

Outlook for U. S. Shipping on the Great Lakes.

According to William Livingstone, president of the Lake Carriers' Association, the 1918 season on the Great Lakes will open propitiously. In his annual address delivered at New York to the association he said:

"The association will begin 1918 with an increase in membership so far as the number of vessels is concerned. No material losses through shipwreck were sustained in the past season, with the exception of the small freighter Goudreau, and the sales of vessels in memberships to the Atlantic coastwise service were small in comparison with the preceding twelve months. The requirements of the Government have so far been largely confined to the package freighters, and have removed only seven vessels of 15,893 gross tonnage from our membership. Our extensive building programme commenced before the war seemed a possibility, reached completion with the launching of the steamer August Ziesing on October 30, and this new construction, together with some recovered property, has added to our membership 12 bulk freighters of 89,301 gross tonnage, of which seven are 600 feet and four 545 feet over all in length. Until the war will have come to an end there can be no hope for any further increases in our association's tonnage through new construction. Nevertheless, the present membership represents a total of 2,084,922 tons, an amount adequate for successfully handling almost any burden that the nation may impose upon us.

OPENING OF 1917 SEASON.

Reviewing the season of 1917, which, through weather conditions, was very unfavorable, Mr. Livingstone says:

"All available ships were ready early for opening navigation on April 15, and the outlook appeared optimistic inasmuch as Lake Erie, from Detroit River to Conneaut, was clear of ice on March 20, while the Cleveland harbor opened on March 16, an advance of three weeks over the preceding year. On April 1 the river and channels up to Lake Huron were open and the steamers Maruba and Emory L. Ford, that had been caught at Port Huron at the close of navigation in 1916, proceeded down with their cargoes of grain. On April 12 the steamers Wm. P. Snyder, Jr., Col. J. M. Schoonmaker and Shenango made a dash from Buffalo harbor with the hope of getting through as they did one year previously, but they were caught in the ice three miles up the lake and held until April 19.

"In the upper lakes and rivers the ice conditions were the worst of a decade. On March 30 there was 26½ inches of ice at the Sault, and 38 inches in Duluth harbor. There was found at the head of Lake Superior the unusual condition of 28 inches of hard, blue ice and heavy ice extended out from Two Harbors for twelve miles.

SAULT LOCKS OPENED LATE.

"Not a downward cargo passed through the locks at the Sault in April, but Lake Michigan and the Straits having kept free, it was possible to trade with Escanaba, with the result that twenty-four cargoes of ore got away in April, but only ten were delivered in the month, equally divided between South Chicago and Lake Erie ports. The steamer Martin Mullen reached Cleveland on April 27 with the first ore cargo, and on May 1 the Hydrus reached Buffalo ore-laden.

"It is notable that the first round trip from Buffalo to the head of the lakes, as made by the T. H. Wickwire, was not completed until May 8, while the first round trip to Duluth, as made by the Harvester, was not completed until May 10. Throughout May this tedious, expensive condition continued.

"In July the fleet brought down 10,241,633 tons of ore, the largest in history, and this was accomplished after the most serious unloading delays in the first ten days of the month that a modern fleet ever encountered.

GRAIN TRADE SPECTACULAR.

"The grain trade of last spring and summer was spectacular in all its aspects and contributed one of the most interesting chapters to the eventual year's business. Although the stocks in the North-west were considerably reduced in comparison with other years, a demand for tonnage made itself evident early in the new year. The initial charter, made on February 24, was 5½ cents on wheat from Lake Superior to Buffalo. At the end of that month, the carrying rate went to 6 cents, but as the opening of navigation drew near, the price settled back to 5½ cents.

"Under the impetus of a flourishing trade it is but natural that carrying charges should advance. May

10 was characterized by a rate of 6¼ cents, which was the record price for opening shipment since the coming of the big steel freighter, and on the same day 5½ cents was paid on flax from Duluth to Milwaukee. But with an ever-increasing demand for tonnage, shippers were unable to sustain even this attractive price for long. Within one week 6½ cents was paid on wheat from Fort William to Buffalo for immediate loading.

RATE ROSE TO 7 CENTS.

"On May 22 an offer of 7c on flax went unfilled, since not a single spot boat could be found in the market. On May 24 the rate paid on wheat from Fort William to Buffalo rose to 7c and at this figure there were too few boats to supply the demand. The

7c rate continued for one week with charters made for June loading. The final charters at an extreme price was one of 6½c made in June for flax from Fort William to Buffalo.

"By the middle of June grain stocks were pretty well depleted and grain men ceased to bid ahead for tonnage. Through steady declines the rate on wheat and flax fell to 3½c on June 23 and with a steady increasing ore movement vessel owners turned to that commodity.

"During the flush of grain's activity 149 steel bulk freighters participated in the movement. The late opening of navigation and the interference of ice set the fleet back about three weeks, it was conservatively estimated, and yet up to June 1 the Buffalo elevators unloaded 44,190,336 bushels and the loss stood at only 1,410,416 bushels from the exceptional rate of the year previous."

U. S. Cotton Yields in China.

A report to the Department of Commerce from Consul General Thomas Sammons at Shanghai states that H. H. Jobson, an American cotton expert in the employ of the Chinese Government at Peking, has prepared notes on American cotton types in China for publication in "Millard's Review," of Shanghai. He states that the majority of fertilizers in use in China, such as night soil and bean cake, contain a very high percentage of nitrogen and a low percentage of phosphoric acid, and that on soils where these types of fertilizers have been in use for years, and where there is as much rainfall as there is in the cotton growing districts of China, most of which falls during the growing period, cotton needs more phosphoric acid than nitrogen.

"Nitrogen forces the plant to grow," he states, "while phosphoric acid causes it to put on fruit. There is a general complaint that American cotton does not mature its fruit when grown under Shanghai conditions. This is due to a great extent to the type of fertilizers in use and the excessive rainfall. When the plant is growing rapidly itself it will not put on a maximum amount of fruit, so instead of applying a fertilizer which accelerates the plant growth one should be applied which would influence fruiting." He stated further:

"The Chinese varieties of cotton have degenerated to such a point that they will respond very readily to the least favorable treatment. However, they have a long, long way to go before they can be considered on a par with some of the American varieties which could be successfully introduced into the central part of China. Since all indications are that American cotton can be successfully introduced in from three to five years, would it not be better to spend that length of time introducing cotton that has been bred up for more than fifty years and continue to improve it under Chinese conditions than to try to improve varieties that have degenerated so greatly as the native?"

"Mr. Mihara, director of the Mokpo (Chosen) cotton experiment station, who made the trip from Peking to Shanghai with me, secured yields as high as 1,120 pounds of seed cotton per acre from an American variety, while the highest yields from the native cotton ranged from 760 to 800 pounds of seed cotton per acre. The Korean farmers secure an average yield of about 400 pounds of seed cotton per acre from American cotton and about 320 pounds per acre from the native cotton. The American cotton yields about 33 per cent lint, while only 25 per cent was secured from the native.

"The outlook for the improvement of the cotton industry of China is very bright, and it will not be many years before American cotton will be grown on a large scale, provided the Government continues the work as it has been started. There are now four cotton experiment stations in operation, one each at Tungchow, Wuchang, Chingting Fe, Honan and Peking. Efforts are being made on all of these stations to improve the native cotton as well as to introduce foreign varieties. Up to the present time the work has been as successful as could be expected under the circumstances. If it were possible to conduct the work on a more modern and systematic basis, much more progress could be made.

"Many complaints or objections are heard in regard to the growing of American cotton in China. There are good grounds for some of these objections, while for others there is no foundation. One which is most frequently heard is that insect pests attack American cotton much more vigorously than they do the native plant. This is in part true, but not to such an extent as statements would lead a person to believe. Because there is an excessive rainfall

during the growing period, and the fertilizers most generally in use contain a very high percentage of nitrogen and a low percentage of phosphoric acid, the American plant when first introduced makes a very rapid growth, thereby causing the foliage to be very tender and susceptible to the attack of insects.

"The most serious pest and the one most difficult to combat is the pink bollworm. While we were at Tungchow a very careful search was made for this insect, both on the American and native cotton. At the time not more than one American plant in fifteen showed evidence of the pink worm while not one native plant could be found that was infested. This was very misleading, for if anyone doubts the seriousness of the attack of the pink worm on the native cotton he may be convinced by visiting the seed room of any of the larger ginneries in Shanghai. Hundreds of larvae that have eaten their way out of the seed after they reached the seed room may be found.

"Although statements were heard that the Mexican cotton boll weevil was doing considerable damage, no evidence of it could be found, and I do not believe it has yet been introduced into China. There are many weevils which closely resemble the boll weevil and may easily be mistaken for it. In fact, it is impossible to distinguish the boll weevil from a number of others without a microscopic examination.

"The cotton web or leaf worm was present over a large territory last season; but it usually appears so late in the season that the damage caused by it is reduced to a minimum. If it should appear early enough in the season to do serious damage it may be controlled by a very simple and inexpensive application of paris green or london purple.

"Considerable complaint was heard that cutworms cut the young plants off near the surface of the ground in the spring. Since none of these insects came under observation, it is impossible to say which of the three more common species is doing the damage. All three species, however, propagate very readily in weeds and grass, and will be found doing the most damage where the growth of weeds and grass was most rank the preceding autumn. They may be controlled by maintaining the fields free from weeds and grass.

"The bollworm is also present on both the native and American varieties, but as a rule does not do a great deal of damage except under local conditions which are favorable for its propagation. The purple worm was found, but the loss caused by it can always be considered negligible.

"All of these insects, with the exception of the pink bollworm, are present in the cotton fields of America, but a good crop is nearly always produced in spite of them. What has been done in America for years can be done in China, provided intelligent and progressive methods are followed."

CANADA'S FEBRUARY TRADE.

Ottawa, March 14.

For the month of February Canada's trade amounted to \$143,231,607, as compared with \$140,162,700 for February, 1917. Both imports and customs collections show a considerable falling off as compared with the same month in 1917. Goods imported were to the value of \$53,108,214, and duties collected \$9,449,747. For February, 1917, imports were worth \$68,555,938, and \$11,409,494 was the amount of customs revenue collected. Exports of Canadian goods during February, on the other hand, were to the value of \$86,361,617, an increase of about eighteen millions over February, 1917.