2. Statistics regarding Imported Spirits.

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| --- | --- | --- | --- | --- |
| Year. | Total imports (proof gallon). | Consumption per head of population (proof gallon). | Nature of spirits (proof gallon). | Retained for methylation. |
| 1895-1896 |  |  | Rum . . 6,217,469 |  |
| 10,821,518 | 0∙20 | Brandy. . 2,668,616  Other sorts. 1,935,433  Rum . . 6,719,452 | 91,990 |
| I902-I903 | 13,130,182 | 0∙20 | Brandy. . 3,081,525  Other sorts. 2,617,090 Rum . . 4,879,958 | 1,212,001 |
| 1905-1906 | 8,228,435 | 0∙16 | Brandy. . 2,456,773  Other sorts. 891,704  Rum. . . 5,110,345 | nil. |
| 1906-1907 | 8,129,503 | 0∙17 | Brandy. . 1,942,415  Other sorts. 1,076,743 | nil. |

was almost equal to the amount manufactured in the United King­dom, the figures being 1,995,782 gallons for the home produce and 1,456,108 for the foreign. For various reasons—chiefly owing to the surtax of 4d. per gallon on all foreign spirit—the quantity imported has gradually dwindled away, and at the present time is practically negligible. The principal spirit-producing countries are Russia and Germany, the United States coming next, and then France, Austria and the United Kingdom in succession, followed by Hungary, Holland and Belgium. The following are the figures for 1905:—

Proof gallons.

Russian Empire .... 161,366,000 (1904)

Germany 146,014,000

United States 125,042,000

France 160,584,000

Austria 55,682,000

United Kingdom .... 48,520,000

Hungary 40,216,000

Holland 13,552,000

Belgium 11,924,000

If we except Canada and the Cape (which make roughly 6,000,000 and 1,500,000 gallons respectively), the production

of the British Empire, apart from the United Kingdom, is very small. British Guiana exports 3,000,000 to 4,000,000 and Jamaica about 1,500,000 gallons of rum.

With regard to the consumption in gallons per head, Denmark stands first with 2∙4, then follows the Austro-Hungarian Empire, with 1∙98, Germany with 1∙43, Holland with the same figure, France with 1∙37, Sweden with 1∙36, the United States with 1∙26, Belgium with 1·10, and last the United Kingdom with 0∙91. The consump­tion in Russia is about equal to that of the United Kingdom. The figures given are for the year 1905. In the British colonies Western Australia comes first with a consumption per head of 1∙33 gallons; and then in order Queensland 1∙32 gallons; Canada 0∙94 gallon; New South Wales 0∙77 gallon; New Zealand 0∙73 gallon; Victoria 0∙64 gallon; the Cape 0∙68 gallon, and South Australia 0∙47 gallon. Of the spirits distilled in the United Kingdom, Scotland produces roughly one half, England and Ireland about one quarter each. Although the number of distilleries in England and Ireland has varied but little of recent years, the number in Scotland increased from 120 in 1880 to 161 in 1899. In 1906 the actual numbers were— Scotland 150; Ireland 28; England 8. The apparent anomaly between the number of distilleries and the quantity of spirit produced in different parts of the kingdom is explained by the fact that the great majority of the distilleries in Scotland and Ireland are small, pot-still distilleries, whereas the English works are all of considerable capacity. It is difficult to arrive at any satisfactory figure with regard to the amount of capital invested in British and Irish distil­leries, but it probably exceeds twenty millions.

Illicit distillation has almost ceased to exist in Great Britain, but in Ireland the number of annual seizures under this heading is still considerable. In 1906-1907, out of a total of 974 detections and seizures, 968 were in Ireland.

The spirit produced in the United Kingdom is made almost exclusively from malt, unmalted grain (chiefly maize, rye, barley, wheat and oats) and molasses. The relative proportion of malt to unmalted grain has shown a slight tendency to increase during the past twenty years, but the quantity of molasses employed has increased very largely in the same period, owing mainly to the fact that home-made spirit has largely displaced the foreign article for several industrial purposes and particularly for methylation. The estimated quantities of the various materials employed in 1883 and 1906 respectively were as under:—

|  |  |  |  |
| --- | --- | --- | --- |
| Year. | Malt (quarters). | Un malted grain (quarters). | Molasses and sugar (cwt.) |
| 1883 | 859,363 | 1,054,081 | 165,529 |
| 1906 | 1,151,199 | 1,090,286 | 985,808 |

fruits 499. In Germany roughly 75% of the spirit manufactured is derived from potatoes. In 1905 the total spirit distilled amounted to 3786 units (of 1000 hectolitres of pure alcohol), of which 2877 units were obtained from potatoes, 765 units from grain and 144 units from molasses and other material. In Russia spirits are distilled chiefly from potatoes and rye, in the United States from maize.

*Manufacture.—*The manufacture of spirits consists broadly in converting starchy or saccharine matter into alcohol, the latter product being subsequently separated, concentrated and rectified. When spirits are made from a purely saccharine material the process of conversion into alcohol is a relatively simple one, but where farinaceous raw products are employed it is primarily necessary to transform the starch contained in them into sugar. The main varieties of spirits manufactured from sugar, or from sugar-containing materials, are:—

Sugar-derived Spirits *Raw Material. Product.*

Wine. Brandy.

Sugar-cane and cane molasses. Rum. Beetroot; beet molasses. Industrial alcohol.

Occasionally wine, cider, perry and cane molasses are also employed for making either plain potable spirit or industrial alcohol, and at times cane molasses (chiefly obtained from Cuba and the West Indies) are used somewhat extensively in England for the manufacture of plain spirit. Occasionally, also, plain potable spirit is derived from beets, but rarely from beet molasses, the spirit derived from the latter being somewhat difficult of rectification.

The chief spirits derived from starchy materials, and their corresponding raw materials, are as follows:—

Starch-derived Spirits

*Raw Material. Product.*

Cereal grains: chiefly barley, rye, oats, wheat and maize. . .Whisky, “corn brandy,” “vodka,” plain spirit; industrial alcohol.

Potatoes. . . . . . . .Industrial alcohol.

A. *Spirits Derived from Saccharine Materials.—*The manu­facture of the finer brandies, such as those of Cognac, is, as far as the processes involved are concerned, by no means a complex matter. The excellence of this class of spirit is due mainly to the character of the wine employed and to the great experience of the distillers in selecting and blending the raw materials and finished products. The character of the wine is, of course, chiefly due to the peculiar soil and climatic conditions, and in some degree to the methods of cultivation. The latter, it may be added, have since the reconstitution of the Charente vineyards subsequent to their partial destruction by the phylloxera (see Brandy) been much improved. In the pre-phylloxera days the vineyards were planted and cultivated in a very rough and ready fashion, without any attempt at regularity of planting. The result was that the vines spread practically unrestrained in every and any direction. In consequence there was a great irregularity of growth, feeble and hardy plants being found side by side, and the yield was poor. In vineyards constructed in the modem style the vines are planted in regular rows, and the bushes are, with a view to obtaining regular and rapid

With regard to the materials employed in the manufacture of spirits in France, roughly 80-90 % now consist of maize (and other starchy substances), beetroot and molasses, whereas in 1840 nine-tenths of the alcohol produced was derived from the grape and other fruits. This change is due in part to the ravages of the oïdium disease (1850-1857) and the phylloxera (1876-1890), which destroyed an immense number of vines, but chiefly to the increased demand for commercial spirit in the arts and manu­factures, and also to the improved methods for obtaining a high-class spirit from prac­tically any starchy or saccharine material. In 1905 the number of alcohol units (the unit = 1000 hectorlitres of pure alcohol) distilled from maize and other starchy materials was 589, from molasses 516, from beetroot 1002, from wine, cider, lees and