

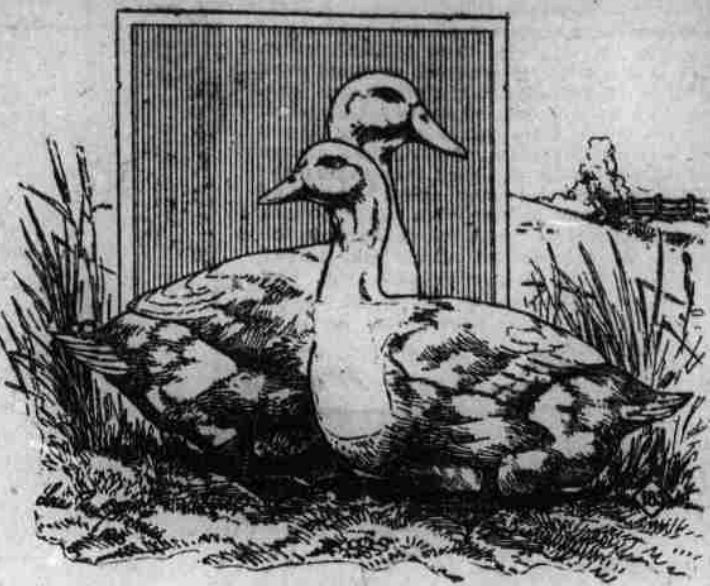
BROODING CHICKS ARTIFICIALLY THROUGH THE DANGER PERIOD

How to Operate an Incubator to Hatch Chicks That Will Live

Construction and Care of Brooders and Feeding the Chicks

By Frank C. Hare, Poultry Husbandman, Clemson College, S. C.

In the brooding of chicks it is essential that the chicks are properly hatched. This article explains the laws governing incubation during the last three days, and continues with simple directions for the construction and operation of the brooders and the care of the chicks to the time of weaning at about five weeks of age.



AYLESBURY DUCKS

The Aylesbury stands at the head of the domestic races of ducks bred in England, probably because of its rapid growth and early maturity. It was first known as the White English, and in the early part of the last century it became known as the Aylesbury. It originated in the vale of Aylesbury, and this district bears the same relation to London as does Long Island to the markets of New York City. The difference, however, lies chiefly in the methods of rearing, and, as a rule, the English duckyards are smaller. The Aylesbury ducks have an almost horizontal carriage; males weigh nine pounds and females eight pounds. The plumage is white, free from tints in undercolor. The bill is large and broad and of pale flesh color, with no trace of yellow. The skin is light pink in color, fading dead white after a few days in cold storage. Their fat is light colored, and the meat is fine grained, tender and white. The legs and toes are bright orange, with white toenails. Aylesbury ducks are great layers; in fact, this is one reason for their popularity. In flocks the average egg production is 115 per year. The egg is large, white shelled and translucent. The old duck is a fairly good sitter, but apt to be an indifferent mother. The ducklings are hardy and rapid growers, easy to raise and fatten and will reach green-duck maturity (market size) in from nine to eleven weeks. Aylesbury ducks have never secured a firm hold in America, although many are bred for show purposes. Their dark-colored bills and light legs prevent them from finding the ready sale found among our housewives for the yellow-legged Pekin.

104.6 degrees, a much greater heat than the chicks require; the temperature inside the hen's wings is 99.4 degrees, but the chicks are not compelled to remain in either of these places. If they are cold, they can be quickly warmed; if they become too warm, they can push out their head or body and cool off. We should endeavor to obtain this flexible condition in artificial brooding.

Brooder Stoves Are Recommended

From the conditions found in natural incubation, it would seem that the latest system of brooding chicks, the use of coal-burning or oil-burning brooder stoves that have a temperature of 110 to 120 degrees near the stove and lower temperatures at greater distances, would be more successful than small brooders in which the chicks are kept at a certain heat. The secret of success in brooding chicks is to have some warm place (a heater), to which the chicks may run when cold, and from which they can move into a more moderate temperature when too warm. Brooders that do not permit the chicks to select a comfortable heat at all times must be operated by an expert, or the brood will be endangered by being overheated or chilled. The cost of the coal-burning stove referred to has been reduced, so that it is possible to purchase a reliable style that broods up to 500 chicks at a moderate price. Such a stove is placed in the center of a room, and if chicks of different ages are brooded, the room is divided by wire partitions 18 inches high into four pens, with the stove at the center of each. The different lots have around the stove at night, and will not crowd into the corner because it is too warm there. They prefer to sleep two or three feet from the stove.

How to Make a Brooder

A simple brooder can be made from a packing box 3 feet square and high, a common lantern, a 30-inch length of furnace pipe 10 inches diameter, a piece of tin or galvanized iron 14 inches square, three bricks and a pane of 12 by 16-inch glass. Nail up half the top of the box; make the other half into a door 18 inches by 3 feet. Cut an opening 10 by 14 inches in the center of the door and cover it with the glass. If possible, arrange the glass to slide in grooves so that it can be opened for ventilation. Hinge the door to one side of the box. The door (originally the top of the box) is the front of the brooder. Turn the box so that the front faces you. Cut an opening 12 inches square in the top of the brooder. Stand the three bricks edgewise on the floor and on them place the length of furnace pipe. Insert the lantern through the top of the brooder inside the furnace pipe, allowing it to hang down half way. Bend a heavy wire into a T-shaped hook to support the lantern handle from top of brooder. With a chisel cut a 4-inch hole at the center of the piece of galvanized iron to allow the fumes of the lantern to escape, and place this sheet over the 12-inch hole above the lantern. Take off a board 6 inches wide from either end at the floor for the chicks to enter and leave the brooder. Cover this inside with a strip of blanket or old clothes, and cut 3-inch slits every 4 inches through which the chicks can pass. The curtain is to confine the heat in a cool room.

Do not be in a hurry to take away the chicks; wait until the youngest are dry and strong on their legs. The earliest that can remain in the incubator for 24 to 48 hours, if necessary, without injury, if they have sufficient ventilation, are warm, and do not act any fishy. This treatment, of course, would ruin the hatch if the air was foul.

Imitate Natural Breeding Methods

Before dealing with the construction and operation of brooders, let us consider the natural brooding of chicks. We cannot improve on Nature, and to achieve the greatest success, we must understand and abide by her laws. The temperature of the bare breast of the sitting hen is

would be a wise move in the direction of "preparedness" to have instructed delegates from some other state in order to make certain that the name of the Wisconsin senator will be placed before the Chicago convention. The selection naturally fell upon North Dakota, where the La Follette strength was abundantly manifested in the political skirmishing that preceded the national conventions of four years ago.

As Senator La Follette is the only republican candidate who has filed a petition in North Dakota, with the exception of Henry D. Eastbrook of New York, it is regarded as a practical certainty that the state's ten delegates to the Chicago convention will be instructed for the Wisconsin senator. Some surprise has been expressed that Senator Cummins did not file a petition, since his lieutenant have been working assiduously to

capture all the neighboring states. The generally accepted explanation is that the Iowa senator has entered into some arrangement with Senator La Follette's friends by which the Iowa candidate has agreed to leave La Follette an unobstructed path in North Dakota. The democratic delegates from North Dakota will be instructed unanimously for Wilson's re-nomination.

DEDICATE NEW SAN DIEGO FAIR

San Diego, Cal., March 18.—With ceremonies typical of the wide scope and importance of the enterprise and its aims, the new Panama-California international exposition was formally dedicated today. Thousands of visitors were in attendance, including a delegation of 100 prominent officials and business men from San Francisco. The present exposition is a continu-

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position of the Panama-California exposition held in San Diego last year and which came to an official close on December 31 last. The insertion of the word "international" into the title of the new exposition has followed the bringing here of many exhibits from the late San Francisco exposition. The foreign section of the new fair embraces exhibits from Russia, Spain, Holland, Canada, Switzerland, Brazil, Guatemala, and Honduras. In addition to these foreign exhibits the ex-

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What Italy Has Done in the War

The more spectacular operations of some of the other Allies have partly obscured Italy's part in the present war in the eyes of the American public. Italy's anomalous position in being at war with Austria and at peace with Germany has, besides, produced distrust in some of the allied capitals, and the warmth of feeling evoked by Italy's siding with the Entente has given way to a chilled current of doubt and suspicion. Many are asking the question "Why has Italy not declared war on Germany?" or "Why has she not joined France and England in their expeditions in the Near East?"

In THE LITERARY DIGEST for March 18th there is a very illuminating article consisting of excerpts from the British press and translations from French and Italian papers which bring out in a strong light the very important part that Italy has played and is playing in the war.

Other leading articles that will make this number of "The Digest" of great interest are:

- ## Villa's Raid
- The Voice of the American Press on the Mexican Situation
- Analyzing the President's Congressional Victory
 - The "Teuton Lobby" in Congress
 - A Pacifist Secretary of War
 - New Irish Declaration of Independence
 - Negro Segregation in St. Louis
 - Compulsory Economy in Germany
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God Save the King!—Hoch Der Kaiser!—Vive la France!—Viva l'Italia!

All hail are heard in THE LITERARY DIGEST, as the defenders of Allies and Teutons present their respective sides. The readers of this non-partisan weekly are blinded to no phase of the war's development. Both sides are allowed to offer their cases for approval and Digest readers can judge for themselves without prejudice and with an accurate understanding of every view-point. The same policy of impartial fairness governs THE LITERARY DIGEST'S reports of all our own national problems, both domestic and foreign. Excerpts are taken from the editorial press all over the country to explain every different conception. The man who wants a real understanding of every question of public interest will value the complete information in THE LITERARY DIGEST, regardless of his personal sympathies.

March 18th Number At All News-dealers Now—10 Cents

The Literary Digest

FUNK & WAGNALLS COMPANY (Publishers of the Famous NEW Standard Dictionary), NEW YORK

N. D. FOR LAFOLETTE.

Washington, March 18.—Robert M. La Follette, United States senator from Wisconsin, is expected to receive his first formal endorsement for the republican presidential nomination in the North Dakota primaries next Tuesday. The Wisconsin senator has not been waging any active campaign for the nomination, in the light that Cummins, Fairbanks, Weeks and several of the other republican aspirants have been doing, but he is none the less a candidate. There is a factional fight among the republicans of North Dakota, and it is possible that the senator may not receive the unqualified support of the Wisconsin delegates to the national convention. In this contingency, it has probably been figured out by Mr. La Follette and his political managers, that it