

**T**HE next agricultural product that will play hereafter an important role in the economic progress of the country and one which is bound to enhance the stability of Philippine rural economy is ramie, also known as china grass. The scientific name is *Boehmeria nivea* (Linn). Just before the outbreak of the present war in 1941, there was a ramie rush in Mindanao, when enterprising Luzon and Visayan progressive farmers, principally sugarmen started to stake lands and began large-scale cultivation of ramie. Had it not been for the war, ramie now would have been among the important crops for local consumption and for export. Large tracts of hitherto virgin lands would have been turned into productive areas. In the Koronadal Valley alone, not less than 3,000 hectares were planted to ramie.

The position of ramie in the textile world is expected to improve with discovery of new uses, which will create stable market for ramie fiber from Philippine plantation.

**Uses.**—The sudden and universal interest for ramie may be attributed to the

Today engineers and agriculturists are boasting: "In the near tomorrow the Glades will belong to civilization." Into this great, flat, practically treeless expanse has been brought a new plant, a wonder fiber known as Ramie. The tall, stingless nettle has been cultivated in China for four thousand years. It was so common there it was called China Grass. Introduced to America through the black dirt of the Everglades, it has become so highly valuable that some farm experts unhesitatingly refer to it as "the agrarian revolution."

The wonder plant, now going into million dollar production, opens a new world to the American consumer. It means ironstrong shirts, suits and slacks; socks won't rub holes; non-shrinking; non-fading dresses with a higher sheen than silk; life-wearing fish nets; paper so strong can't rip it; freedom from shrinkage and resistance to mildew and rot.

Ramie is seven times stronger than wool and eight times stronger than cotton or silk. Its tensile strength is equal to that of mild steel. A fiber no thicker than an ordinary pin cannot be broken by hand when ripped from the natural stalk. Commissioner of Agriculture for the Everglades, Nathan Mayo, says: "It sounds almost too good to be true, I am always expecting the 'catch' to develop, but so far it hasn't."

Nor have such well known firms as the United States Sugar Corporation and the Sea Island Mills, Inc., found any catch. They intend to turn the Glades into big time agricultural production and make this spot the Ramie center of the world.

Aside from clothing, the uses for Ramie have long been recognized by textile experts everywhere. Braided fibers are wrapped around propeller shafts and other ship machinery to seal out water. For twine and rope it is without peer. Heavy textiles—such as upholstery, draperies, and seat covers—are virtually permanent when made of Ramie. And it is the best known material for towels and bandages because of its absorbing properties and the fact that it is lintless.

Perhaps you are wondering how a fabric that soaks up liquid so readily can be represented as a first-rate waterproofer. The answer lies in the very absorbency of the fiber which takes up, and retains indefinitely, oil or some other water repellent.—Coronet, August, 1945.

# RAMIE—

## The Coming Crop

fact that ramie has been discovered to be a valuable fiber only in recent years. Used alone it can produce fabric equally excellent as linen from flax. Used as mixture with wool it facilitates the production of woolen fabric greatly improved for comfort and elegance. If mixed with cotton ramie produces a fabric closely resembling flax linen in quality and durability. Besides, it has been utilized for many other uses such as fabric for parachute, fishing chords, mantle for lamps, laces, etc.

**Climate Requirements.**—Ramie grows best in regions having a uniform distribution of rainfall throughout the year and without any marked and prolonged dry season, and destructive typhoons and floods. Davao, part of Cotabato, Zamboanga, Lanao, Agusan, Oriental Misamis, Surigao and some parts of Leyte and Samar have the climate suitable for ramie. Rainfall distribution has been found also satisfactory for ramie cultivation in Laguna, Tayabas, Bicol Provinces and Negros, but the prevalence of destructive typhoons make these regions less desirable as the Mindanao province where typhoons hardly ever occurs.

**Soil Requirements.**—Ramie grows best in rich deep loam soil which is well drained. High organic matter content is essential as it facilitates fast growth and insures good yields, and economical preparation of ground. Good abaca lands if sufficiently level have been found suitable for ramie.

**Regions Already Established As Ramie Regions.**—The northern part of Koronadal Valley above Marbel along the national highway, the regions around Davao city and the Tagum District of Davao, the Kidapawan and Bansalan Districts on the Cotabato-Davao Road, Aroman district in the Cotabato-Bukid-

non Highway, Talakag District of Bukidnon, the Monungan District of Lanao, Silay District of Negros Occidental, the humid Calawang and Famy Districts in Laguna, the Baler District of Tayabas, have been found suitable for cultivating ramie.

**Ramie Cultivation.**—Ramie is planted from rhizomes which are young plants starting to grow from the rootstock. A healthy rhizome is planted in each hill. The hills are distanced 30 cm. apart in rows eighty to 1 meter apart. The ground must be prepared thoroughly, plowed well, harrowed several times so that there is a perfect tilth. In a week the young plants will indicate the extent of germination. The field must be well cultivated to prevent the growth of any weed. In two or three months the plants shall be ready for the first cutting. The cutting should be done carefully in order not to harm the plants remaining in the ground. The hauling of the cut plants to the decorticating machines should be done carefully in order not to damage the crop. After the cut plants are hauled, the soil between the rows should be cultivated to eliminate weeds and to produce a good tilth. The plants will be ready for another cutting in 60 to 75 days. Under Philippine conditions five to six cuttings a year are not unusual. It is this characteristic of ramie that makes possible the early income and the recovery of investments within three or four years.

**Yields.**—First cutting yields 3 to 5 piculs per hectare. Subsequent yields give 7 to 8 piculs per cutting per hectare. Accordingly, yields of established plantation run from 30 to 40 piculs per hectare per year of 5 cuttings. Proper manuring and cultivating specially with the aid of fertilizers will maintain that

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## Machines . . .

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which was very profitable was mining. From a non-profit-making venture years ago, the mining industry became, through improved mining practices, the most profitable industry and was destined to be so for many years to come.

When panning gold was entirely done by hand the production was very negligible, nay discouraging. There seemed to be no future in gold-digging. When mechanical power was being utilized already, the output skyrocketed spectacularly. The unprecedented rise in production was made possible by the installation of modern plants, equipped with the latest machines that money could buy. What were these mining paraphernalia? Generally we have two groups, namely: mining and milling supplies. All in all, it might be said that mechanization was instrumental in making the mining industry pay dividends to hundreds of shareholders.

Every now and then there are reported new inventions that promise to revolutionize agricultural practice. One of the newest farm machines that made its debut is a sugar cane harvester, reportedly perfected by R. G. LeTourneau, Inc., in the United States. The said device was built for the Honolulu Sugar Planters' Association. One could very well imagine the reception it received when it was introduced in Hawaii. Filipino cane planters should rejoice over the introduction of such a device.

Built as an experimental unit, the harvester would be "field-engineered"; any changes proved necessary by operating trials would be made by means of a truck, which is a travelling fabricating shop fitted with Lincoln Electric Company (U. S. A.) arc welding equipment, driven by power taken-off from the truck drive shaft. It was developed by R. G. LeTourneau, Inc., for many months. The idea for it grew out of a discussion of cane harvesting problems between Hawaiian cane growers and R. G. LeTourneau, president of the above mentioned company bearing his name.

The harvester has a number of very unique characteristics. It will cut the cane just below the surface, yet high enough to avoid injury to the roots. As it cuts the cane, the machine will pick up the stalks, take them into its cutting compartment, cut them into pieces approximately a foot long, then carry the pieces by conveyor mechanism to trucks or wagons which will travel along beside the harvester.

It was reported that the engine installed in the harvester is a 160-horsepower Diesel built by Caterpillar (U. S. A.). The large generator mounted on the front of the engine, according to the report, is for the purpose of furnishing power to electric motors which drive the conveyors and other operating mechanism. One man can successfully operate this huge piece of machinery.

This leads us to the question of how mechanized farming methods will affect the agricultural population of the Philippines. In the United States there is an imminent rural-to-urban rush. The metamorphosis here may not be as rapid as in the United States, but indications seem to point to the fact that what is taking place today in that country may

also happen here in the future. The United States has changed from a nation of farmers into one composed largely of city workers. The proportion is: one-fifth in agriculture and four-fifth in city work.

Why this is so, one writer explains as follows:

"Reapers, gins, combines, corn harvesters, tractors, and hundreds of other labor-saving devices have given greater farm production with fewer farm laborers. At the same time the expansion of industry has provided more jobs in and around cities. Improvements in distribution and processing have done their bit by assuring the farmer that a larger percentage of his produce would reach the market unspoiled or would reach a more favorable, distant market, and then, perhaps, be processed into new forms.

"Technology and invention made possible or caused—depending on one's way of looking at it—this change in a nation's working habits. That, too, may sound matter-of-fact; yet it takes not even an intelligent imagination but only a knowledge of the facts of history to see bound up within it romance and heartbreak, achievement and hardships. Farmers, themselves, provided many of the developments that have improved our farming methods. Others who were primarily investors supplied many inventions. But research workers, industrialists, men with vision to see possibilities and courage to carry through have done a larger job in developing correlative services, industries, processes, and markets. Struggle has been the keynote of the efforts of all these, and some have, indeed, suffered discouragement and poverty. Yet out of their work has come, not simply fewer farmers and more city workers, but an enormously improved standard of living."

## Ramie . . .

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yield for many years. In many established plantations as much as 6 cuttings a year have been made.

**Principal Operations.**—If virgin lands are to be used, there will be a heavy cost of clearing forest which will go from 100 to 150 pesos per hectare, depending upon the stand of trees and labor supply and the skill of laborers. Old clearings free from stumps are preferable as the plantation can be made uniform and no obstruction will be met in farm operation from standing stumps and stray logs. Tractor is more effective and economical for these operations than work animals. The ground must be plowed and harrowed thoroughly to produce a good tilth before planting is attempted. This usually costs under pre-war conditions from 50 to 60 pesos per hectare. Planting is by hand as no machinery has come yet to market. This costs from 15 to 20 pesos per hectare. Harvesting is done by hand too, the cut stems are hauled to the decorticating machines, and the fiber, dried up. This operation costs from 5 to 7 pesos per picul. There is a very excellent opportunity to mechanize the operation as the ramie plants remain erect, in straight rows and the stems hardly grow to an inch in diameter.

Acceleration of ramie cultivation in regions where it can be grown successfully will be a wise move on the part of the government; that is, when conditions will permit. Farmers in places where it can be produced should take the first opportunity. For ramie is an up and coming crop and an important one at that.—*SILAGRAM*

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