved that the soil is depleted of phosphorus and potash have been removed. Wheat on land from which soy beans have been removed may well respond to a 2-12-6 fertilizer in a very satisfactory manner and some such fertilizer should be used. Only by turning under the beans is there any appreciable addition of nitrogen to the soil and wheat will always respond to a small amount of nitrogen when following soy bean hay.

Commercial Horses Have High Advertising Value

While dealers are complaining that there are not enough good heavy draft horses to go around, surveys made by the Horse Association of America show that the quality of commercial horses is improving. Competition in trucking has brought out most notably the fact that a good horse will render better service, last longer, and have a much higher turnover value than a cheaper one. And furthermore, commercial concerns have learned that good horses have a high advertising value.

European Corn Borer Is Increasing Infestation

Considerable increase in the degree of infestation by the European corn borer in Ohio has been noted during the past month in the infested territory, states a report to the United States Department of Agriculture. One field has been observed which has been as high as 17 per cent of the stalks infested. No definite instance has been found that the insect will be a two-brooded pest this season under Ohio conditions.

Detect Diarrhea in Young Chicks

Serum Agglutination Tests to Be Made at Illinois University.

The laboratory of animal pathology and hygiene of the University of Illinois is prepared to make a limited number of serum agglutination tests for the detection of white diarrhea in chicks, for owners of breeding stock. Upon request vials will be furnished for collecting blood samples, as well as leg bands bearing numbers for the identification of the birds. A charge of five cents per sample will be made to cover in part the cost of making the test. Valuable assistance can be obtained from a competent veterinarian in collecting blood samples. University Agricultural Circular No. 273 describes the disease fully.

Bacillary White Diarrhea is a Specific, Highly Contagious Disease of Young Chicks.

It is one of the few diseases that may be transmitted directly through the egg to the offspring. The disease may also exist in mature stock, but it often remains unrecognized, since there are no visible characteristic symptoms, as in the case of chicks.

Symptoms of Infection.

Chicks infected through the egg manifest symptoms in a few hours after hatching. In the acute type of the disease affected chicks (three to twelve days old) are drowsy and dejected in appearance. The feathers are ruffled, the wings droop and the chick aways back and forth when in a standing position.

Mildly infected chicks grow to maturity, and while they appear to be healthy, harbor an ovarian infection and eventually become active spreaders of the disease.

Bacillary white diarrhea may be transmitted to the chicks through the infected droppings of sick chicks, through contaminated incubators, brooders and pens or directly through the egg to the chick. A single infected chick at hatching time may be responsible directly or indirectly for contaminating the infection to the entire brood.

Control of Disease.

The control of bacillary white diarrhea depends on two factors: First, the detection of infected breeding hens by means of the serum agglutination test, and their removal from the flock; and second, the protection of newly hatched uninfected chicks against infection in incubators, brooders and houses.

Flocks free from the disease are needed to supply healthy breeding stock. Avoid purchasing eggs or breeding stock from infected flocks. Isolate all exposed or infected chicks. Destroy all dead chicks by burning. Intestinal antiseptics, including sour milk, may be regarded as palliative remedies, but should not be depended upon to prevent the development of the disease in infected flocks.

Incubators, brooders and houses should be cleaned and disinfected. Hot lye water (one pound of lye to forty gallons of water) applied with a broom or brush will aid in cleaning. A 3 per cent compound cresol solution (U. S. P.) applied with a spray pump is a reliable disinfectant.

Big Mistake in Feeding Laying Hens Stimulants

It is a mistake to feed nostrums and stimulants to hens or pullets in an effort to increase the present egg production, for the simple reason that the feeding of such stimulants has a very detrimental effect upon the performance of the hens during the subsequent breeding season. Stimulation of laying fowls, as in the case of human beings, through the use of drugs or stimulants, can cause nothing else but the eventual breakdown of the physical being of the individual.

Cow Tester Weighs Milk of Animals Separately

When the tester for the cow-testing association visits the farm of a member he weighs all milk and makes note of it in his book. At milking time he weighs the milk of each cow separately and takes a sample of it for testing. He does this both evening and morning. The following morning he tests these samples, calculates the production for the month, enters it in a book which is left with the farmer and then he is ready to move on to the next place at noon.

Necessary for Ducks to Have Water for Drinking

It was formerly considered necessary to have a swimming pool or pond for ducks, but they can be raised profitably without it. The eggs are more likely to be fertile, however, if given plenty of range and water to swim in. Ducks really do drink more water than hens, and require a deep pan of fountain placed near their feed so that they can run to it every little while and drink or wash their bill.

Legumes on Acid Fields Are Helped by Limestone

Findings that the soils in which they desire to plant legumes had acid soil, some 38,000 farmers in 1922 followed the recommendation of their county agents to apply lime on these fields. They used for this purpose, according to reports to the United States Department of Agriculture, about 627,000 tons of lime or limestone.

DOLLAR

Automatic Ventilation Is Latest Convenience

Most poultrymen today acknowledge the value of good ventilation in the winter laying pens. But ventilation without objectionable drafts is often hard to accomplish, especially where snowstorms and blizzards are of frequent occurrence. The open-air type of henhouse, which is in general use, is not entirely satisfactory because snow and rain can enter. Even if a muslin curtain is provided to prevent this it is necessary to adjust this curtain according to weather conditions, and this is very often neglected. To overcome these difficulties, and to make the ventilation entirely automatic, a Wisconsin poultryman devised the shutter arrangement shown in the illustration.



A Shutter for the Poultry House That, While Providing Ample Ventilation, Eliminates Draft, as It Closes Automatically in a Wind.

It consists of a frame projecting from the side of the poultry house as shown, about 6 feet long and 4 feet high, roofed over with paper. Seven 6-inch boards are suspended within this frame, with enough space between them to insure proper ventilation at all times, and arranged in such a manner that they swing easily upon pivot nails driven through the frame at each end.

In fair weather the shutters hang vertically, but when gusts of wind, with rain or snow, beat against them, they close automatically. To prevent the fowls from scratching litter into the openings, which would interfere with the movement of the shutters, sparrow netting is tacked across the frame, on the inside of the house. — G. E. Hendrickson, Argyle, Wis., in Popular Mechanics Monthly.

Hens Must Be Well Fed During Moulting Period

Many people ask how to feed chickens through the molt. They seem to feel that the system of feeding during this normal resting period should be different than their feeding system during the other periods of the year.

The yearly molt is a very natural part of a hen's life. This is the time of the year when the hen ceases production in order to replenish her wardrobe and to store up renewed energy and strength for her next year of laying. During this time she is manufacturing a supply of feathers instead of eggs. Feathers and eggs are made up of somewhat the same material. The system of feeding then should not be different from one used for egg production. Milk should continue to be fed along with the mash, and oyster shell and grain should continue to be fed in order that the hen may store up surplus fat so that she can have fat to draw upon for the next year's production.

Cutting down in the feed will cause production to drop off. Any condition which stops egg production will cause birds to molt at this time of year. However, the causing of the early molting will not bring about a quick molt. On the contrary, those that molt early are usually long-time molters. Those that molt late are usually short-time molters. It is therefore most profitable to continue to feed for egg production and let the fowls go into their natural molt, rather than try and control this in any way. — Poultry Extension Service, Colorado Agricultural College.

Supply of Oyster Shell Is Essential to Fowls

A constant supply of oyster shells or limestone grit is essential to the most profitable egg production. Recent tests in Ohio show that when the hens were denied oyster shells egg production was greatly reduced and the eggs averaged two ounces per dozen smaller.

The experiments showed that minerals in the feed are essential for growing birds and for the bodily functions of mature birds, while laying hens require additional lime supplied in the form of shells or grit.

Eggs in Softer Weather

With the first hard cold spell, hens may drop down in egg production. After they have become hardened to weather conditions, however, one may expect satisfactory results from them even in the severest months if they are well comforted.

Bulky Feed for Ducks

Ducks require more bulky food than chickens and for that reason should be fed limited vegetable, green, grass, hay or alfalfa and other bulky foods in their rans.

WILLIAM A. GRAHAM JUNIOR SUCCEEDS AS COMMISSIONER

Rating, Dec. 20. — Governor Morrison tonight announced the appointment of William A. Graham, Jr., member of the state senate, from the Lincoln district, to succeed his father, Maj. W. A. Graham, as commissioner of agriculture.

Mr. Graham, who is turning his father's job over to his duties as soon as he has reached here.

The Office of Swine Extension conducted 116 facility demonstrations with hogs last year.

The three essentials in beautifying the homestead are clean up the grounds, plant trees, shrubbery and flowers and maintain the planting from year to year, say horticultural workers of the State College and Department of Agriculture.

When you spend a dollar not only does the dollar itself pass away from you but also the interest that it would bring from year to year, says Dr. Clarence Poe, Chairman of the Board of Trustees of the State College of Agriculture.

Clean Up Droppings of Flock in Winter Months

The droppings of the flock should be cleaned up regularly, especially throughout the winter months while the birds are housed together without free range. Many diseases are spread from bird to bird by means of infective droppings of a sick fowl. Against all such risks, the successful poultryman defends his flock when he cleans up and uses powdered, air-slacked lime.

Weeds and Insects Are Big Drawbacks to Crops

Weeds and insects are the greatest drawback to large acreage yields. Weeds deprive the soil of the material contents necessary for the development of the cultivated plants. Clean cultivation is necessary to give the crop the benefit of the soluble nutrient material of the soil fall and winter; deep plowing will also assist in preventing damage by insects.

New Iowa Legume Being Shoved Into Limelight

Page, the new legume found growing near Logan, Iowa, a few years ago, is being shoved right out into the limelight by H. D. Hughes, of Iowa experiment station. Hughes is the man who trotted out Hubam, the annual sweet clover, a few years ago. This crop has pleased the bee folks more than any other class, for Hubam is a great pasture crop for bees.

Flashlight Egg Tester Is Quite Handy Device

Telling when an egg is bad by a pocket flashlight is easily done by putting the egg in a cardboard holder rolled like a funnel, the small end containing the bulb of the flashlight. A pressure of the button and the light is thrown up through the funnel and through the egg, which will thoroughly show the condition of its contents.

Be Wise and Build in Water

Construction Experts See Savings in Work in Cold Season and Consequent Elimination of Idleness

THAT winter construction is economically desirable from every point of view was the theme of the speakers at a luncheon meeting of the New York Building Congress, held in the Hotel Commodore on November 21. The building industry, they said, is carrying twelve months' business in nine months' business, and to correct that condition recommended that big construction be started in the cold months.

The number of contracts for new construction have increased this autumn beyond expectations, and reports show that a large amount of work in erecting buildings has been planned for the coming cold season.

The speakers at Wednesday's luncheon made use of lantern slides to prove their thesis. One of them, John Lowry, Jr., a builder, showed on a screen pictures of a building on the construction of which \$37,710 was saved through labor in the winter of 1922-1923. The total cost of the structure was \$760,000, he said.

Continuing, Mr. Lowry said: "To offset that the expenditures for winter construction were a total of \$3,863, or about one-half of 1 per cent of the total cost of the job." The extra cost was for protection of workers and materials and supplying the necessary heat, he explained.

"If you consider the bricklayer production in the summer of 1922 as 100 per cent in the erection of this job during the winter of 1922-1923 the bricklayer production was 129 per cent, or 29 per cent more than in the summer of 1922. Comparing the job last summer the bricklayer production was 93 per cent. In other words, on this job, carried on during the winter, I produced 184 per cent more brick per day per man than I was able to do last summer on brick work. Bricklayers working on the job say \$10 a day. The payroll for the entire job was \$38,496 for bricklayers. If it had been continued last summer the dropping off in production or in efficiency would have added \$5,630 to the cost of bricklayers. Alone, if you consider the bonus award of \$4, that is \$14 a man today, the bonus would have cost \$11,260. In other words, the brick work on this job would have cost \$16,890 in addition to the \$28,150 actually paid for bricklayers.

The payroll on this job for bricklayers, carpenters, labor and engineers amounted to \$130,667. If it had been done last summer rather than last winter, the dropping off in production and the bonus award would have added \$25,669 to my payroll.

Winter Construction Cost.

In addition to the saving in labor the saving on purchases of materials in subcontracts on this job amounted to \$16,830 over the prices I was able to procure in the summer of 1922. In other words, between labor and the purchase of materials and subcontracts, there was a saving of \$47,110 on this job, the building work of which had cost \$750,000.

To offset that the expenditures for winter construction were as follows: Temporary protection to labor and material, \$71; taxamine cost, 1667; with a savings of \$442; net cost, \$226; temporary heat, salamanders, cost, \$485; salamanders, \$332; coke, \$364; boiler attendants, labor, \$1,036; coal for boiler heating, \$150; temporary lighting, labor and service, \$195; snow clearing, \$111; a total of \$3,863, or about one half of 1 per cent of the total cost of the job. Bear in mind that the labor saving was \$25,669 and the material and subcontract saving was \$42,000 to offset \$3,863 winter protection cost."

There are now fifteen creameries in operation in North Carolina. In 1920 only 989, 715 pounds of butter was manufactured in 1921 this amount had grown to 1,345,628 lbs. in 1922 a total of 1,530,994 pounds was manufactured. This Agricultural activity has been promoted and fostered by the dairy extension specialists of the State College and Department of Agriculture.

Total Contract	Time of Procurement	Cost of Procurement	Per cent of Total Contract
\$225,000	Dec-Jan.	\$13,000	5.8
180,000	Dec-Jan.	8,800	4.9
75,000	Jan-Feb.	5,800	7.7

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S. J. JACKSON
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