

### One Penny a Pint.

With a prospect of an increase in the retail price of milk, it is perhaps reassuring for consumers to know, says a London, England, paper, that a project is on foot for importing milk from Denmark. The proposal is to sterilize the milk in co-operative factories, so as to effectually destroy all germs it may contain, and ship it to London in refrigerators. A syndicate has been formed with the object of carrying the project to a practical issue, and it is confidently asserted that imported milk of this description, guaranteed absolutely free from malevolent microbes, can be placed on the doorsteps of London householders in sealed bottles at 1d. a pint.

## POULTRY.

### Breeding Good-laying Strains of Fowls.

In Bulletin 130 of the Maine Experiment Station we find the following instructive particulars about the method and results of the work of that Station in building up a superior laying strain of hens by selecting the good layers by means of trap nests, and breeding from the best:

In 1898 the Maine Agricultural Experiment Station designed and constructed fifty trap nests, and put them in use by the pullets kept that year. From time to time the work has been extended, until now 200 trap nests are in use by a thousand hens.

By the trap nest it is possible to know the exact daily work which every hen is doing. At the end of the year, those that had laid 160 eggs or over were selected and saved for breeders. They were bred to males whose mothers had laid 200 or more good eggs per year. No female has been used in the breeding pens for six years whose mother did not lay at least 160 eggs in her pullet year. No males have been used as breeders unless their mothers laid above 200 eggs per year. The breeding pens are now filled with birds of both sexes that have six generations of mothers and fathers before them that were bred under these rigid rules of selection.

The stock commenced with in 1898 had been laying about 120 eggs each per year for several years, as shown by the flock records. During the last two years the hens have averaged 144 eggs each during their pullet year. There seems to be reason to conclude that the producing capacities of the hens have been increased by about two dozen eggs per year. Perhaps this increase is not all due to the selection and breeding. The dry feeding and open-air housing doubtless have contributed to the improvement. But, reason about it as one may, the fact remains that not a drone or small producer, backed only by beauty of form, feature, or color, has had a place in the breeding of these birds in any of the last six generations.

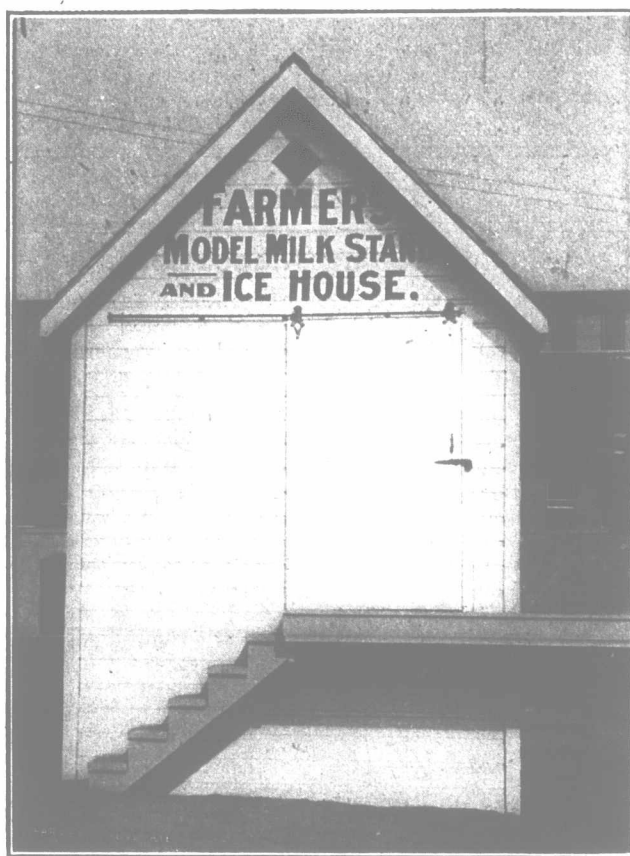
The purpose of this work must not be misunderstood. The attempt is not to produce a stock of birds that shall average to produce 200 eggs per year. If by continued work a family of birds can be permanently established that, with reasonable treatment, will yield twelve dozen eggs per year in flocks of 100, it will be a matter of great consequence to the poultry industry. These yields are already being obtained in the station flocks. There is no reason why the stock should not yield as well in other hands, but, in order for succeeding generations of birds to do so, it will be necessary to at least use male birds whose breeding has been based on performance.

The question is frequently asked if the stock is not likely to be weakened by inbreeding, since male birds are not purchased from outside flocks. There is no reason to go outside for fresh blood. This season there are 82 hens in the breeding pens, each of which has yielded 200 to 251 eggs in a year. The different matings made with so many birds makes easy the selection of only distantly-related males and females when making up the breeding pens. The number of the breeding birds carried makes easy the avoidance of inbreeding, and this is strictly guarded against, as it is doubtful if the stock has sufficient constitution to enable her to withstand the demands of heavy egg-yielding.

During only one season and then with but two

small pens, have birds as closely related as first cousins been bred together. Line breeding is followed, the matings being only with distantly-related birds. The birds are vigorous, of good size, and able to stand up under hard work. They have good large, yellow legs and yellow beaks. They are well feathered and barred, but they are not bred for the fanciers or the show-room, although there are many fine specimens in the yards.

As evidence that the function of heavy egg-yielding has become fixed in the stock, attention is called to the fact that many male birds have been sent out to farmers and breeders in this and



Erected on the Ottawa Exhibition Grounds.

For particulars see report of the show in "The Farmer's Advocate" of Sept. 20th.

other States, with which to improve the egg yields of their flocks. The many voluntary statements from the purchasers, telling of the early and heavy egg yields from the pullets gotten by these cockerels, is substantial testimony to the utility of the stock, and, added to the known average increase of two dozen eggs per bird for the hens in the station flocks, argue well for the breeding.

### OTHER METHODS OF SELECTING BREEDING STOCK.

The only reliable method of selecting breeding stock is by aid of the data secured by the use of trap nests. It is, however, only investigators, large operators and breeders who make a business of producing birds and eggs for breeding purposes for sale who can afford the equipment and expense of operating trap nests. Most poultrymen and farmers who carry small flocks are usually too busy to give the regular attention required by any reliable and satisfactory trap nest. They can better afford to buy the few males required each year from some one who makes breeding stock by trap-nesting a specialty.

There are one or two concerns that advertise to teach how to pick out the pullets that are to be good layers, and how to pick out the hens that have laid well. The price for the system is \$10 by one of the concerns, with a bond of \$1,000 to keep the secret. The warm friends of both systems tried them on some pens of trap-nested birds at the station with known records, and both parties went away sorrowing at the results of their work. Their systems were unknown to the writer, but it does not matter, for both were completely valueless as applied here.

Two others came to show that it was not necessary to use trap nests. One claimed to be able to tell the laying capacities of pullets by the positions of the pelvic bones, while the other was sure he could tell the yields for the coming year, to within eight or ten eggs, by the length and shape of the toe nails. Another was sure that large combs are infallible indications of great egg-laying capacities.

There are 80 birds in one yard at the station, each one of whom has laid from 200 to 251 eggs in a year. So far as can be discovered, they differ from each other sufficiently to upset any theory of selection thus far put forward. One feature is common to all these hens—they all have strong constitutions.

### EARLY MATURITY INDICATIVE OF GOOD LAYING.

A year ago last August and September, 29 pullets were selected on the range that were laying in the brooder-houses, or about commencing doing so, as shown by their red combs and their prating and following the caretaker about the field, talking about things they were going to do in true hen language, which is easily understood and not to be mistaken by anyone who knows chickens. These young birds were carried into the laying house, banded, and given the regular treatment for laying hens. Records were kept with each individual for 365 days forward from the day on which each one gave her first egg.

Four birds died during the year, and the 25 remaining averaged laying 180 eggs each. Two of the four that died had done good work, one having laid 148 eggs up to July 30th, and the other 150 up to April 7th. Eight of the 29 birds laid over 200 eggs each. The only poor layers in the lot were two of those that died, one laying 58 to March, and the other 113 to June.

The average production of all the pullets kept in the regular work last year was 144 eggs per bird. The average of 180 made by this lot, and the small number of poor yielders in it, show the advantage of selecting the early layers for breeding purposes. Those selected were of the most forward pullets.

To the farmers and small poultrymen who do not use trap nests, this plan of selecting the breeding females has much to commend it. The method is simple. There is no secret about it. It is just common sense. Such pullets, bred to males purchased from some reliable breeder who practices trap-nest selection of his breeding stock, ought to improve the egg-yielding capacities of the flocks.

The table shows the individual records of these pullets during the 365 days following the recording of their first eggs, and it also shows their yields up to the end of October—the regular time of closing the year's records.

The list includes all the birds that were put into the test, showing those that died, as well as those that continued through the year.

### RECORDS OF EARLY-MATURING PULLETS.

No. of hen.	Date on which the first recorded laying was made.	No. of eggs laid during first 365 days.	No. of eggs laid to Oct. 31, 1905.
1	September 1, 1904.....	153	180
2	September 1, 1904.....	143	167
3	September 29, 1904.....	142	162
4	September 1, 1904.....	190	223
5	September 20, 1904, died July 30.....	148	
6	September 20, 1904, died March 29.....	58	
7	September 10, 1904.....	185	226
8	September 10, 1904.....	188	221
9	October 1, 1904.....	204	218
10	October 10, 1904.....	162	171
11	September 6, 1904.....	139	150
12	September 25, 1904, died June 24.....	113	
13	October 1, 1904.....	182	198
14	September 1, 1904.....	137	160
15	September 1, 1904.....	170	199
16	October 1, 1904.....	208	229
17	September 1, 1904, died April 7.....	150	
18	September 1, 1904.....	158	177
19	September 1, 1904.....	185	222
20	September 6, 1904.....	160	163
21	September 10, 1904.....	190	222
22	October 1, 1904.....	210	228
23	October 1, 1904.....	201	209
24	September 8, 1904.....	217	251
25	October 1, 1904.....	205	210
26	September 1, 1904.....	212	248
27	September 1, 1904.....	239	265
28	September 1, 1904.....	145	171
29	September 12, 1904.....	178	199
Average of 25 birds for 365 days.....		180	

### A Fertile Field for Discovery.

A reader of Farm Poultry who noticed a newspaper clipping to the effect that an egg with smooth round ends would hatch a hen, and one with rough ends a rooster, asked the poultry editor about it. The latter hit the case off pretty well in his reply:

"This is one of the facts which does not stay discovered. It has to be discovered over again every few years. The discovery may give the discoverer a little notoriety and lead to questions as to the fact, but that is the end of it. We still continue as uncertain of the sex of future chicks as ever."