

pounds of cured cheese. On the same day and under the same conditions of handling, as far as possible, three hundred pounds of milk testing 3.15 per cent. fat, produced 27½ pounds of green and 26 pounds of cured cheese. A difference of 1.2 per cent. in the fat made a difference of seven pounds in the yield of cured cheese from 300 pounds of milk, or at the rate of 2½ pounds per 100 pounds of milk. At 8c. per pound of cheese it makes a difference of about 18c. per 100 in the value of this milk for cheese-making.

Another illustration will suffice. This time we had two vats of milk, 300 pounds in each, one of which tested 4 per cent. fat and the other 3.1. The yield of cured cheese from the former was 30½ pounds, and from the latter 26½,—a difference of 4 pounds. We have numerous instances where the difference is as great or greater than in the cases cited, which go to show that all milk should be tested as it comes to the factories and the proceeds of sales divided according to its cheese making value and not according to its bulk.

Dairy School.

The dairy class which has just completed the short course in dairying is the largest which has yet attended the Dairy School. To have 110 students on the register means a large force of improved dairymen and dairywomen. Although the course was extended to twelve weeks a larger number remained until the close of the term than ever before. We have one or two butter-makers and two or three persons who would make capital assistants in a creamery who have not yet secured places. Anyone desiring a maker or an assistant may write the Dairy Department, O. A. C., Guelph.

PHEASANT CULTURE.

By T. SHANNON McGUIRE, M.D.C.M., Hamilton, Ont.

From Egg to Egg.

It is surprising why the most beautiful, interesting, and profitable of all the feathered tribes should be so little known until recently to the fanciers of America. But when we consider that the home of the pheasants is China, whose animals and birds were almost unknown until the famous Chinese wall which isolated that country from the rest of the world was battered down, it is apparent why the introduction to this country of pheasants has been so long delayed. Since that event commerce has slowly wended its way into the most remote parts of China, and been the means of giving to western countries the richest, rarest, loveliest, and most gorgeously plumed birds that adorn the earth. For when we take into consideration that there are about twenty distinct varieties of pheasants, all of them as rich and varied in color as the rainbow, all very beautiful, yet the different varieties widely differing from each other in their styles of grace and beauty, there can surely be found in the pheasant tribe an ideal bird to suit the taste of every fancier no matter how versatile.

Importations of the Mongolian pheasant into Oregon, which have proved such a marked success and profit to the farmer and keen delight

to the sportsman, have stimulated other states and individuals within the last few months to import many new and rare specimens.

As pheasants have undoubtedly come to stay, it behooves us to keep pace with the times, and to at once begin to educate our readers in this most pleasant and profitable industry, which is at present showing such rapid progress in many parts of Canada and the United States. It is only a very few years since the Mongolian pheasant was introduced into Oregon, and in order to show the progress they have made we here reproduce a letter written by the game-warden of that state:

"Portland, Ore., Nov. 3.—The Mongolian pheasant continues to thrive and increase in this state, where they were first introduced as a game bird on the American continent. This increase is the more remarkable because of the failure of the Legislature to provide adequate laws and funds for their protection. They have become the favorite market bird in this city, over 10,000 having been sold here last year during the one month the market sales are permitted by law—Oct. 15th to Nov. 15th.

"There is a great demand for these birds, for stocking purposes, from nearly every state in the Union, scores of letters being received at this office every week, making inquiries as to their habits, and how they can be obtained. The demand has now become greater than the supply, as only birds bred and raised in confinement can be legally shipped out of the state, and then only upon affidavit of the shipper that the birds are such as to entitle them to shipment.

"I have no doubt that the effort made by your commission and other enterprising citizens to stock your state with this, the greatest game bird on earth, will prove successful. All that is necessary are wise protective laws, strictly enforced, prohibiting their killing for five or six years, to thoroughly establish them.

"Your climate is colder than ours, and the environment in your state not as favorable for their rapid increase; but they are a hardy, prolific bird, and I feel confident that they will gain a foothold if given a fair chance.

"HOLLISTER D. McGUIRE,
"State Fish and Game Protector,
"Oregon."

With all due respect to Mr. McGuire concerning the comparison of this country with Oregon, we believe the East has equal, if not superior, advantages. Pheasants can stand the coldest of climates, but they suffer much from wet. This country is cold, but Oregon is wet, and we think the odds are in our favor.

The December number of *Birds* (a Chicago publication) has a well written article on the Ring-Necked Pheasant, from which we copy this extract referring to the State of Ohio: "A law has been enacted forbidding the killing of the pheasants until November 15th, 1900. Two hundred pairs liberated last year increased to over two thousand."

When we take into consideration that a hen pheasant will hatch a covey of from eighteen to twenty-four young birds from each setting, the result is not greater than might be expected. In the same article in *Birds* a prediction is made that the Mongolian pheasant will, in the Western States, take the place of the prairie chicken, and in the East the quail and common pheasant, by which is meant the ruffed grouse (partridge). Massachusetts has also spent several thousand dollars in stocking that state with pheasants, and the report which is before us is very encouraging.

We come now to our own country—Canada. A few years ago there were a number of Mongolian pheasants lib-

erated in the province of British Columbia. They have bred so rapidly that they now outnumber all other game. So great has been the success that though the law provided protection until 1900, it was so amended to allow the killing of male birds for a month this past fall, and many hundreds of them were shot. Two years ago a pair of pheasants escaped from a gentleman who resides in the country near St. Catharines, Ont. A year ago last fall one large flock was seen near where the birds escaped, proving that they could find feed and endure our winter. This past fall several large flocks were seen in the same place, showing that they increase as the English sparrow did after being imported into this country several years ago. Our highest hope is that the pheasants will prove as great a blessing to this country as the English sparrow has a curse.

From the last report of the Game Commissioners of Ontario we print a small extract of their recommendation to the Government in relation to pheasants:

"We have felt no small degree of pride in endeavoring to keep Ontario abreast of the times in this respect, and it is humiliating to us to see other and less pretentious states far in advance of our province in thus encouraging the introduction of birds which would not only furnish delicacies in the way of food supply, but also tend to beautify the country, make it more interesting, and furnish an incentive for business men and others to take healthful recreation and exercise. This work must be done in order to replace native birds, which in many cases are becoming practically extinct, and which cannot be restored by propagation or otherwise.

"We say plainly that we feel no compunction in asking that a certain amount of money be devoted to this laudable object, because now that the work of the Game Laws is about self-sustaining, we feel that the Government should devote some of the moneys to this end."

It is more than likely that the Ontario Government will act on the above recommendation and appropriate a large sum of money to stock Ontario with English and Mongolian pheasants. The birds to stock Ontario should be bred by Ontario fanciers, if they can supply the demand, as they will then be acclimated, and one such bird is worth two imported from a warmer country. Besides, other things being equal, we do not think a prudent Government will discourage our own honest industries by purchasing pheasants from the people of a foreign nation.

Hatching the Eggs

As the season is now too late for purchasing the birds themselves, we assume that most fanciers will commence the pheasant industry by purchasing the eggs. We will here pass over how pheasants' eggs should be packed for shipment, as the eggs when received by the beginner will be properly packed, and will be a better lesson than we could describe. After the eggs have been received, they should be turned daily until they are put to hatch, whether in an incubator or under bantam hens. It is better, if under bantams, that the nest should be on the ground and on fine black earth, if possible.

Incubators.

It is easy enough to hatch pheasants' eggs in any good incubator that will hatch hens' eggs, but they must be managed differently. The moisture necessary for hens' eggs would destroy

pheasants' eggs. The shell of the pheasants' egg is much closer grained and not so porous as hens' eggs. If too much moisture is furnished to the pheasants' eggs by the incubator, the chicks will be too large and so crowded in the shell that they cannot get out when the twenty-four days arrive, which is the time they usually take to hatch. Golden pheasants' eggs sometimes hatch in twenty-two days.

The Massachusetts Game Commission has been experimenting in hatching pheasants' eggs, and from the report of the committee to the Government, we reprint the following extract, which speaks for itself:

"From our incubator we obtained a hatch of ninety-five per cent., and, notwithstanding our inexperience, the entire hatch was from ten to fifteen per cent. higher than from the average hens."

There is another argument in favor of the incubator. The vermin, scabby legs, and other diseases which the young pheasants are exposed to when hatched under hens are avoided.

Brooders.

Outdoor brooders are not desirable for the work, as the sudden changes of weather render it impossible to maintain an even temperature, and it is inconvenient to give the chicks proper care in stormy weather, while the high winds cause the temperature to fluctuate and sometimes set fire to the brooders. The result of the exhaustive investigation made during the past season has led to the construction of a brooder house, partly covered with glass, for the protection of the young birds during wet and cold weather, and equipped with brooders that are self-regulating and even in temperature. There is no guess-work about it; the temperature, once established, can be sustained with very little care. Our investigations and experience warrant the conclusion that with proper incubators and brooders and the scientific plan of feeding the young, which we will now explain, nine-tenths of the cost and labor in raising pheasants may be saved, as well as saving the lives of ninety-nine per cent. of the young pheasants.

(to be continued.)

SPRAYING EXPERIMENTS.

The spraying outfits sent out by the Provincial Government will give instruction in spraying at the following places in their respective divisions during the first half of May:

Western Division.

Seaforth—Monday, May 2nd, 2 p.m., R. Govenlock's orchard. Goderich—Tuesday, May 3rd, 2 p.m., H. Curwin's orchard. Exeter—Wednesday, May 4th, 2 p.m., R. S. Lang's orchard. Ridgetown—Thursday, May 5th, 2 p.m., Edward Lenebinc's orchard. Leamington—Friday, May 6th, 2 p.m., G. H. Mills' orchard. Amherstburg—Saturday, May 7th, 2 p.m., Edwin Patton's orchard. Dutton—Monday, May 9th, 2 p.m., Job Hodder's orchard. Port Burwell—Tuesday, May 10th, 2.30 p.m., Freeman Chute's orchard. Port Rowan—Wednesday, May 11th, 2 p.m., H. M. Barrett's orchard. Springvale (near Hagersville)—Thursday, May 12th, 2 p.m., John Holbrook's orchard.

Central Division.

St. Catharines—Monday, May 2nd, 2 p.m., A. Pay's orchard. Niagara-on-the-Lake—Tuesday, May 3rd, 2 p.m., Freels Bros.' orchard. Ancaster—Wednesday, May 4th, 2 p.m., Major Walker's orchard. Watford—Thursday, May 5th, 2 p.m., James Mc-