

then let stand. Fermentation commences in about 12 hours and is complete in about 24 to 36 hours. Maximum results have, so far, been obtained from this procedure. Some distilleries make such new mixtures with each batch; others practice inoculation by adding ten per cent of a ferment in full action to a new mixture.

The latter process has economy on its side.

The general result is five gallons of spirit from an equal quantity of molasses; with efficient operation the cost of a gallon of 94 per cent spirit is about P0.17.

After all of the available alcohol is recovered by distillation, some of the distilleries continue the distilling process at a higher temperature and recover the fusel oil left in the lees. This material finds a very important use as a solvent for cellulose and is in great demand in varnish and celluloid factories. The rest of the liquor is at present thrown away, locally; but in Europe the distillation process is continued and the nitrogen present is recovered in the form of an ammonia, later used as a base for the manufacture of ammonium sulphate, in great demand as a fertilizer.

Approximately 75 per cent of the alcohol produced is consumed locally as beverages; 25 per cent is exported, at present to China, or made into denatured alcohol and fuel alcohol. The latter is mixed according to the Foster process and consists of a mixture composed of 20 parts sulphuric ether, 80 parts rectified alcohol (96%), 5 parts kerosene oil and 1/2 part aniline oil or pyridine. The object of the aniline or pyridine

is to neutralize the acetic acids and aldehydes formed on explosion of the fuel, to prevent pitting of the engine pistons and cylinders. As a tractor fuel and for stationary, internal combustion engines, this fuel has given fair satisfaction. As a fuel for automobiles it still leaves a great deal to be desired. The gasoline alchemist's dream is still to come, as far as alcohol for a motive fuel is concerned.

Internal revenue statistics may be of interest, so we copy them:

	1923	1924	1925
	Proof Liters	Proof Liters	Proof Liters
Taxpaid	8,932,246	10,363,984	12,202,372
Export	1,667,102	1,797,048	2,770,333
Sold to U. S. Army and Navy	91,793	111,568	171,934
Denatured Alcohol	912,260	1,387,564	1,164,412
Motive Power Alcohol	2,323,606	3,097,456	3,662,798
Fusel Oil Recovered	2,224	23,529	9,227
<b>Total</b>	<b>13,829,231</b>	<b>16,721,639</b>	<b>19,971,076</b>
Increase			3,249,437
Percent of Increase			19.43
Distilled Spirit Removed for Domestic Consumption as Beverages			
	1923	1924	1925
	Proof Liters	Proof Liters	Proof Liters
Domestic Manufacture	8,932,246	10,363,984	12,202,372
Imported	861,768	346,138	402,561
<b>Total</b>	<b>9,294,014</b>	<b>10,650,122</b>	<b>12,604,933</b>
Increase		1,356,108	1,954,811
Per cent			18.35
Per capita		0.90	1.06

Raw material used: Liters

Nipa sap	26,327,704	18,199,014	15,616,514
Coco sap	6,332,576	6,648,522	7,673,192
Molasses	12,917,647	21,443,946	38,261,160
Cane Sugar	2,366,782	929,471	771
Grain	4,577	3,331	6,240

NOTE:—A proof liter of alcohol is a mixture containing 50% of absolute alcohol and 50% of water.

MORE ABOUT TARHATA

More news from Jolo since the September Journal was published contains curious details on the conduct of Princess Tarhata Kiram, who was a student in the University of Chicago at the time Mrs. Carmen Aguinaldo Melencio, daughter of General Emilio Aguinaldo, was there. Tarhata returned to Manila a very modern girl, with bebbed hair and liberal ideas. But it was very dull resuming life in Jolo: there were no sorority dances, no moonlit lake yachting trips, no motoring parties of young people. Yet there were the tribe and tribal traditions. These, it seems, have claimed Tarhata. She no longer bobs her hair; she has acquired again a taste for bluff, and, displacing a fourth wife, she lives with Datu Tahl, third member of the Jolo provincial board. This relationship she is maintaining is contrary to Moro law, limiting legitimate wives to four, for the fourth wife, it is said, had not been divorced nor obtained divorce when the relationship began; and even yet there has been no decree of divorce.

Thus the daughter of the East, doffing western culture, has returned to the East with a vengeance. She suffers more or less ostracism because of her quaint conduct. An elder niece of Sultan Hamid Hamilul Kiram remains his favorite. She is Putri Dayang-Dayang Kiram, much older than Tarhata, comfortably stout and uneducated. She occupies the town residence of the sultan. Princess Radda Kiram, formerly a student in the Philippine Women's College in Manila and also older than Tarhata, has returned to her people in

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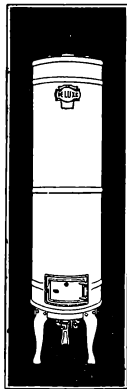
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Jolo and contracted a legitimate Moro union with a noble there. Princess Emma Kiram, fourth niece of the sultan, is in Jolo too, making her home with her mother. She is reported heart whole and fancy free; at least she is still unmarried. She formerly attended the Philippine Normal

School and later the Philippine Women's College. Sultan Kiram has no children from any of his numerous wives. He is nearly 60 years old and when he dies there may be a pretty contest for the throne, enjoying, as it does, retainers or subsidies from the British and American governments.

### Hayden, With Thompson, For Development

Michigan Professor Gives Views About Mindanao



The correspondent with the Thompson mission in the islands from July 9 to October 4 who will probably have the most influence in determining whatever opinion upon government the report of Colonel Thompson may contain, is Dr. Ralston Hayden, of the University of

Michigan, who represented the Christian Science Monitor. Dr. Hayden made an independent study of Mindanao, and the following (from the *Mindanao Herald* of September 18) was verified for the *Journal* by him as substantially his views:

"Mindanao is the greatest land of opportunity under the American flag. This is the outstanding impression that I have received during several weeks of observation of the island. Some Filipino Greeley should make the cry, 'Go south, young man, go south,' a slogan through every province in the Visayas and Luzon. No other people in the world possesses the opportunity for national expansion and personal enrichment which Mindanao affords the Filipinos. The island offers them quicker, greater and more certain returns for the investment of money and labor than the richest parts of the great American West ever gave to settlers from the East.

"Residence in it entails less of hardship and of separation from kith and kin than does that in any other frontier country in history.

"It is the section of the Philippines whose greatness and wealth lie in the future. Furthermore, it seems to me the part of the archipelago in the development of which Americans and Filipinos should best be able to collaborate to their mutual advantage. Already there is going on a very rapid development participated in by both peoples, much more rapid than I had expected.

"One of the most striking aspects, to my mind, is the large number of American planters who have made good, many of them on the proverbial shoestring. The beautiful plantations of rubber, coconuts and hemp, carved from the wilderness by pioneers with little more capital than their own perseverance and brawn, and in spite of all hindrances, are proof positive of what Americans can and will do here under favorable conditions and with adequate financial backing.

"In such mutual effort lies the best solution of the political as well as the economic problems of the country. That the island of Mindanao will develop rapidly, one way or another, however, is almost certain. The world needs what it can produce and will not long be denied what these rich lands owe it."

### Americans in the Easy-Going Eastern Tropics

Reflections on a False Territorial Policy in the East

By PERCY A. HILL

In the Philippines one day is just like another; due to lack of real seasonal changes. Years jumble themselves together until it is difficult to distinguish between them. It must have been the same during the long centuries when the people

dreamed away their existence under the benevolent rule of the friars. In the early days of our occupation Americans often affected surprise when a native did not know the year he was born in, or his age, but this was of course before they themselves had

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