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The same authority (Willard) portage that the Prench Government will ender the heads of families should be careful to bear states that to per cent, of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the states of the milk is used in making the milk is used in milk in the milk in the milk in the mi your to devise a less stringent but sufficiently protec-The modern knowledge of the bluesis, and the steps by which that knowledge has been gain d, form one of the most curious chapters in the annals Many years ago bir James Paget, thon a -tudent, observed that the muscles of a subject which he was dissecting were thickly beset by this particles like grains of white sand, and he applied himself to ssection their nature. He found that each particle was a little cell or bug, covered by a calcareous envelore, and containing a tiny worm, curled up into a spiral twist. The worm received the name of tricking spirales, and was described as a parasite inhabiting human muscles; but not even a guess was made on to the way in which it gained access to them, or as to the symptoms which might indicate its presence. course of time, the natural histories, the migrations, and the changes of ferm of other parasites having in the meanwhile been closely studied, trichine were again seen in human mus-cles, and the discovery led to minuto inquiry into the particulars of the illnesses from which the person in whom they were found had suffered. It was accertained that he had, either as the immediate precursor of death or at some former period, been attacked by a malady which had been called "fever," but which presented unusual symptoms; and, as the chief varieties of fever had then recently for the first time feen distinguished from one another, these unusual as mptoms were perceived to prasess significance. It was suggested that they might be connected with the presence of the paresites, and experiments were devised for the pur, ose of testing the accuracy of the supposition. Caralycrous animals were fed with the scraps of tachina loaded muscles, and were killed at various periods afterwards for the purpose of examination. The results at first obtained were verified by successive repet tions of the process; and at length the whole facts of the case were disclosed. Briefly stated, the conclusion arrived at were that the triching in the encapsuled condition, as they were first seen, were dormant, and for the time barmless adults, and that they might secunin in this state for an indefinite period. As soon, however, as the fiest containing them is auxiliowed, and the calcareous capsules are dissolved by the action of the digestive fluids of the atomach, the extralued werms are set at liberty within the allinentary canal, where they speedily deposit myriads of ova. In the course of a few days these ova are hatched and give exit to innumerable young triching individually insignificant but collectively formidatie. Each of them is furnished with a sharp extremity by means of which it can perforate all the soft tissues of the body, and the whole brood soon start upon their travels, their ultimate object being to arrive at muscle, in which they may become encapsuled, until, by being again smallowed, they repeat the history of their race. The migrations of the worms rid-ille the walls of the alimentary canal, the muscles, and the intervening structures with countless tracts of perforation; and the whole process may bed secribed as the unfliction of an enormous wound, made up, so to speak, of millions of wounds which would individually have been unnoticed. It is this collective wound which produces the symptoms of triebinosis, such as high fever, great pain in the limbs, local awellings of the cyclids and other parts. In many cases these symptoms terminate in death; but when they are less severe they begin to abute as soon as the worms teach their goal in the muscles, where they become cheapsuled and do no further harm. A man who had recovered from trichinosis would be in the condition first seen by Sir James Paget, and would be exposed neither to danger nor auffering from his dormant guests. Their only effect would be to render it possible for him, by self sacrifice, to compass the deatruction of a whole nation of cannible. The pig 14 very frequently the subject of trichinosis, being 14 lights to smallow the expectation are used: Water, I barrel; malt, 3½ bushels, hops, 1 liable to swallow the encapsuled worms in many ib.; year, I barrel; man, 3g times, hops, t ways; and it bears the period of migration with comparatively little injury, so that its flesh often contains the encapsuled worms in great numbers. Among human beings the chief sufferers have been the Germans, in consequence of their practice of eating swine's flish uncooked, in spiced saurage and other forms. It has happened more than once that a pig has been driven into a German village, has been sold and killed there, that Its flesh has been pretty gene ally distributed among the inhabitants, and that in a short time there has been no survivor of the de.d'y feast. The fatality of trichinosis would depend mainly upon the number of encapsuled worms which were swallowed and set free: and this, again, upon the amount of infested field which was consumed but in undoubted examples of the malaly the rate of mortality is always high. In doubtful cases, where the presence of the parasites are only auspected, the suspicion may be verified or refuted by the examination of morels of muscle under a microscope; and for the purpose of obtaining such morsels it is customay to make little punctures into the limbs with a small harpoon, which brings back a scrap of muscle upon its barb. American pork has already been suspreced of causing trichinosis in this country, as an apidemic of so called fever, which occurred on board the Cornwell training ship, was attributed to this cause after it had ceased. A post mories examination of the leady of one of the victims was supposed to confirm the suspicion, but the conclusion was not accepted by the chiefauthorities upon parasites in this country. Putting axide the alwelute exclusion of intested meat, there appears to be only one complete means of protection against the diffusion of trichinosis, and that is furnished by the heat incidental to proper cookery. The excepsulated parasites cannot survive a certain clevation of temperature; and death renders them harmless

public analyst of the district -I andon Times

LAGER BEER.

Lager licer, the beer of Bayaria, is prepared by a slow process of fermentation from strong trifusions of malt, barley and hops, and grape sugar or glucose The beer is usually fermented in winter, as it requires a temperature of not more than from 40' to 50' Fah and in hot wheather the rooms must be cooled by means of ice or ice machines. This kind of fermentation is what is called sedimentary or under fermentation, in contradiatinction to ordinaray or surface fermentation-the scum or yeast collecting at the bottom instead of at the surface, so that the air has free access and the gluten is more completely converted into yeast. This bettom yeast is quite different from ordinary yeast, and has a tendency to induce the kind of fermentation by which it was produced. The following is a brief outline of the process employed at one of the largest lager beer brewerles in New York city. The larley is placed in wooden cisterns, covered with water, and allowed to remain for two or three days in soak, the water being changed once in twentyfour hours. It is then allowed to drain, and is subsequently thrown out. In heaps on stone floors, where it heats spontaneously and soon begins to germinate, throwing out rootlets and shocts and evolving part o its absorbed water-sweating. It is then spread out and the gennination allowed to proceed for from six to ten days, until the rootiets become brownish, then spread and tossed about to cool and check the fermentation It is then put into large brick ovens or klins, at a temperature of about 125° Fah, to dry. The barley is now malt. It is first crushed by passing between a series of large rollors, and next is transferred to the mash tulis where it is stirred about with water at 120 to 140° Fah , and boiling is then gradually added until all is heated to about 170° Fah. The infusion or wort is allowed to stand until the suspended matters have settled, when it is drawn off, and a second wort is obtained by treating the realdum with hot water. The first wort is bolical with the hops, the second wort is then let in, and the whole is boiled for about four hours. It is then run into the cooler, where it is quickly thilled to between 44° and 50° Fah., by running over small pipes through which cold water is continually flowing. As soon as it is properly cooled it is run into the fermenting tune, where it is mixed with one gallon of yeast for every 20 to 25 bbls. Fermentation continues for about 20 days. At first there is a heavy froth, which soon subsides, however, leaving the surface clear. At the end of this period it is racked off into hogsheads, the yeast remaining at the bottom of the tuns. These hogsheads are allowed to sland with the bungs open until a few days before the beer is put into barrels for ice, when the bungs are driven in to accumulate carbonic acid for life. Three varieties of boer are made. 1. "Lager," or summer beer, is prepared from the following: Water, 1 barrel; malt, 3 bushels; hops, 11 to 3 lbs.; yeast, about 12 pint. Grape sugar or grucose can be made to substitute part of the malt, and is very commonly used for this purpose; in some cases to fully one-fourth the weight of the malt. Leger beer is usually stored from four to six months. Schenck," winter, or present use beer: Water, 1 barrel; malt, 2 to 3 bushels; hops, 1 lb; yeast, about plat. It is ready for use in from four to six weeks. 3. "Bock" beer, an extra atrong beer, made in small quantities and served to customers in the spring, durintroduced into heers to replace part of the mal, while pine bark, quassis, walnut leaf, wormwood, bitter cloves, alocs, etc., are sometimes used to neutralize acidity or conceal dilution. The colour of the beer depends much upon the care with which the malt is handled and the temperature with which it is killu dried 90° to 100° Fah, produces pale malt; 120° to 125°, amber malt. At temperatures above this the malt becomes brown, and the wort produced from it has a similar colour. I be malt should be dried so that every part of it becomes crisp,-Scientific American.

THE DAIRY INDUSTRY.

The magnitude of the dairy industry in this country is shown by statistics compiled by Mr. Geo. P. Lord, of Eigin. He estimates the number of milch cows in implements, and the total amount invested in the in- [it. mercial and manufacturing intorests of the country, which is \$1,809,064,585 The cattle and horses re quire two tons of hay each annually, or its equivalent, It is estimated that 5,000,000 cows are fed with grain for winter dairying, and that the horses daily require

It was nonlocal test of a first of our first of the first of our formand being to make only the first of the in mind the importance of thorough cookery and it cheese and butter, and 41 per cent is consumed in a might be desirable, before consuming pork derived liquidatate. The department of agriculture estimates from any unknown or suspected source, to have it there are 1,000,000,000 pounds of butter and 300,000, examined by the medical officer of health or by the 000 pounds of sheese made annually in the United States. At 27 pounds of milk for I pound of butter, and 94 pounds for I pound of cheese, the total amount of milk used would be 28,950,000,000 pounds; add 41 per cent of the product for consumption, the total production is 60,72 ,325,000 pounds, within a small fraction of 1 per cent of the estimate made. The caseine in the milk used for making butter, if utilized for cheese, would produce annually 1,800,000,000 pounds; and, besides, there is annually run off in the skimmed milk, buttermilk and whey 200,000,000 pounds of milk augar, which, if eaved, would have a market value greater than the entire annual sugar crop of Crbs.—Prairie Farmer.

BUTTER AND CHEESE IN ENGLAND

Col. Albert D. Shaw, United States, consul. at Manchester, formerly of Toronto, in his annual report to the Department of State, thus speaks of American butter and cheese. The remarks will apply to Canada's products as well r "There should be no difficulty in making butter in America equal to the English, and if this were done a much higher price and a never failing market for it could be accured here. At present American butter is classed low in English markets. The London Times, in secently reviewing Mr. C. S. Reed's report upon the agricultural prospects, etc., in the United States, chiterially declured that American liutter does not oven enter into competition with the produce of our dairies' The butter makers in America are alone to blame for this state of things; and it stands them in hand to study well the tastes and requirements of consumers in this country There has been a decided improvement in the quality of Ameri-There has can butter within the past two years, and the trade here has been quick to note and take advantage of this fact. A prime article will always command a good market, while a poor quality is a drug invariably. Fresh made and lightly saled batter is what this country demands. To meet this taste great care should be taken to work the butter dry, and make it sweet and firm. The butter makers in England are specially trained and well paid for their work. It is a "trade" almost in itself, and a first class butter maker is never out of employment. Our cheese tanks well, and is winning new victories every year, and for the reason that our system of manufacturing it has been improved latterly. It is to be hoped that a similar system of manufacturing butter will bring about a like desirable result. American butter and choose produ-cers need have no fears about securing an excellent market for their surplus stock in Great Britain, providing the quality is equal to that of the best English dairies. It is a question, first, of excellence in quality; accord, an improvement in the methods of promptly supplying Roglish retail dealers."

THE SUGAR TRADE.

The despatches from Culm report great damage to the sugar and coffee plantations by frost. The loss will reach \$2,000,000.

The estimated crop this year in Louisiana is thirtyeight thousand hogsheads of augar and thirteen million gallons of molasses,

Late advices say that Antigua was swept by a freet

February 10th, which destroyed cane fields and coffee plantations. It will be several years before the coffee plantations can be restored. The loss is estimated in the millions. The Havana Weekly Report, speaking of the Cuban principally to motors of small size, though of estatorops, says. Sugar.—The grinding has continued all lished character: 100 horse power steam cagine, 16 over the island without any noticeable interruption; 2 horse power steam engine, 44 3; 2 horse power leb

from Cienfuegos acveral fires have been reported as mann's catorio engine, 266; 2 horse power Hou's having lately taken place on estates of that neighbours motor, 40 00; 2 horse power Otto gas engine, 264. bood, and planters in order to retrieve the losses the borse power Otto Lang gas engine, 26 4; 2 horse power shortness of this year's crop has caused them are pre-paring for the next season a larger extension of field than heretofore. In the Trinidad valley fires have also been frequent of late, but happily the injuries suffered therefrom have been slight. Tobacco,—lteports of the most favourable character continue reaching us for the Vuelta Alajo, in which district the cutting and harvesting of the leaf are at an end, the quality of the leaf being suportor to all that has been previously said, especially as regards the localities of "Palenque" "Palizadar," "Punta de Paliza," "Roblar," "Chanizo," "Palmarito," and "Ruiz"

The following report of the Demerara crop is from the Royal Gaz He of the 4th January . "The weather continues dry, with a few alight showers only occasionally, and serious apprehensions are begin-ning to be entertained, we understand, of a deficiency the United States at over 13,000,000, requiring the anof rain for the early months of the year. This would
nual product of \$2,000,000 acres of land for feed, giving employment to \$650,000 men, and requiring the finished rain is greatly needed for the new crop. The op of 1880 his exceeded that of 1879 by some thousands of hogsheads, but we believe we are correct in stating that a larger acreage has been cut to make heavy minfall in December, 1879, and dustry is \$2,219,328,000. This is considerably more January, February and March of this year, giving an than the amount invested in banking and the com- average of 1852 per month, which kept the heavy average of 1852 per month, which kept the heavy Demorars clays in a solden, dead state, preventing anything like a healthy growth of the cane plants, is the cause of canes cutting so short at the present time, and it is to be fested that short canes will be the ed every day from the observatory, and thus all the order of the day until all the canes are taken off which city clocks in electric connection with the hotel clock one of the winter that yield and the feet the feet of the hotel clock and unity of the year; they will the hotel clock on the year; they will came under the influence of such a continuous atate of the year, and June plants are looking splendid; finding longitudes by telegraph, for a microphonomous of bran, 30,000,000 bushels of corn and 300,000, for this season of the year, while most favourable for by a key and chronograph and chronograph and chronograph and chronograph and chronograph and chronograph and chronograph. In the chronograph and

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diene Britain, Leb 19th	10000	
Prauco, Jan. 1st. 1550	INITER	1
Hermany, Jan Let, 1981	4 1.5	٠
Betraum Jan 1st 1880	21,400	
Holland, bob 1 sth, 1993	2100	
Affoat	GA I	: 2
Pot if for Europe, tons	117.70	٠,
United States (Feb. 16th)	10/53	
Harana and Matinias, Jan Sch	- 4	
	•	
Total, tons	0.74	1,5

DEMERARA MARKETS

In the circular of Measure Wieting & Joseph and days Georgetown, Domerara, February 25th, we to d

PRODUCE

Sugar-Most of the estates have steps. grinding and will not resume for a month to cor. Produce consequently is scarce, and offerings frech rates | Dark Ceystals, tast sales at \$5 35 to \$ 22 top in course of delivery in completion of January in chases. To day shippers do not offer over \$5 jet pounds, but may have to lay out 10 to 15 centure to finish loading of vessels for the United State Muscovado sugara are acerco and fetch \$5 50 to \$44 far export under active competition Muscovals me lasses has been eagerly picked up at prices range. from 28 to 35 cents for good to bright knyts. Also parcels of V.P. molasses fetched 21 cents. In the little in doing an holders are asking large advances co lust rates

The weather has been very dry since last mail at the cloudy and promistog state of the sky during the last week has repeatedly disappointed planters Th. parched appearance of the fields from the want ; rain is anything but satisfactory, and if prolonged will inevitably terminate in a shortness of the cop h. rainfall for the last three months only above to inches as compared to forty inches for the same pereof last year.

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Prolghts-There is very little produce coming for ward for shipment. At the moment there is only ea-vessel each on the London and Liverpool terths as rates have been put up to is 6d for sugar and 21d for

Exports. ST GAR

(Per 100 lbs. Dutch. Hbds. Included) 102 lbs. Dutch=112 lbs, English

Muscorado, Common to good Refining Sales \$3.50 to \$4... Grocory in hids. for

D S - 5 00 to 5 Yellow, Good to Bright Nominal 5 75 to 1 White kinds in Barrels for Grocerf..... ... + † 00 to 7 1

BVM. (l'er Imperial Gallon, Casks included) Coloured-Not less than 40 per cent.)

Parfor local use-44 to 45 cts.

(Per Imperial Gallon, Casks included.) Vacuum Pan-Wanted but scarce 18 to 21 cts Muscevado-Common to fair-wanted but

scarce..... 21 to 24 cu Fair to good-wanted but scarce.25 to 30 cts Choice 32 to 35 ets

Wallaba Shingles-\$2.75 to \$3.50 per M as in quality

COST PER HORSE POWER.

Bissinger, the well known Germen engineer, gives the following results as obtarned from an examination of various motors in regard to the relative over per horse for each hour-the investigation pertaining Slimidt's bydraulic motor, supplied with water from the city water works, 95.00, 2 horse power obtained by horses and a gin, 45.00: 2 horse power obtained by manual labour, 200.00. The data thus given shew-that Otto's gas motor and Lehmann s caloric engin are the cheapest of small motors, but are, neverthe less, four times as expensive as the 100 horse ponci steam engine.

MICROPHONIC TIME.

The microphone of Professor Hughes has been introduced by Dr. Wilhelm Meyer into the General Observatory for the purpose of transmitting the beats of the standard clock to different rooms in order that the staff may time their elservations on the heaven's bodies by the same pendulum. A pencil microphen of the form originally illustrated by us is placed aca: the pendulum and connected in circuit with the telephone running to the several reoms. The arrangement is especially useful in working with the grand orasterial, for the travelling of a star sometimes oblige the observer with this instrument to move out of distinet earshot of the pendulum beat itself, but this is avoided by reproducing the best in a telephone whalcan be readily shifted, or in fact attached to the cars of the elesever. By a similar interconhonic line, to the clock at the Hotel Municipal at Geneva is correct of temperature; and death renders them mathematical corn mean, appropriate of an appropriate properties of an appropriate properties of a fine corn. The present abnormal weather in lines of a fine corn. The present abnormal weather in local time over the usual plan of sending signals with them, would be a perfectly safe article of food after thorough reasting or boiling. In the case of the after thorough reasting or boiling. In the case of the sale of added the labour of 650,000 persons, salt meat, however, the security thus obtained is less at \$26 a month, \$165,000,000, making the annual value of \$33.40 per cow. Accomplete, because the hardening of the salted tissue of \$504,459,400, or an average of \$33.50 per cow. Accomplete, because the hardening of the salted tissue of \$504,459,400, or an average of \$33.50 per cow. Accomplete, because the hardening of the penetration of properties and fine corn. The present abnormal weather in section of the proposent abnormal value in the two points from the rations, will soon be too much for the advanced canes, to which an inch or so of rain would in the telephone itself.—Engineering.