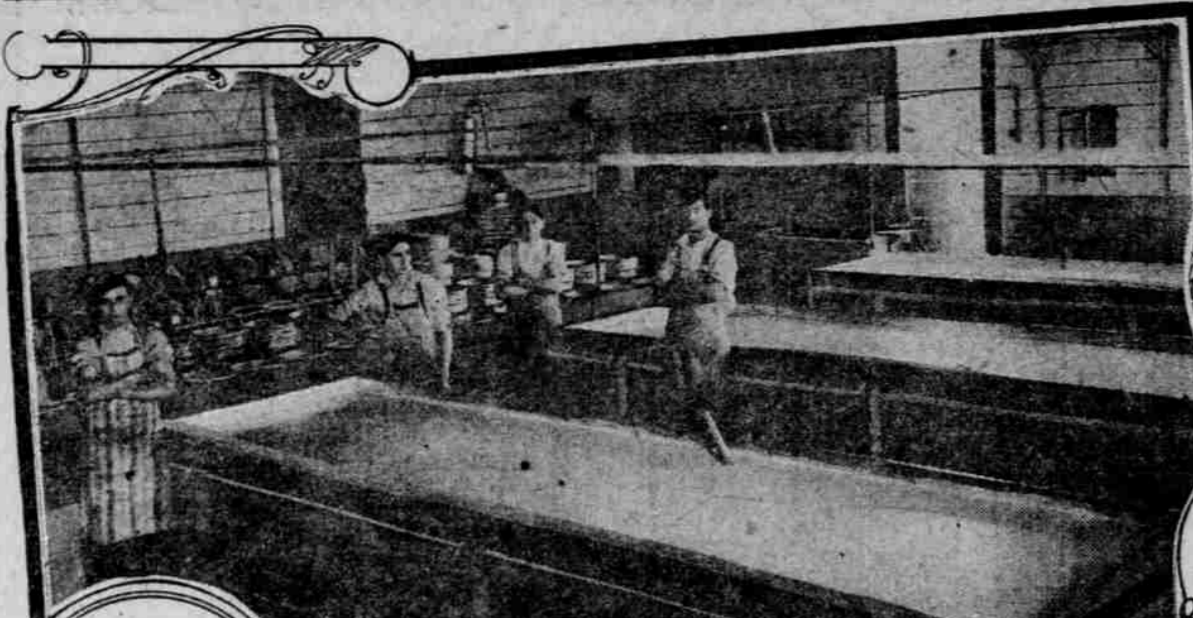
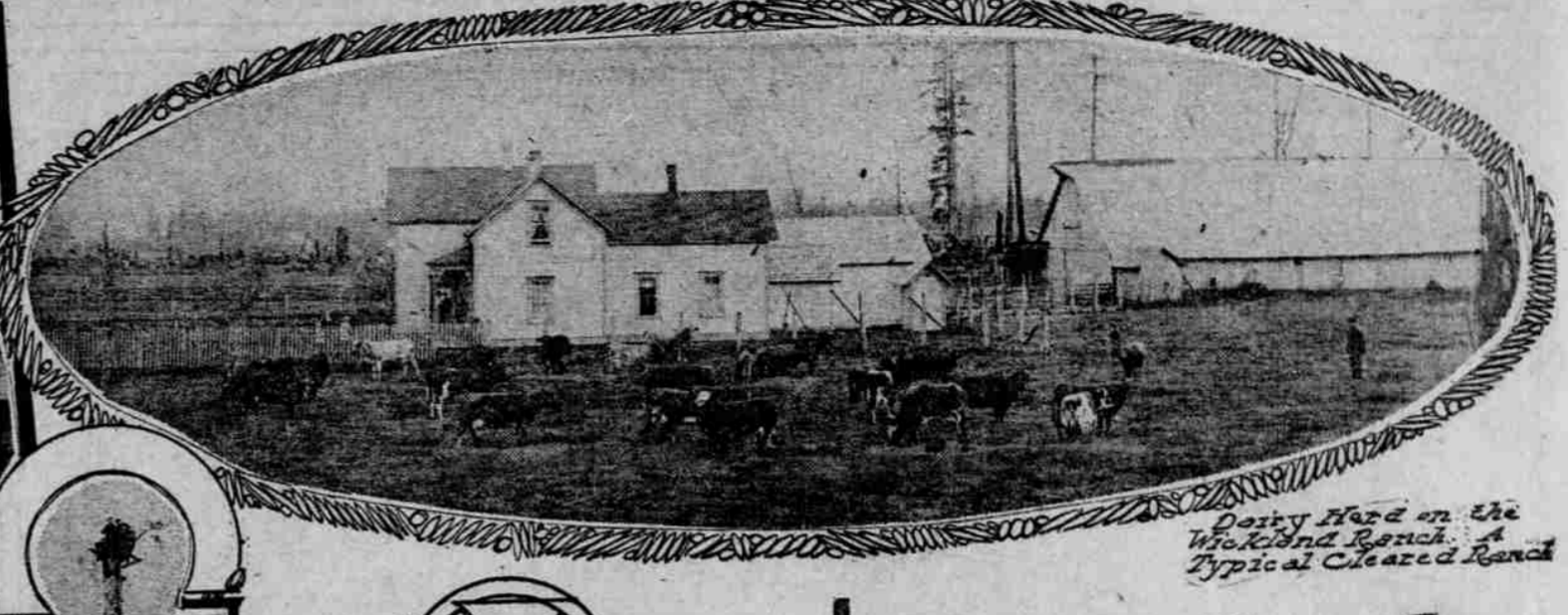


TILLAMOOK'S YEARLY CHEESE OUTPUT 2,000,000 POUNDS

Nineteen Large Creameries and Many Smaller Ones Supply Chief Industry of County.



Interior of Maple Leaf Creamery, showing vats, presses and methods of handling milk.



Dairy Herd on the Wickland Ranch. Typical Cleared Land.

TILLAMOOK, Or., July 20.—(Special.)—It is related of a man from Tillamook County that when taking dinner in a small restaurant in Seattle not long ago, he was urged by the waiter to eat some particularly fine cheese. "It is of the real cream variety," said the waiter, "and comes from Tillamook County. We have recently secured a contract to handle the entire output."

"If that is so," remarked the gentleman, "you must be prepared to sell a tremendous quantity of cheese during the next 12 months."

When it is understood that the output of cream cheese from the county around Tillamook Bay exceeds 2,000,000 pounds yearly, and that cheese-making constitutes the chief industry of the county, one may appreciate something of the quiet satire in the gentleman's retort.

As a matter of fact, cream cheese from Tillamook is sent all over the United States. The total output last year, according to figures furnished by the inspector of creameries for the county, was 2,641,637 pounds of cheese, the total consumption of milk in the process being 25,535,564 pounds. The gross value of this product in the market was \$400,044.84.

Industry Is Large.

The cheese industry supports 19 well-equipped creameries besides many small private institutions. The number of cows required to provide milk for the product reaches into the thousands, and operations connected with the industry occupy almost the entire farming population of the county. Just what this means to the people of the county may be understood from the fact that the timber industry, which might be developed to enormous proportions, practically has been neglected; the deep-sea fishing, said to be excellent just outside Tillamook Bay and along the stretches of coast from Nahalem bay to Nestucca Bay, has scarcely been investigated, and the raising of small fruits and vegetables, although producing excellent results when practiced, is confined to a small operation of individual farmers, the output being consumed almost entirely at home.

In comparison with other industries in the county, cheese-making requires little labor and pays an enormous income. Expense is small, profits large and certain. The clearing of large sections of land, such as would be required for extensive farming operations, is unnecessary; careful attention, which would be necessary to produce best results from such farming, is a factor that does not have to be considered in the cheese industry. The cattle find ample supply of good food and unexcelled ranging grounds on the wide bottom lands of the bay and along the lower levels of the mountains.

Boys and Girls Help.

It is no unusual thing to see handsome herds of cattle feeding in their pastures among huge stumps and trees, well provided with shelter during the hot days and protected from rains or dampness, which often come in from the ocean. Assistance of the boys and girls of the family is secured easily to take care of the milking, to carry the milk to the cheese factories and to assist the head cheese-maker or manager in caring for the milk and turning it into a marketable product.

With the growth of the industry, however, it has been found desirable and more profitable to clear the pasture land, so that an acre which formerly provided feed for 20 cows often furnishes pasture for the loggers or burn-off land and the disposal of the huge stumps has become almost an industry in itself, and provides activity for a number of workers.

Conduct of the smaller factories at the present time illustrates how the industry was carried on at the beginning with a view to eliminating every possible waste and producing highest returns with least expenditure. These factories were all conducted on the cooperative plan.

A number of farmers formed an organization, controlled by a board of directors, and agreed to supply milk for cheesemaking and provided him with assistants from among the farmers boys of the neighborhood, paying only small wages, because this was considered a part of the expense of operating, and would consequently decrease the profits.

Payment Is in Proportion.

Inasmuch as the proceeds all reached the pockets of the dairymen, eventually, the small pay was really no hardship, but rather an advantage. Contributors were paid according to the amount of cream they supplied, the quantity being ascertained by tests made at the factory twice a month from samples taken each day.

Every morning, the milk was brought in from the farms to the factory, located at some central point, the larger producers using their own wagons and collecting the product of smaller contributors at the farm lanes, not unlike the rural free delivery postman in collecting mail, and all the morning until about 9 o'clock, heavy-laden trucks rumbled up to the platform in front of the factory, to empty dozens of cans of foamy cream into the huge iron can which stood on a scale just inside the receiving room. Delivery was made through a funnel and spout so that there was no danger of the milk being contaminated from agencies outside.

Having delivered the milk, each driver in turn proceeded to the great tank into which the whey, or thin milk left

over from cheese making, was drawn, and filled his milk cans with this waste product with which to feed his hogs. In this way the entire output from the cows was utilized.

Standard Kept High.

The amount of milk delivered by each dairyman was then weighed, a sample taken for testing, and the proceeds of cheese making carried out. At the end of the month, proceeds from the sale of cheese made at the factory were divided among the contributors, pro rata, according to the amount of milk supplied and the expense required to turn it into salable goods. The industry was carried on under the careful supervision of a county cheese inspector and the standard kept strictly up to the highest possible grade.

The general plan of operations carried on when the industry was small is retained today. Now, however, in the larger factories, the working force is composed of an experienced cheesemaker and a number of apprentices, many of whom become, in time, heads of other factories. The business details are more complex than formerly, except in smaller creameries, but the process of cheese making is substantially the same.

Cheese making has been carried on in Tillamook County for nearly 25 years and many new processes have been worked out by employees at the factories.

Rivinity Is Keen.

Scops, mixers, stirrers and other apparatus have been invented by cheese makers and there is often considerable rivalry among the different factories over the grade of the products produced, the quantity manufactured and the ease and rapidity with which the cheese is brought out of the cream.

The famous Maple Leaf Creamery, near Tillamook Bay, has a capacity of 25,000 pounds of milk daily. This cheese factory is the largest in the county, and is interested in amount of output, the same in capacity, come the Tillamook Creamery, at Tillamook City, and the Fairview Creamery, at Fairview, only a few miles away. Ardent supporters of these three factories can tell you to the quarter pound the output from month to month. There is great rejoicing when any great gain is shown by a creamery and in event of a new one taking the lead in output, there would be a big bonfire and celebration.

At present the Maple Leaf Creamery handles close to 25,000 pounds of cream daily; the Tillamook, about 22,000 pounds, and the Fairview, slightly more than 20,000.

Manufacture Is Interesting.

The process of making cream cheese is interesting. It seems simple enough, too. The most prominent objects in the factories are the huge cream cans, which occupy most of the floor space. They are lined with tin, and in the larger factories are large enough to contain 5000 pounds of milk.

First step in the process is termed "clabbering the start." A small quantity of clabbered milk, about two and one-half gallons, is first heated to the boiling point, then cooled and turned into the large vats. The vat is then filled with milk from the receiving tank. By means of steam pipes passing under the vat, the milk is then heated to a temperature of 88 degrees.

The product is kept at this temperature for about 40 minutes, until tests show that separation has commenced, when it is increased in heat to about 90 degrees, stirring and mixing with special implements now commences and this process is carried on for an hour or more to separate the rapidly hardening milk from the whey.

Loss Is Guarded Against.

By the end of an hour, most of the fat from the milk has been separated and the whey is then drawn off. A fine screen prevents the loss of any of the cream. The curd is then carried on for nearly another hour, the whey and other moisture being thoroughly separated from the curd, as the thick mass of fat is called.

The product, by this time, has acquired the consistency of spongy rubber and has the appearance of a honey-combed mass. At one stage of the process, it is cut up into long strips with sharp knives and laid out to drain.

These strips soon knit together and are again cut apart, turned and laid out in the vat to drain again. As a last phase of the process, the curd is placed in a hopper, through which it passes and is lined with cloth. These are arranged in rows around the sides of the factory, placed on the side and pressed together by means of the screws.

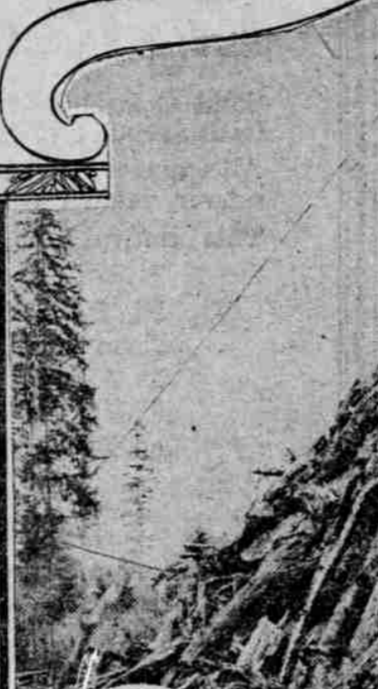
The cheeses are left in the presses over night, after which they are stored for three days, and are then dipped in hot paraffin to prevent the action of outside moisture. Ten more days of ripening are then required before the cheeses can be shipped.

Cheeses of Uniform Size.

This preliminary work comes to an end when the thoroughly hardened curd is shoveled into circular presses made of sheet iron and lined with cloth. These are arranged in rows around the sides of the factory, placed on the side and pressed together by means of the screws.

Each cheese of the usual size manufactured in Tillamook County weighs about 11 pounds. Usually three are placed in a case to be shipped all over the country. Each cheese is marked with the name of the factory before being packed. One may also purchase cheese at the factory in a limited quantity.

The whole process has required about eight hours, from the time the milk was received at the factory until the cheese was placed in the presses. As



Land Clearing Scene on one of the Big Dairy Ranches near Tillamook.

the work commences early in the morning, mid-afternoon finds the head cheese maker and his assistants cleaning up ready for the next day's work.

The largest factory of the county has an output of between 80 and 100 cheeses a day, in the best season, or between 2300 and 2400 pounds of cheese daily. The head cheesemaker and about four apprentices do all the work.

Wood Fuel Used.

Fuel for heating the large quantity of water used for cleaning purposes, and for supplying steam for heating purposes, including the warming of vats, melting of paraffin in which to dip the cheeses, is wood. This is supplied, generally at a low price, by some of those interested in the factory.

The tests carried out are comparatively simple and are conducted by the head cheese maker. Every contributor to the factory has a testing bottle in use in making the Babcock test of his milk and count of the number of those who send in their milk is kept in means of these bottles and a tally sheet.

A cheese plant does not require a large space and the entire operation of cheese making is generally carried on in one building. Partitions divide the room into a large vat room, curdling room, packing room, box making and dipping room, engine room and wood shed. In some of the larger factories a small separate building connected with the other by a passageway is used for curdling room to keep the ripening cheeses away from the heat and steam of the factory. A large tank for the reception of whey after it is drawn off, is a necessary adjunct of the factory and is placed just outside near the receiving platform.

Factories Are Clean.

Two things impress the visitor to the cheese factories; the rapidity with which the work is carried on and the absolute cleanliness of the factory and everything about it. In spite of the large quantity of milk used, all waste is so carefully taken care of that there is practically no suggestion of nuisance about a cheese factory as operated in this section.

The cattle used to supply milk for cheese-making are partly of Jersey stock, although the Guernsey breed appears to be more satisfactory. These cows are larger than the Jerseys, but not so large as the Holstein stock, and hence do not require so much feeding. They produce more milk than the Jerseys and the percentage of cream is sufficiently high. Moreover the cattle are harder and stand the climate better than the more delicate Jersey stock.

As each contributor is paid according to the cream test, it is not necessary to have uniform breeds for cheese making and the cattle are often of the rancher's individual choice.

Cows Yield Big Profit.

The ordinary cow, pastured on the wild land of the ranches, will produce enough cream to supply a small family and yield from \$19 to \$25 a month. There are cases where the profit from one cow has been greater than this, but these figures seem to be a fair average of the return. Some idea may be gained of the output obtained from the ranch cattle from the fact that 21 cows on a well-known ranch produced, during the month of April last, 888 pounds of butter fat, which was sold for \$417, and that 28 cows on the same ranch in May produced nearly 1100 pounds of butter fat, which sold for nearly \$427.

On another well-known ranch, 34 cows during the same two months produced nearly 1200 and over 1200 pounds of butter fat, respectively, which sold for more than \$500 each month.

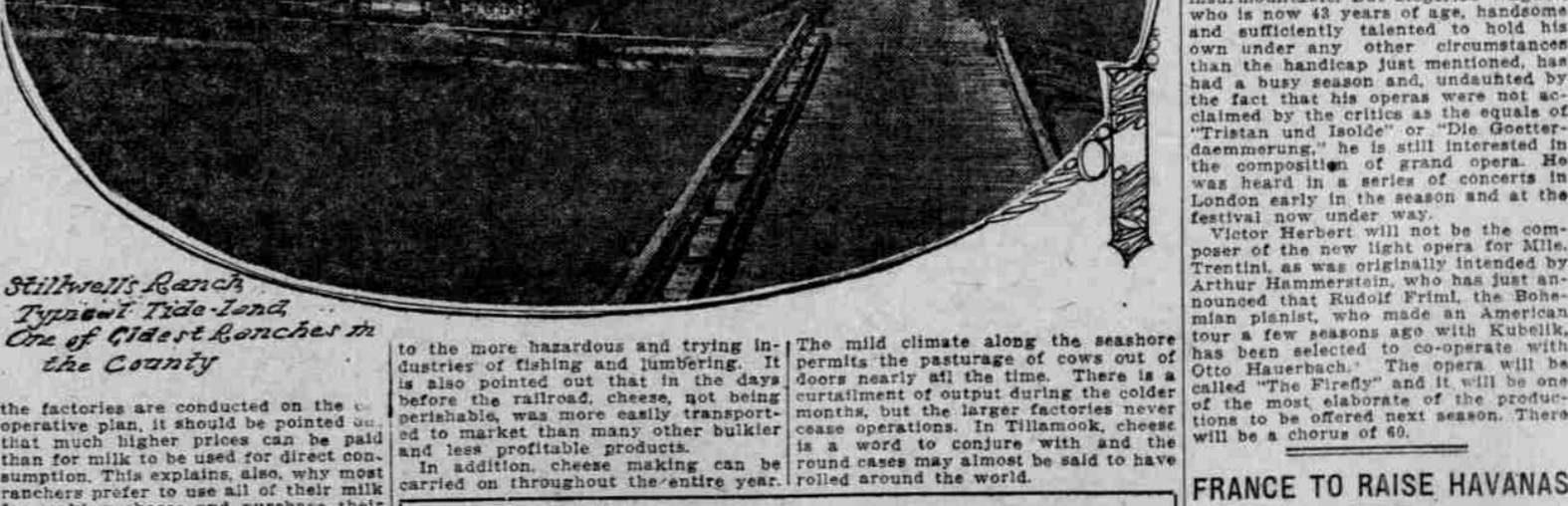
The price paid for butter fat by the cheese factories varies from month to month, but ranges about 25 and 28 cents a pound. Inasmuch as the milk is sold for cheese production only and



Maple Leaf Creamery, North of Tillamook City, on Wilson River. Largest Creamery in County.



Ranch of H.W. Harrison, Typical Ranch on which Land has not been Cleared.



Stillwell's Ranch, Typical Trade Land One of the Best Ranches in the County.

the factories are conducted on the cooperative plan, it should be pointed out that much higher prices can be paid than for milk to be used for direct consumption. This explains, also, why most ranchers prefer to use all of their milk for making cheese and purchase their butter from other sources. Not all the ranchers do this, however, many using the product of one or two cows for butter making to be used for home consumption.

Payroll Is Large.

Some idea of the extent of the cheesemaking industry in the county may be gained from the amount of the monthly payroll, which for the month of June amounted to \$71,711. Three creameries, the Maple Leaf, with a payroll of over \$11,000; the Tillamook, expending more than \$10,000; and the Fairview furnishing \$9,203, stand at the head of the money producers. One other creamery furnished about \$9000 during the month of June; one creamery, over \$6000; several \$5000, and only two, the smaller ones, less than \$1200.

Thus, cows are money makers in Tillamook County, and it is little wonder, perhaps, that the ranchers prefer the comparatively simple process of turning milk into cheese at good profits

to the more hazardous and trying industries of fishing and lumbering. It is also pointed out that in the days before the railroad, cheese, not being perishable, was more easily transported to market than many other bulkier and less profitable products.

In addition, cheese making can be carried on throughout the entire year.

The mild climate along the seashore permits the pasturing of cows out of doors nearly all the time. There is a curtailment of output during the colder months, but the larger factories never cease operations. In Tillamook, cheese is a word to conjure with and the round cases may almost be said to have rolled around the world.

as the one who brought to its highest estate opera as a musical and intellectual value and the orchestra as a medium of color and emotion. Of opera it has often been said that it is the least important and the least artistic of the musical forms, and that it is on an infinitely lower scale than the symphony or than chamber music. Who can think of the retarded action as Valentin holds the performance 30 minutes to sing to the audience that he is dying and not realize that Wagner brought quick action where the music is as significant as the word and he effected the idea of accompaniment and melody, replacing it with a complete symphonic structure between voice and orchestra and the support has become an orchestration—an accompaniment no longer.

Chorus Needs Voices.

Those who know something of the stage-struck girls, of the hundreds of singers in search of work, will be astonished to hear that there is a shortage in chorus girls—who can sing. This is the least important and the least artistic of the musical forms, and that it is on an infinitely lower scale than the symphony or than chamber music. Who can think of the retarded action as Valentin holds the performance 30 minutes to sing to the audience that he is dying and not realize that Wagner brought quick action where the music is as significant as the word and he effected the idea of accompaniment and melody, replacing it with a complete symphonic structure between voice and orchestra and the support has become an orchestration—an accompaniment no longer.

Richard Strauss Has His Own Way of Revenging Himself upon the Critics.

Richard Strauss has his own way of revenging himself upon the critics, who may not have been over kind to some of his productions in the past. With the secret out that "Ariadne at Naxos" is a ballet, Strauss, in a few minutes comes the invitations to the critics of Berlin, with a bill for \$7, the price of the seat. The tickets have been returned with the bill and the critics will pass up the show.

There is probably no man living who has to suffer more than Siegfried Wagner for being the son of his father's grandson of his grandfather. When a man must represent the talent of a Richard Wagner and a Franz List in one, he has a hard time of it. But Siegfried Wagner, who is now 43 years of age, handsome and sufficiently talented to hold his own under any other circumstances than the handicap just mentioned, has had a busy season and, undaunted by the fact that his opera were not acclaimed by the critics as the "Die Götterdämmerung," he is still interested in the composition of grand opera. He was heard in a series of concerts in London early in the season and at the festival now under way.

Victor Herbert will not be the composer of the new light opera for Mlle. Trentini, as was originally intended by Arthur Hammerstein, who has just announced that Rudolf Friml, the Bohemian pianist, who made an American tour a few seasons ago with Kubelik, has been selected to co-operate with Otto Hauerbach. This opera will be called "The Piffery" and it will be one of the most elaborate of the productions to be offered next season. There will be a chorus of 60.

FRANCE TO RAISE HAVANAS

Tobacco Monopoly Plans to Produce "Imported" Smokes at Home.

PARIS, July 20.—(Special.)—The world of smokers in France is seriously agitated by a step recently taken by the government department which superintends the tobacco monopoly. It has ordered a supply of Havana and Maryland tobacco seed for planting in France, and it openly proclaims its intention of selling tobacco raised from this newly-imported seed as genuine Havana and Maryland.

It certainly seems to be a proceeding of dubious commercial morality, and the assumption that the peculiar fascination of a Havana cigar or a pipeful of Virginia tobacco is due merely to the fact that it is grown from a certain seed, and not to any unique conditions of climate or manufacture seems equally questionable—but the final word is with the monopoly.

MUSICIANS TO OBSERVE WAGNER'S CENTENNIAL

Orchestras and Opera Companies to Celebrate Hundredth Anniversary of Great Composer—New York Chorus Girl Market Is at Famine Stage.

BY EMILIE FRANCES BAUER.

It is not difficult to predict what music will dominate the season of 1912-13, as Richard Wagner was born May 22, 1813, and most of the orchestras and opera companies of the world are already reckoning on this fact. The centenary of Verdi also falls in the year 1913, but as the date of his birth was October 10, it is not unlikely that the chief celebrations will fall in the season of 1913-14. Centenary celebrations have their ad-

vantages, but also their unpleasant side. No one will deny this who went through the last centenary in the large musical centers, where every organization, every individual and every teacher felt it a bounden duty to dig down into the dead past for all the early indiscretions of the illustrious composer—and this particular composer had many compositions which should have been allowed to rest in the oblivion to which he himself had destined them.

The world owes a tribute to Wagner