

Importance of Temperature Tests In Operation of Incubator Pointed Out

VITALITY OF STOCK SPELLS SUCCESS IN HATCHING CHICKS

Hens Rather Than Pullets Recommended for Best Results in Starting Broods.

By C. S. Brewster

Success in hatching chicks depends more upon the vitality and the strength of the breeding stock than it does upon the hen or incubator that is used. They must be well matured, and in the best physical condition. Hens should be used as breeders rather than pullets, because they are fully matured, lay more eggs during the breeding season than pullets, lay larger eggs than pullets, and are in better physical condition than pullets because they have not been laying all winter. Hens which are over-fat will not lay well, nor produce eggs which have good fertility and hatchability. To keep hens in the best physical condition, they should be forced to exercise by scratching for their grain in a litter of some kind. This is especially true of the heavier breeds.

SELECTING AND KEEPING EGGS
Eggs which are being kept for incubation should not be kept more than two weeks, and should be kept in a cool, dry, well ventilated room and turned once daily while being kept. The temperature of 50 to 60 degrees is best for keeping hatching eggs. Only the eggs from the choice hens in the breeding flock should be used for setting, and these eggs should be carefully selected for size, shape, color, shell texture and uniformity. These characteristics are inherited, and continued selection along these lines will greatly improve the quality of the eggs produced by the flock. Select a two ounce egg, either chalk white or dark brown in color, which is well shaped and which has a strong shell free from wrinkles or weak spots.

OPERATING THE INCUBATOR
In operating the incubator follow the directions that come with it. Be careful and regular in the work. Put the machine in a cool, well ventilated room, which is free from drafts, which can be kept at an even temperature. A well ventilated cellar is a good place.

The temperature at which the machine is run is very important. Until recently there has been quite a difference of opinion among incubator manufacturers as to the correct temperature for hatching eggs. They have also used different kinds of thermometers, placed in different positions in the machine, as related to the top of the eggs.

TEMPERATURE TESTS
During the past five years experiments have been carried on at Purdue university for the purpose of finding the correct temperature for artificial incubation, using various types of thermometers. The results of this experiment show that with a standard thermometer, the bulb on a level with the top of the eggs but not touching them, a temperature of 101, 102, 103 degrees the first, second and third weeks respectively, was the most satisfactory. Slight variations above or below this will not influence the hatch materially unless continued, but a temperature of 103, 104, 105 injured the hatch materially. With a hanging thermometer having the bulb suspended two inches above the center of the egg tray, a temperature of 103

POULTRY EXPERT



C. S. Brewster, who is managing the poultry feed department of a local firm. Brewster will write special articles for Oregon Country Life.

degrees throughout the hatch proved to be satisfactory and to correspond very closely to the temperatures 101, 102, 103, as recorded by the standard thermometer, with bulb on a level with the top of the eggs but not touching them. It is always safer to run the temperature a little lower than the standard than a little higher.

Success in artificial incubation means, first of all, good eggs; then a good machine, properly located, and correct methods of operation. It is work that requires care and accuracy, but the returns that the farmer will be able to get in the way of earlier and better chicks, and more and higher priced eggs, will more than repay him, not only for his time, but will pay a good rate of interest on his investment as well.

Purdue university bulletin 185, published December, 1918, contains a complete discussion of the incubation experiments above referred to, and may be secured by writing to the poultry department, Purdue university, Lafayette, Ind.

Horsemen's Day at Hermiston
Hermiston, March 6.—Hermiston will have a horsemen's day, March 20. Substantial cash prizes are offered for champion brood mares, colts and the best farm team exhibited. In addition, owners of registered stallions are offering special prizes for colts bred by their stallions. Additional attractions will be pulling contests for teams, hitching contests for boys 16 years old and under and weight guessing contests will be for everyone. There will also be horse judging contests by teams of three men from the various towns of the west end of Umatilla county. Professor S. L. Porter of the O. A. C. will judge all entries for place and three competent Umatilla horsemen will judge the contests. P. B. Sisco has been appointed secretary.

Bull Association Grows
Pendleton, March 6.—Membership in the Hermiston Bull association has been increased to 100 with the addition of the dairymen from Stanfield. The association owns eight thoroughbred sires.

BUY TO GRADE WHEN OBTAINING SUPPLIES OF SEED FOR FARM

Purchase From Neighbors and Dealers Kind of Seed Which Has Proved Suitable.

Boise, Idaho, March 6.—"Where and how to buy seed is a question that will be asked time and again before seeding," says a statement by Deputy Seed Inspector C. E. Ahlson. "Wherever seed is purchased, buy on grade. It is as unlawful for a farmer to sell alfalfa, timothy, red, white and alsike clover to his neighbor with a grade as it is for the dealer to sell without purchase, according to the pure seed law of Idaho. The farmers should bear this in mind. Know what is being planted. Farmers are using much of the energy that is devoted to the production of food to fight the noxious weed evil resulting from ignorant or willful sale of impure seed.

TESTS ARE IMPORTANT
"Buy from neighbors and dealers after a test of the seed shows it is up to the requirements of the seed law. It is an indication the seed is worth planting. 'Naturally, if the crops are choked with weeds, both the yield and quality of the harvest will be reduced. Pure, high quality seed commands a premium and is always in demand. It is poor economy to litter up a clean field by securing and sowing alfalfa or any other kind of seed containing a large percentage of weed seed just because it can be purchased from some source at half price. No farmer should purchase 100 pounds of No. 1 clover with an immediately proceed to purchase 10 or 15 pounds of noxious weed seed and throw broadcast over the land seeded to 99 per cent clover. Buying on grade may prevent considerable grief.

MANY SAMPLES OBTAINED
"The state seed laboratory at Boise has received a great many samples from various dealers, which is an indication that the dealers are endeavoring to give the farmers assurance of good seed. The law requires that every lot of one pound or more of alfalfa, timothy, red, white and alsike clover in possession for sale such seed; (c) grader and date of grade; (d) the year and locality in which the seed was grown and the kinds and number per pound of noxious weed seeds contained therein, using their common names. "The inspectors will check up closely on all shipments into the state in order to protect the dealers and producers in Idaho. In turn, the dealers in the state will be required to have seed properly labeled."

Dairymen Buy Cheese Factory
Marshfield, March 6.—J. D. Carr has sold his cheese factory at Arago, on the Coquille river, to 22 dairymen, who have formed a company to operate it. The capital stock is \$4800. Officers of the company are R. M. Bunn, J. D. Carr, J. D. Delesman, G. E. Hampton and J. H. Schroeder. The new owners of the factory will market all of their milk at the plant.

POULTRY NOTES

Chickens never wash, as do many birds, but cleanse themselves of insects by wallowing in dust. Where board or cement floors are used in the chicken house, some means of dusting during the winter months should be provided. A dust box 3 feet by 5 feet, or 4 feet by 4 feet, will be found large enough in most instances, the United States department of agriculture suggests, for a flock of 50 or 60 fowls. It should be placed where it can be reached by sunlight as much of the day as possible. Fine, light, dry dust is best for the box, but sandy loam is good. Road dust is recommended by many, but it is often hard to secure. Coal ashes may be mixed with the soil if desired to make it lighter.

When fowls are laying heavily, special attention should be given to the supply of shellmaking material. It is not enough to keep oyster shell before the birds; it should be fresh, clean and free from the fine particles of shell which the fowls do not like and will not eat.

The most important detail in the care of breeding stock at this season is to give the birds plenty of exercise. There is no better conditioner. Breeding fowls that are compelled to scratch most of the day for their grain feed are not apt to lay fertile eggs.

Remember that chicks of normal size have a better chance to live and grow to maturity than those that are quite small, and that the size of the chick is determined by the size of the egg. Moreover, extremely small eggs are apt to be laid by immature pullets, which, as a rule, means low vitality in the embryo.

Select eggs for hatching carefully. Avoid those that are overlarge or undersize, also all that show any irregularities in shape or in texture of shell. Eggs are worth too much money to risk wasting any in the incubator that are not reasonably certain to hatch.

City Dwellers Make Success of Poultry Raising as Side Line

Poultry business as a successful side line is being carried on by Mrs. Evans, who lives at Union avenue and Russell street, Portland.

On one acre of ground the Evanses have their home, their flock of Barred Plymouth Rocks, some turkeys, guineas, bantams and Fox Terriers.

Mrs. Evans takes care of the house and the several flocks and keeps everything looking neat and clean. She says it is all in using a system about her work and finds it very little trouble to take care of three incubators and look after the rest of the flock.

Through January and February 75 per cent of the barred flock was laying. She cleared better than \$900 last year and this year expects to clear over \$1000 above all expenses.

Mrs. Evans is feeding scratch, wheat, cracked corn, lettuce and cabbage leaves and allows free range to the birds. She believes that the free range is what gives the eggs from her flock such a high percentage of fertility.

Mrs. Evans has used the classified columns of The Journal for over 18 years. She has tried other local papers but finds that the Journal is the best business comes through The Journal. She believes in continuous advertising rather than merely carrying a card during the spring months. Her inability to fill the orders that come pouring in would indicate that she is not only using the right means of advertising, but that her guarantee of quality hold good and bring repeat orders.

O. A. C. Barred Rock Hens Have Second Place in Contest

Oregon Agricultural College, March 6.—A pen of five Barred Rock hens entered in the Western Washington egg-laying contest by the Oregon Agricultural college are proving of high egg-producing capacity. For the month of January the pen was tied for first with a pen of S. C. W. Leghorns owned by the Hollywood farm of Washington, with record of 127 eggs for January. For the month of December the O. A. C. pen won with a record of 132 eggs, or an average of 26½ eggs a week.

The contest started the first of November and will run for a period of one year. The Barred Rock pen of the college is second for the entire period, having laid 382 eggs, with an average of 369 eggs for the pen which now ranks first. Judging by the record now being made by the college pen, it is thought that by the end of the contest they will be leading all other entries.

The cost of feeding the birds amounted to about \$331 a hen for the barred rocks, and \$308 for the Leghorns and Oregons. Eggs sold at 35 cents a dozen, for standards and 50 cents for pullets.

Reed Students Are Chicken Fanciers

Several hundred White Leghorns are singing happily and laying abundantly on a small place near Milwaukie.

Incidentally, one of the owners, Ambrose Brownell, is a graduate of Reed college and the other, J. L. Phillips, is a student there.

The boys were both in the army. As soon as they were discharged they bought a good flock and commenced culling. After careful culling they then selected their best birds for breeders and are saving the eggs from this pen for incubation. In one working pen 300 hens are laying 250 eggs per day.

By the use of electric light the day is lengthened to 14 hours. Dry mash is kept before the hens at all times and green feed and meat in some form or other.

After they increase the flock enough they expect to move to a larger place with better equipment. Watch for them to make a big success of the poultry business.

Read the advertisements on the farm pages. They contain many helpful hints on better farming. In answering advertisements always mention The Journal.

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FARMERS SHOULD KILL PEACH AND PRUNE TREE BORERS BY SPRAYING

By Kelsey W. Cook

Young peach and prune trees should be sprayed in February or March to kill the twig borer, advises A. B. Black, assistant entomologist at the Oregon Agricultural college.

An effective spray used to kill this work is made by adding one part of lime sulphur to eight parts of water. Mustard oil is also used, but lime sulphur is generally employed, as it largely prevents the peach leaf curl in addition to killing the twig miner. The peach and prune twig miner is found throughout the Willamette valley and Eastern Oregon.

"The worm is especially injurious to young peach and prune trees," said Mr. Black. "It bores down the twig, killing the tree as fast as it goes. The damage results in thinning out the limbs and ruining the shape of the tree. 'Heretofore the worms killed the twigs only, but now they burrow into the green fruit itself, particularly of the plum. They start at the stem, working under the skin and frequently into the pit, both injuries causing a rot that makes the fruit unfit for the market. Few ripen if the pit of the fruit is affected and many drop off later in the season.'"

The full-grown worm is one third of an inch long, a chocolate brown color with black shiny head, explained Mr. Black. "It is carried from orchard to orchard by the adult moth, and protected in winter by hiding under the surface of the bark."

One good method to call attention to the value of rabbit meat is to give away attractively prepared samples. Once the placing of rabbit on the home table is established this meat will continue to be consumed.

Promptness of deliveries is a great factor in increasing the sale of rabbits for food, as the average housewife plans her table from day to day. Quick delivery will enable her to better conform to her system. There can be a regular day set for the delivery of rabbits.

Many producers spend too much time and money on advertising breeding stock and attending to the sale of stock not up to the standard. This time could better be spent toward working up a market where the sale of dressed rabbit would prove more profitable and satisfactory than the business of rearing rabbits for breeders.

Direct marketing of the meat from breeder to consumer is preferable to selling through a middleman. There is opportunity in the rabbit business for cooperation on the part of breeders in working toward distribution of this preexisting body. No church or men's RABBIT SALAD

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MORMONISM

A Distinctive Religious System

By Dr. JAMES E. TALMAGE

Of the Council of the Twelve, Church of Jesus Christ of Latter-day Saints; Salt Lake City, Utah.

Note: For free copies of other articles of this series, send request to the author.

In the popular classification of religious bodies, the Church of Jesus Christ of Latter-day Saints is included at all, is generally given mention apart from churches and sectarian institutions in general. The segregation is eminently proper, for this Church is strictly unique.

No well informed commentator, no capable critic in either friendly or hostile mood, has classed "Mormonism" as the sectarian offspring of any mother church, nor as any mere variation of a preexisting body. No church on earth claims, acknowledges or admits any community of origin with the commonly known but mis-called "Mormon" Church. Nor does the Church of Jesus Christ of Latter-day Saints assert any such relationship with other bodies.

At this point it is well to consider the fact that toleration in religious belief and practice is a fundamental tenet of "Mormonism." This is set forth in one of the formulated Articles of Faith: "We claim the privilege of worshipping Almighty God according to the dictates of our own conscience, and allow all men the same privilege, let them worship how, where, or what they may."

We demand no prerogatives, ask no privileges, beyond what we readily concede to be the common rights of mankind. Our distinctive teachings and the claims of the Church as to its commission to preach the Gospel of Jesus Christ, and administer the saving ordinances thereof, must be judged on their merits, and in the spirit of testimony, which we believe the honest-hearted inquirer may gain for himself in the course of unbiased investigation.

The Church of Jesus Christ of Latter Day Saints is unique in that it solemnly affirms to the world that the new dispensation of the Gospel has been restored, characteristic of the last days precedent to the second advent of Christ, is established, and that the Holy Priesthood, with all its sacred authority and power, has been restored to earth.

"Mormonism" affirms that such restoration was a necessity, inasmuch as mankind had fallen away from the Gospel of Christ during the dark ages of history, with the inevitable consequence that the Holy Priesthood had been taken from the earth, and the authority to administer the essential and saving ordinances of the Gospel had been lost. The sanction of spiritual darkness was then told by prophets who lived prior to the meridian of time, as by Jesus Christ in the flesh, and by His Apostles, who were left to continue the ministry after the Lord's departure.

Furthermore, the fact of the great falling away or general apostasy is admitted, and indeed affirmed, by high ecclesiastical authority. Consider the forcible declaration of the Church of England, embodied in her official "Homily Against Peril of Idolatry" first published about the middle of the 16th century, and still in force as "appointed to be read in churches."

For the Book of Mormon, etc., apply to Northwestern States Mission, 515 East Madison Street, Portland, Ore.

For book of 266 pp., containing complete series of these articles, numbering 184, entitled "The Vitality of Mormonism," apply to the publishers: The Gospel Press, Boston, Mass.—Adv.

meat add ¼ cup celery and ¼ cup salad dressing, ½ teaspoon salt, and a few grains of cayenne pepper. Mix thoroughly and pour into salad bowl lined with lettuce. Put 1 or 2 tablespoonfuls of dressing on top and garnish with strings of green and red pepper.

Either a mayonnaise or a boiled dressing can be used for this salad.

Poultry Success Is Credited to Feeding
Vancouver, Wash., March 6.—Mr. and Mrs. F. E. Wood of Ridgefield, in addition to general farming, specialize on chickens. Wood says that when eggs were 80 cents a dozen his hens laid the

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Lensch Brothers, 241 Front St.
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Montavilla Feed Co., 1956 E. Stark St.
Ziegler & Misner, 418 East Clay St.

Jancke Drug Co., 280 Grand Ave.
Phoenix Pharmacy, 6616 Foster Road.
Julian Chybke, 1721 13th St.
C. S. Schmiedskamp, 1842 Sandy Blvd.

Skook & Benson, 1142 Union Ave. N.

Plummer Drug Co., 3rd and Madison Sts.

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(Read "How Harley Made Good" this day next week.)

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most. Mrs. Wood takes as much or more interest in the chicken and the farm as her husband, and together they completed a correspondence course in the art of chicken-farming. They have 525 O. A. C. White Leghorns, 175 of which are old hens kept for breeding purposes. They will begin shortly to sell eggs from these birds at \$8 a dozen and already have orders booked ahead. From the remaining hens—150 of them—they have taken in \$1000 since October 1, 1919. It is estimated that it costs at the present time 1 cent per day for feed per hen, which would leave a profit of \$500.

Their hens are bred for utility purposes, and not for the showroom. They are highly hybridized and bred for other developments said to mark a good laying hen.



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