

so isolated from the United States but that prices there influence prices here very much. Prices there are going up for the same reason that will help to advance them here. The general scarcity of horses owing to the great decline—a decline amounting almost to a cessation—in horse-breeding during some years past. In Chicago, which is now the ruling centre in horse values, as in almost every sort of farm product, prices for horses have been advancing steadily for some weeks. Inferior light horses still meet with low prices; but good big "chunks" are bringing from \$80 to \$120 each, and drafters of merit are bringing \$180. Team horses vary very much, but good "common to fair" drivers are bringing from \$100 to \$225 the team; and "choice to extra" carriage teams from \$250 to \$450. The best of it is that there is a brisk demand for the sorts of horses named at these prices. In Canada, Mr. Robert Beith, M.P., is our authority for saying that there is really no supply of horses in the country, and that prices are likely to advance very considerably.

Tuberculin in England.

The English Shorthorn breeders are in trouble over tuberculin. Tuberculin as a test of the freedom of cattle from tuberculosis is now generally regarded by the authorities of the countries to which Britain exports cattle as sufficiently certain for action to prevent importation. In the language of Professor Brown, of the Royal Agricultural College, Cirencester:

"The discovery of tuberculin has placed the British stock-owner in an unfortunate position. His stock are sought for all the world over. Yet where an animal is imported and reacts to tuberculin on its arrival, it is thrown back on his hands, and he has to bear all the expense entailed. At the present time the Shorthorn Society do not recognize tuberculin as a reliable test, and will not accept it. On the other hand, the foreigner will not take a purchase without first submitting it to the test."

It is claimed that the above remark by Professor Brown does not quite fairly represent the action of the Shorthorn Society. It seems that a number of French breeders requested the Society to "influence" their members to allow purchased animals to be subjected to the tuberculin test. In response to this application the council passed the following resolution:

"That in view of the uncertainty of the results attending the injection of tuberculin as a test for tuberculosis, this council are not at present prepared to take any action in the direction suggested."

The English *Live Stock Journal*, commenting on this resolution, says:

"Even if the council had been satisfied of the reliability of the tuberculin test, they could not have influenced any of the members of the Society to subject their animals to it if they had disapproved. That remains a matter entirely at the discretion of the breeder, who is at liberty to decide for himself either for the test or against it. But it is for the government, by adequate experiments, to satisfy agriculturists as to the reliability of the test, and so dispose of all uncertainties concerning it."

It is now too late in the day to be doubtful of the adequacy of tuberculin as a test for tuberculosis. What every breeder should do, who wishes to be progressive in his business, is to purge his own herd from the disease as speedily as possible. We are glad that our own government has taken steps by which our breeders are enabled to do this with the maximum of certainty and the minimum of cost. Once a breeder has his herd free from the disease he need have little hesitation in complying with the request of a purchaser who asks for the application of the test as a condition of purchase.

Forage Plants and Sheep-raising.

Professor Thomas Shaw, late of the Ontario Agricultural College, at Guelph, now Professor of Animal Husbandry in the University of Minnesota, has been addressing the "Farmers' National Congress" of the United States on "The Importance of Forage Crops to the Farmer." This Farmers' Congress is a national affair, and is composed of delegates from every state in the Union, the number of delegates being proportionate to the population of the several States. The Congress has just held a three days' convention at St. Paul. Our

old friend, ex-Governor Hoard, of Wisconsin, has been elected president of the Congress for its next convention. Professor Shaw's address aroused great interest among the delegates present in the convention at St. Paul, and he was frequently greeted with applause and constantly plied with questions bearing upon the subject of his address. Among the points brought out by Professor Shaw were the following:

(1) The question of forage crops is the question of all questions to the farmer. Dairymen, growers of meat and wool, and tillers of the soil generally, are all alike interested in forage. No country in the world is more favored in the abundance and variety of its forage crops than the United States.

(2) Speaking of the Canadian field pea, which he characterized as an excellent forage plant, Professor Shaw said that there were sections of the United States where two bushels of this pea could be raised to one on the best pea-producing Canadian soil. Within a few days, in Montana, he had counted 192 pea-pods on one vine—a marvellous production.

(3) Rape is the forage plant upon which Professor Shaw laid most stress. A few years ago, when but 600 acres of rape were raised in the United States, he had predicted that the time would come when 10,000,000 sheep and lambs would be fattened upon rape in the United States, and he repeated the prediction now. To-day, he said, there are already probably 100,000 acres of rape growing in the United States, and no less than a million of sheep and lambs feeding upon it.

(4) Professor Shaw thus having mentioned sheep then deplored the unadvanced state of the sheep-raising industry in the United States as compared with what it should be. He said that 250,000 Canadian sheep and lambs are being annually imported into the United States, by way of Buffalo, in face of a high duty; and that Canadian mutton was constantly advertised as such in New York. This market, he contended, should be held by United States farmers, and not be suffered to be captured by Canadian enterprise.

(5) Continuing to speak of sheep, Professor Shaw characterized sheep-raising as the "Agricultural Klondike" of the United States. He said that when he came to Minnesota he was told that sheep could not be profitably raised in that State, and the people who made the statement really believed what they said. In reply he would say that this year he had a ten-acre piece of ground at the experimental farm, which had afforded forage (a mixture of wheat, oats, barley, and spring rye) for ninety-three sheep since the dawn of last spring until now, and there was forage enough left in the plot to-day to carry the sheep from now until winter, even if the growth were to stop all at once.

We believe that Professor Shaw, after every allowance is made for his constitutional enthusiasm, is on the path of progress when he is advocating that greater attention should be paid to the growth of forage plants for the continuous profitable feeding of stock from earliest spring to latest fall. Just as the introduction of the silo and the use of ensilage have revolutionized the feeding of stock in winter, so will the growth of judiciously-selected forage plants revolutionize the feeding of stock in spring, summer, and autumn. We scarcely credit, however, his opinion that the United States affords advantages for the cultivation of forage plants superior to those that Canada offers. And we should like to hear what our Canadian farmers have to say to his statement that our field pea will grow more abundantly in Montana than it will here. We are inclined to believe that under general conditions the Canadian growth will be superior to the Montana growth. Professor Shaw's remarks as to the extent to which Canadian mutton and lambs have captured the New York meat market ought to be of some comfort to our sheep men. It is a repetition of the old story, "the value of a reputation." We trust our sheep and lamb producers will become more earnest than ever in their endeavors to keep none but the best mutton-producing breeds, so that our good reputation for mutton will advance with every year's business. Professor Shaw's enthusiasm in enforcing the advice, "Keep more Sheep," is quite in harmony with our own, and we trust our readers will take the advice to heart, and act upon it.

Supplying Milk to Towns and Cities.

The branch of dairying that just now is most open to improvement and extension is the supplying of milk to towns and cities. In the United States it is said that about one-half the total milk production of the whole country is used in this way. In England the trade is in its infancy; but so rapidly is it growing there that it is said that the reason why the English dairyman has allowed

the Danish butter-maker to capture the English outter market so completely is that he considers his milk market to be much more valuable to him than his butter market, and so he leaves his butter market to foreigners. In Canada we do not suppose that the milk supply for towns and cities is capable of much greater expansion as regards quantity than the ordinary growth of population will call for; but it is very certain that in the near future a very great improvement in the *quality* of the milk supply for towns and cities will be demanded by the people, and perhaps be enforced by law.

As yet very few serious attempts have been made in Canada by producers to supply, or by civic governments to secure, good, pure milk for city and town consumers. One of the most earnest and most carefully planned attempts to provide pure milk to city users that we know of is that which has been made by the Kensington Dairy Company, of Toronto, a business enterprise of which Mr. W. J. Palmer, a well-known graduate of the Ontario Agricultural College, is the originator and manager. (See *FARMING* for December, page 286). Mr. Palmer's plan is modelled upon what is known as the Copenhagen system. All cows selected to supply milk for his dairy are systematically inspected by competent veterinary inspectors; no diseased cows, and no herds containing diseased cows, are permitted to furnish any milk to it; and all the operations of milking, straining, aerating, cooling, conveying to town, distributing to customers, etc., are conducted in accordance with most carefully planned regulations to ensure thorough cleanliness and purity. We are glad to know that Mr. Palmer's enterprise is meeting with the success it deserves; and we would recommend to other dairymen who supply milk to towns and cities (there must be many hundreds of them in Canada) to make themselves acquainted with Mr. Palmer's methods, believing that if they do so they will increase and make more permanent their own business.

But there are those who claim that no matter how carefully cows are inspected, or how carefully milk is strained, aerated, etc., disease germs and dust and stable impurities of one sort and another will always find access to the milk, and so become a part of the beverage with which we regale ourselves and feed our children. The means recommended to completely overcome these difficulties are separation and pasteurization. The enterprising milkman who provides himself with these methods of purification can, it is said, positively guarantee to his customers that his milk is absolutely free from all bacterial disease germs, and also from material impurities of every sort.

Separation, it is claimed, will remove all filth from the milk, and be, in fact, a perfect mechanical straining. Pasteurization destroys all bacterial disease germs, and renders the milk such that it will keep from twenty-four hours to forty-eight hours longer than raw milk will keep. By pasteurization, therefore, the temptation to the dairyman to use chemical preservatives, so inimical to health, is entirely removed. If kept cool, pasteurized milk will keep sweet for days, even for weeks; and even if left in a warm room, it will keep sweet for hours. A further advantage is that pasteurized milk never fails to have the fresh taste of the best new milk. It does not have that cooked taste which sterilized milk and boiled milk always have.

The above advantages of separating and pasteurizing, as methods of preparing milk for sale in towns and cities, are claimed by practical dairymen to be positive and certain. We recommend them to the careful consideration of every farmer living near a large town or city who wishes to work up a large and profitable milk trade. By the use of such methods as these, by thorough cleanliness in all his dairy operations at home, by the use of sterilized bottles for conveying his milk to his customers, by frequently advertising his methods, and by letting his customers know their advantages, we have no doubt that any farmer adopting separation and pasteurization would be able to build up and maintain a very large and remunerative city dairy trade.