How a Big Egg Producer Operates

How does a big egg producer manage his birds? What kind of housing does he use? M. J. B. Mills, director of England's Laughton Egg Co., told how his company handles 75,000 layers at a recent Spillers Egg Production Conference at Edington.

Air Movement Patterns in Three Laughton Ventilating Systems

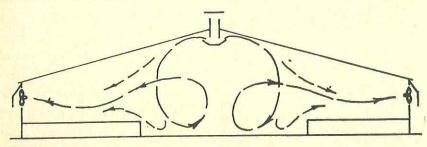


FIG. 1: RIDGE AIR INLET; FAUS IN SIDE WALLS .

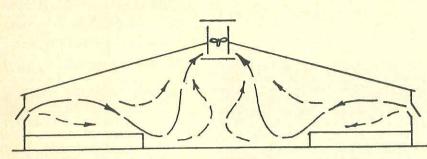
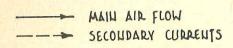


FIG. 2: SIDE AIR INLETS; FANS IN RIDGE.



22_POULTRY INTERNATIONAL—January, 1963

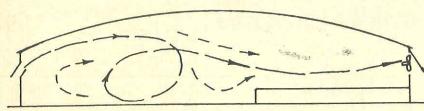


FIG. 3: CROSS-VENTILATION; AIR INLETS & FANS IN SIDE WALLS

Source: Stockbuildings Ltd.

• England's Laughton Egg Company operates five farms, each with a capacity of 15,000 layers.

Each farm has two pre-fabricated, controlled environment houses, measuring 40 ft. x 380 ft. (12.19 x 115.82 meters) for a total square footage in each house of 15,200 sq. ft. (1533.75 sq. meters). When the area occupied by the egg storage room is subtracted, 7,500 birds can be housed at slightly under two square feet per bird.

The theoretical U value of each house is .124.* The roofs are lined with two inches of fibre glass and flexible asbestos sheeting. The side walls, constructed of 1-inch (2.5 cm.) tongue-and-groove boarding, are lined with 1-inch (2.5 cm.) fibre glass and flexible asbestos sheeting.

Four Ventilation Systems

Laughton uses four different ventilation systems. Each system is designed to provide a maximum extraction rate of approximately two cubic feet per minute per pound live weight. With the type of birds used, that equals about 10 cubic feet per minute per bird.

1. Cross ventilation. The fans are installed in boxes along the droppings pit side of the house. The air is drawn in through inlets on the opposite side of the house. The fan boxes are fitted with adjustable shutters to vary air movement.

2. Open ridge. A baffle is below the open ridge. The fans are installed on both sides of the house. With this system, double droppings pits run along either side of the house.

3. Ridge extraction. The air inlets are in the eaves. Double droppings pits run along either side of the house.

4. Pressurized ventilation. The air is drawn in at either end of the house at the apex of the roof. It is then blown in through socks and forced out under pressure at outlets at the sides of the house.

All four systems work satisfactorily. However, the cross-ventilation and ridge-extraction systems are the easiest to control. With the open ridge,

*The U value is the number of British thermal units that will pass through one square foot of surface in one hour for each degree of temperature difference on the two sides of the



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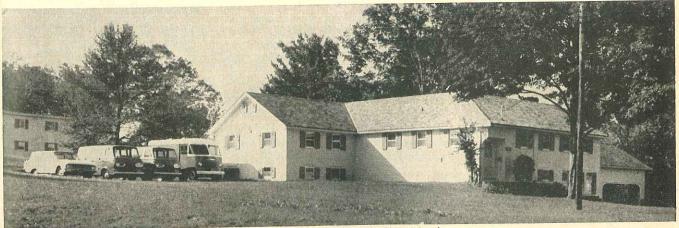
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Garrison X-300 Leghorns

X-300-Leghorns hatten den höchsten Durchschnitt 2 Jahren bei den Stichproben-Versuchen in Penn-sylvanien. Die X-300 Leghorns sind eine Kreu-zung aus zwei der ältesten Linien Amerikas. Sie haben Energie, erstklassige Eierqualität und so hervorragende Fütterungswirtschaftlichkeit, dass sie hei jeder Leistungsschau, an der sie teilgeb hervorragende sie bei jeder Leistungsschau, an der sie teilnah-men, sich als 'erstklassig' plazieren konnten. Bei dem eben beendeten Stichproben-Versuch in New Jersey legten X-300 Leghorns 265.9 Eir bei 3,94 lbs. (amerik, Pfund) Futter pro Dutzend Eier (Bodenhennen).

Garrison Golden Sex Links

Die Hühnchen sind gold-rot, die Hähnchen White Columbian. Diese abgehärteten, wirtschaftlichsten Eiererzeuger legen gold-braune Eier—von allen Rassen die grössten Eier—und haben eine Futterumsetzung, die man normalerweise nicht bei so schweren Rassen findet.
Anfragen über Garrison-Zuchttiere und Konzessionen geben Sie uns bitte heute herein.

GARRISON VANGUARDS POUR PLUS DE POIDS— DE LA VIANDE EN PLUS

Les Garrison Vanguards représentent le résultat de 28 ans d'élevage Cornwallien pur. Vous obtiendrez un plus grand rendenment—de la viande blanche en plus grande quantité—un meilleur fini à tous les stades de développement. Les Cornwalliens Garrison sont les seuls volatiles à viande de qualité. Avec les Vanguards on obtient d'excellentes pulardes à griller, à rôtir, et des chapons.

Garrison X-300 Leghorns

Garrison X-300 Leghorns

Dans les essais d'échantillons pris au hasard en Pennsylvanie, les X-300 Leghorns ont obtenu la plus grande moyenne en deux années. La race X-300 Leghorn, issue du croisement de deux des plus anciennes lignées héréditaires d'Amérique, possède une grande vigueur, donne des oeufs de la plus haute qualité, et a une efficience de nourriture tellement remarquable, qu'elle a ète primée "premiére" à tous les concours auxquels elle a participé. Dans les essais d'échantillons pris au hasard en New Jersey qui viennent de se terminer, les X-300 Leghorns ont pondu 265.9 oeufs par 3.94 livres de nourriture pour chaque douzaine d'oeufs (volatiles à terre).

Garrison Golden Sex Links

Les poulettes sont rouge-or—male White Columbian. Ces productrices d'ocufs bruns, vigoureuses et des plus efficaces, pondent de beaux ocufs bruns-dorés—des ocufs de la plus grande dimension de n'importe quelle race-en outre, leur conversion de nourriture est telle qu'on n'en trouve pas d'habitude dans les races lourdes. Veuillez nous écrire aujourd'hui mêmo pour tous renseignements concernant la race d'élevage Gar-rison et les droits d'exclusivité.

GARRISON VANGUARDS PARA MAS PESO—MAS CARNE

Garrison Vanguards son el resultado de 28 años de cría de rasa pura Cornish. Ud. obtendrá más rendimiento—más carne de pechuga—un acabado más fino en toda etapa del desarrollo. Garrison Cornish son las aves para carne de calidad. Los Vanguard son perfectos para pollos de asar — pollos de hornear — capones.

GARRISON X-300 LEGHORNS

X-300 Leghorns tuvieron el promedio más alto para 2 años en los ensayos al azar del Estado de Pennsylvania. La X-300 Leghorn, un cruce de dos de las razas más antiguas de EE.UU., tiene gran vigor, la mejor, calidad en huevos, y una eficiencia de alimentación tan notable que ha salido "primera" en todos los concursos en que ha sido ejemplar. En el ensayo al azar de New Jersey recién completado, a X-300 Leghorn puso 265.9 huevos con 3,94 libras de comida por docena de huevos (aves de piso).

GARRISON GOLDEN SEX LINKS

Las pollas son de color rojo dorado — machos White Columbian. Estas fuertes y muy eficientes ponedoras de huevos pardos producen huevos hermosos de color pardo dorado — del tamaño de huevos más grande de todas las razas. Cuentan con una conversión de alimentos poco común entre las pues presedes.

Para consultas sobre las aves de cría Garrison, y sobre representación, escríbanos hoy mismo.

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Feed conversion less than 2 lbs. of feed per lb. of meat. Vanguards make wonderful broilers, roasters, capons.

GARRISON X-300 LEGHORNS

X-300 Leghorns had the highest 2-year average in the *Pennsylvania Random Sample Test. The X-300 Leghorn, a strain cross of two of America's oldest blood lines, has great vigor,

top egg quality, and a feed efficiency so outstanding that it has placed "first" in most contests it has ever entered. In the New Jersey Random Sample Test X-300 Leghorns laid 265.9 eggs with 3.94 pounds of feed per dozen eggs (floor

GARRISON **GOLDEN SEX LINKS**



Pullets are golden red male White Columbian. These hardy and most efficient brown egg producers lay beautiful golden brown eggs -biggest egg size of all breeds, over 80% large and extra large,

Pa. Test - have a feed conversion not usually found in heavy breeds.

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*Entered by Stever

it is difficult to control down-drafts, especially during the rearing period in winter months.

Like Slats and Litter

In the houses with single droppings pits, one-third of the floor area is covered by wire or slats and twothirds with deep litter. In the houses with double droppings pits, half of the area is covered by wire or slats and the other half with deep litter. The Laughton Company believes the strength of slats makes slats preferable to wire.

Each house is divided into nine pens. Each pen holds 900 birds at the start of production. Allowing for mortality and culling, this will provide about 7,500 birds in each house at the beginning of the laying period.

One gas brooder per pen is used for brooding. The brooders can be used as space heaters during the winter months if necessary.

Lighting Program

The lighting is provided by incandescent bulbs. Laughton reports that fluorescent lights tend to create pools of light and dark patches.

Two lines of lights run about 15 ft. (4.57 meters) from the sides of the house. The light intensity is based upon 600 watts per 200 sq. ft. of floor

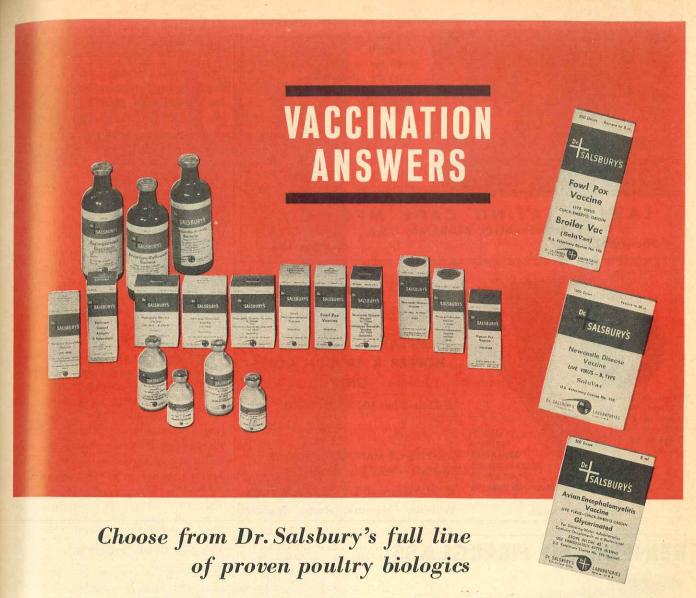
Birds have 24 hours of light for the first two or three days of their life. At three days and until eight weeks of age, light is reduced to 18 hours a day. The light is then decreased by 3/4 of an hour per week so that at 19 or 20 weeks, the birds have 10 hours of light. At this time, the first eggs are usually laid and the lighting is then increased by 1/2 hour per week or slightly more, if necessary, to insure 14 hours of light just before the peak of production.

From this point on, another three hours of light can be provided when necessary, to hold production, as long as the light does not exceed 17 hours.

Use Automatic Feeders

All houses have automatic feeders. In the single droppings pit houses, one feeder runs along the slats and one over the litter area. The automatic feeders are supplemented by hand

In the double droppings pit houses, an automatic feeder runs along each dropping pit. They are supplemented



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Choose the Newcastle vaccine to meet your flock needs—your own methods of management. NEWCASTLE WAVAC lets your chicks vaccinate themselves while they're drinking. NEWCASTLE SOLUVAC offers you a choice of intranasal, spray, drinking water, or wing-web applications. For older birds, choose NEWCASTLE VACCINE—Dust, or new Killed Virus NEWCASTLE VACCINE for injection into individual birds.

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FOWL LARYNGOTRACHEITIS VACCINE effectively prevents this highly contagious disease. FOWL POX VACCINE provides lasting immunity against fowl pox. For protection from the first day, use mild BROILER VAC VACCINE.

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AVIAN ENCEPHALOMYELITIS VACCINE, given to pullets, prevents epidemic tremor through the production period-stops transmission of this disease through eggs to chicks.

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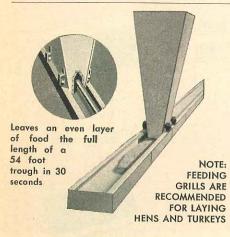
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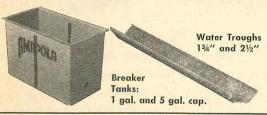
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The information should include your name, the name and address of your firm and the general line of products which you are interested in handling.

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with hand feeders hanging over the

Laughton added four runs of auto. matic feeders in one of its recent in. stallations. The company considers the capital spent on the extra feeders worthwhile because they eliminate the need for supplementary hand feeding

Floor standing waterers have been installed, one five-foot (1.52 meter) waterer per 100 birds.

Individual nests have been installed at the rate of one hole for five birds Laughton prefers the two-tier to threetier nests. The position of the nests depends on whether or not the house has single or double droppings pits. In the double droppings pit houses the nests are placed back-to-back in the center of the house. This, however, cannot be done in cross-ventilated houses because the nests obstruct proper air movement.

In the single droppings pit houses, which are cross-ventilated, the nests are placed adjacent to the droppings pit. In this position, they do not interfere with proper ventilation. Although the position does not provide the most efficient arrangement for egg collecting, it is easier to get the birds to use the nests. The percentage of floor eggs experienced by Laughton has averaged about four to five percent.

Housing Costs Calculated

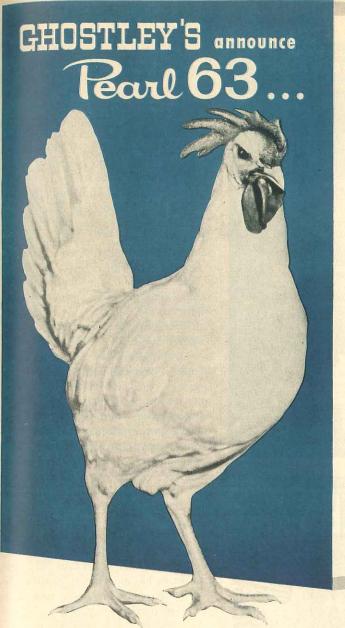
Laughton considers the total cost of a house similar to the one described to be between 17/- and 18/- (\$2.38 and \$2.52) per sq. ft. The figure includes house, equipment, electrical installation, water installation, etc., and a reasonable amount for site work. It does not, however, include the purchase of the land, access roads and workers' quarters.

Management Program

All birds on each farm are the same age. They are reared together from day-old as part of the disease control program. Since the birds are not moved, any stress which would be caused by movement near the beginning of the laying period is eliminated.

Chicks are started in cardboard surrounds (chick guards) beneath the brooders with adequate feeding and watering equipment. The automatic feeders cannot be used at this point. so egg trays and broiler-type hand feeders are used to hold the feed.

At about 10 days of age, the birds are debeaked. At about seven days of age, the cardboard is removed to pro-



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Egg production	245-275	240-270
Egg size	25.2 ozs./doz.	25.6 ozs./doz
Body weight	4.38 lbs.	4.25 lbs.
Feed conversion	3.9 - 4.2 lbs.	3.7 - 4.2 lbs.
Haugh Units	88	88

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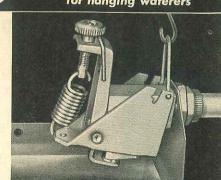
constant level WATER VALVE for hanging waterers

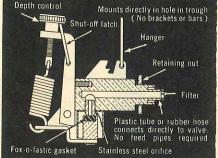
Occupies less than 1" x 2" of trough space and is entirely above water.

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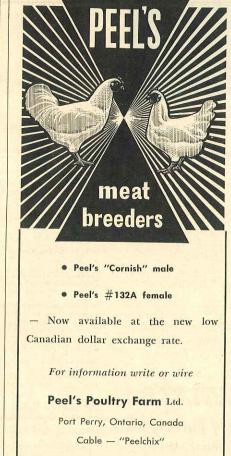
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vide the birds with greater floor area Between 20 days and three weeks of age, the birds have the run of the entire litter area of the house. At this point, the automatic feeders are used with the hand feeders.

Between six and seven weeks of age. the birds are confined to the slatted or wire floored area for six days. Addi. tional hand feeders and waterers are put in the area to insure an adequate supply of feed and water. This maneuver reduces the bird's tendency to not use the droppings pits when the lights go out. The use of dim lights for this purpose was found unsatisfactory.

At 16 weeks of age, the birds are again debeaked. Cockerels are also taken out and any necessary culling is done. The birds are vaccinated against Newcastle (fowl plague) disease at debeaking time, at two or three weeks of age, and again at the second debeaking at 16 weeks.

When the birds are in full production, the eggs are collected three times a day. They are gathered from the fronts of the nests and put directly into plastic-covered wire baskets, or, in some cases, into plastic egg travs stacked on a platform suspended from an overhead track. The latter method is probably better and quicker but its use depends upon the percentage of eggs that must be cleaned and, therefore, handled twice.

The eggs are then taken into the egg rooms where they are cleaned and packed into cases. Because of its large size and daily collection of eggs, Laughton has no special facilities for egg storage as the eggs are moved directly to market.

12-Month Laying Cycle

The Laughton system allows a 12month laying period. But depending upon the percentage of production and egg prices toward the end of the cycle, the birds may, in some cases, be kept another month or even sold a few weeks before the 12-month period is concluded.

At the end of the laying cycle, all birds are removed from the farm as quickly as possible. The houses are cleaned and disinfected. The equipment is removed, steam cleaned and disinfected. When the manure and litter is removed, it is taken completely clear of the farm to minimize the risk of disease being carried from one growing cycle to another.

Four to five weeks elapse before the next batch of day-old chicks ar-

and an assistant poultryman. Until the laying period begins, no additional help is necessary. During the laying period, additional women are employed to clean and pack eggs. In most cases, they are the wives of the poultrymen and local girls. At peak production, three girls on each farm are used in addition to the two poultrymen.

It is an advantage for the poultrymen to take their holidays during the rearing period when one man can handle the chores by himself for awhile. However, if this is not always possible, additional casual labor is employed.

The poultrymen receive a bonus depending upon the overall performance at the end of the 18-month cycle (day-old to the end of the laying period). However, a small amount is paid quarterly providing the company is satisfied with the way in which the unit has been operated. The amounts are deducted from the total bonus due at the end of the cycle.

Laughton does not consider its system necessarily better or more profitable than other methods of poultry at Osaka for sales throughout the production. But the firm does con-

Each farm has a chief poultryman sider that completely controlled-environment houses are essential to obtain optimum performance and that whatever system of housing is used, management plays as big a part in the results as the housing itself.

Philippine Firm to Distribute **Colonial Layers**

Colonial Poultry Farms, Inc. Pleasant Hill, Missouri, U.S.A., and Earthwealth (Phil.) Ltd., Manila, Philippines, have formed Colonial Hatchery Farms to hatch and distribute Colonial's True-Line laying stock in the Philippines. The firm expected to be in full production by December 1.

New Company to Make Vitamin A in Japan

Japan Nopco Co., Ltd. has been established as a jointly owned subsidiary of Nopco Chemical Co., Newark, New Jersey, U.S.A., and Sumitomo Chemical Company, Ltd., Osaka, Japan. The firm will produce synthetic Vitamin A in a new plant

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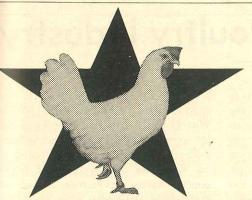
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