## Lime-Sulphur and Hydrometer Readings.

I have been using the Bordeaux mixture for spraying for a number of years. I saw an article in "The Farmer's Advocate" of March 9th on lime-and-sulphur mixture. I think I will make my own. You take for illustration 1.210, being the specific gravity of the concentrated mixture, one gallon would make seven gallons for spring, and for summer, 23½ gallons. Now (I have a hydrometer) I would like to know what each should test when reduced to and ready for spray.

J. C. P. H.

Lime-sulphur should always be allowed to cool down to near 60 degrees F., or about the ordinary temperature of water, before testing. The sediment must also have settled, otherwise the hydrometer reading will not be reliable. It is not necessary to test the mixture after it has been diluted; in fact, it would be difficult, in some cases, to do such testing accurately, because the mixture would have to be very thoroughly stirred in order to make it uniform, and then a certain amount would have to be drawn out and tested. It is much easier to test the concentrated mixture, and then to dilute it according to rule. If the rule is followed carefully, it is easy to get the proper dilution both for spring and for summer strength? For spring, the strength required is about 1.030, and for summer strength—that is, after the foliage is out—1.009, or slightly weaker. To determine how much to dilute any mixture to get these respective strengths, it is only necessary to take the reading of the concentrated mixture with the hydrometer, and for the spring strength divide the last three figures by 30, and for summer strength divide the last three by 9. Supposing the concentrated read 1.230, we should in this case divide 230 by 30, which equals 7⅔. This means that each gallon for spring strength, before the buds have burst, or just as they are bursting, should be diluted to 7⅔ gallons with water, and if this is done we would get a strength of 1.030, without having to test the diluted mixture at all. For the summer strength, in the same way you would divide the 230 by 9, which will give 25 5-9, or, roughly speaking, 26. This means that each gallon may be diluted to 26 gallons for summer strength. For spray at the time of the codling moth, it would be better to dilute it slightly more, say to 28 or 29 gallons.

Your correspondent will understand, of course, that the hydrometer must have the specific gravity reading on it; that is, the readings from 1.000 to 1.350, or higher. Without these, he cannot apply the rules mentioned. Some hydrometers have only got Beaume readings, running from 0 to 40 or 50.

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# THE FARM BULLETIN.

## British Weights and Measures.

One of the most perplexing things that a writer on agricultural topics has to deal with is the wide diversity of weights and measures in different parts of Britain. For instance, a stone is 14 pounds in most localities, but in some places in England it is 8 pounds, and in others 16 pounds. In Edinburgh 22 pounds make a stone, while the neighboring city of Glasgow asks for 22½ pounds. At Smithfield market, 8 pounds of meat is called a stone. The quarter weight of wheat is almost as elastic as the stone. English wheat is expected to weigh 504 pounds to the quarter, while Russian and Indian wheats weigh 496 pounds, and the legal standard calls for only 480 pounds. The same diversity exists in the quarter weights of barley, oats, linseed, etc.

Certain terms that cannot be strictly defined as either weights or measures have very varied meanings. A sack of best Scotch oatmeal weighs 280 pounds, but a sack of Canadian or Irish oatmeal weighs but 240 pounds. In the north of England a sack of flour is 240 pounds. By British law "plain" bread must be sold by weight, while "fancy" bread has no standard. A barrel may mean anything from 120 pounds of apples to 500 pounds of herrings. A boll of wheat may mean either three or six bushels in a single county.

Amending legislation on [illegible] of weights and measures has been [illegible] for years, and there is some remote pros[illegible] change. A committee has been appointed [illegible] Central Chamber of Agriculture to inquire [illegible] some uniform system.

In any suggested change weight [illegible] be given a much greater importance [illegible]ure, with the pound as the unit. [illegible] pounds would be an improvement, [illegible] of 100 pounds. Liverpool and Man[illegible] ready use the cental for quotations [illegible] corn and peas, and the result has [illegible] satisfactory. But even in these markets [illegible] still prevails, for beans are quoted by th[illegible] pounds, flour by 280 pounds, barley by 60 pounds, oats by 45 pounds, and oatmeal by 240 pounds. The cental has proved an excellent measure. In wheat, for instance, the comparative values can be much more easily ascertained by cental value than by bushels or quarters which vary so greatly in weight. If order can be brought out of the prevailing confusion in Britain, it will be a great gain to all concerned.

### MORE ON MILK STANDARD.

That ever-recurring problem—the milk standard—has again been brought into prominence by a milk-adulteration case at Middleborough. A dairyman was convicted for selling milk with a lower fat content than 3 per cent., although he had added nothing to the milk. The case was appealed, and a strong fight made by a local farmers' protection society.

Experts were called on both sides, and, as usual, varied widely in their testimony. On one occasion there was a fat deficiency of 26 per cent., and on another of 23 per cent.. Prof. Gilchrist said that the lapse of time between afternoon and morning milking would account for even greater differences in percentage than these, and that morning milk had invariably a lower percentage of fat than evening milk. Prof. Crowther testified that great variations below the standard of fat were quite common. Of 230 samples analyzed at Leeds University Farm, 116 contained less fat than 3 per cent.

On the other side of the question, Prof. Drinkwater had never met a case where the intervals in the hours of milking would cause the deficiency of fat to the extent of the sample under consideration, and he laid emphasis on the claim that if a cow is fed to increase the quantity of milk, the quality will be decreased.

When experts differ so much, who shall decide? In the meantime, while the war of experts goes on, the dairyman has to pay the fine and costs, as he had to do in this case, because the conviction was confirmed.

### INCREASE IN TRADE.

British oversea trade continues to show large expansion month by month. March created a new record for exports, with a total of over forty million pounds, and imports created a new March record.

The lower range of values for wheat affected the food import figures. The imports of wheat and flour for March were 7,579,700 cwts., against 7,109,700 cwts. a year ago. But in spite of the considerable increase in quantity, the value was less by £186,726. The Canadian supply during the month was 440,958 cwts., compared with 506,793 cwts. a year ago. Argentine was the largest single shipper of wheat.

Meat prices for the month were also substantially lower than in March, 1910. Chilled beef imports for the month were 283,675 cwts., against 282,034 cwts., but this larger quantity had a value of only £488,606, against £534,735. A significant feature of the return is the rapid increase of chilled meat (beef and mutton) imports from Argentine. These amounted to 266,621 cwts. for March this year, against 226,787 cwts. a year ago, and 166,298 cwts. two years ago. Such figures show the rapid development of stock-breeding in the South American Republic, and go far to explain the high prices which breeders there pay for high-grade animals to improve their herds and flocks. Canada plays but a small part in supplying meat to Britain. Why should she not cater for the market which it evidently pays Argentina to cultivate? Argentina plays a big part in Britain in both wheat and meat, while Canada plays a big part in wheat only.

On the export side of British trade, every section of manufactured goods showed increases for March, except electrical apparatus, and the increase was nearly six and half millions sterling.

Wheat prices in England during March were decidedly lower than a year ago. British wheat being quoted at 31s. 7d. per quarter, a drop of 2s. 4d.

Barley averaged 23s. 9d. or 10d. per quarter more. Oats have brought 18s. 7d., a trifle lower than last year.

The lambing season in the Midlands and the North is now over, and, judging from 300 breeders' reports, the season has been an average one.

Ewes have wintered well, and losses have been fewer than usual. The wet, cold weather of March was trying for both ewes and lambs, but where they were warmly housed, they did not suffer greatly.

Mutton is selling at fairly good prices, and the prospects for high prices for wool in June is excellent.

Most of the reports from the Lincoln Long-wool sheep country are unusually favorable.

F. DEWHIRST.

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## British National Insurance.

David Lloyd-George, Chancellor of the Exchequer in the present British Government, has introduced a most remarkable piece of constructive social statesmanship in what is called the National Insurance Bill. It does not deal with death insurance, but with sickness and unemployment. The contributions to the sickness insurance are divided into two classes, compulsory and voluntary. The compulsory contributions are in cases of the reduction in the wages of workingmen who are earning less than $160 a year. In this case there are contributions from the employers and the employees and the State. The exceptions to the compulsory contributors are teachers and the army and navy, for whom there are special provisions. The State will contribute twopence, the employer threepence, male workers fourpence, and female workers threepence. Men over 65 years of age cannot join the scheme. The voluntary contributions are: From men, sevenpence, and from women sixpence. It is estimated that the compulsory class will total 2,200,000 men and 3,900,000 women, and the voluntary class will number 600,000 men and 200,000 women. Some 800,000 workers under 16 years of age are to be admitted to the insurance. The unemployment insurance will be applied to the engineering and building trades. The workman will pay one-half penny a week to this fund, the employer the same amount, and the State will bear one-quarter of the total cost. The benefit in the engineering trade will be seven shillings a week. There will be no benefit privileges in case of strikes and lockouts. The cost to the State is estimated at £750,000 a year. The maximum benefit in the case of unemployment is fifteen shillings per week, and the minimum seven shillings.

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## Canadian Live-stock Conditions.

The April bulletin from the Census and Statistics Department, Ottawa, makes a very favorable report on the condition of live stock in nearly all the Provinces.

In Prince Edward Island stock has wintered well, and horses are scarce and high in price, ranging from $150 to $200. Young pigs are are short in supply. In one district of Nova Scotia, live-stock prices are 30 per cent. higher than last year, horses, especially, selling at good figures. Similar conditions prevail in New Brunswick, horses being in great demand, at high figures, but there have been a good many losses through distemper and colic.

In Ontario live stock have come well through the winter, and, as a general rule, are in excellent condition. Horses are scarce and in great demand, bringing high prices everywhere. Cases of distemper are reported in each division of the Province. Milch cows and other cattle are selling well. The enhanced value has induced farmers to take better care of their live stock.

Manitoba.—Considering the scarcity of feed, owing to the drouth of last year, live stock have wintered fairly well. The scarcity of fodder is referred to by many of the correspondents in Southern Manitoba.

Saskatchewan.—On the whole, live stock have wintered well, though short supplies have rendered necessary the use of straw for feeding.

Alberta.—In the south of this Province the winter is reported as having been exceptionally severe, and live stock have not wintered quite so well as in other parts.

British Columbia.—Live stock have come well through a severe winter. More fodder than usual was required, but an early and favorable spring has brought on the grass, and has enabled good progress to be made with field work.

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"The Flying Post" is the name of the new fast mail train over the Grand Trunk Railway, leaving Toronto at 2.55 a. m., and reaching London, Ont., at 5.55 a. m. It is a recognition by the Canadian Postal Department of the growing commercial importance and needs of Western Ontario. If the people have time to read them, they can now have Toronto papers on their breakfast tables.

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J. Lockie Wilson, Superintendent of Agricultural Societies, is working out a plan whereby handsome prizes will be given at the fall fairs to encourage farmers to enter horses in jumping competitions, which, it is believed, would be a wholesome addition to the present trotting attractions, and encourage more extensive breeding of high-class jumpers.