

142. E. W. Fyfe

The Ramie
Plant

Part first and second

What is Ramie

Ramie is a native plant of India
or China, in those Countries it is
used for making twine fishing nets
and woven goods of all description
and for mixing in Silk goods.

It belongs to the nettle family
and is sometimes called in France
China nettle and in England
China Grass.

There are two kinds of Ramie
used, the *Boehmeria utilis* or *tenacissima*
which grows in tropical climates
and the *Boehmeria nivea* which
grows in a more temperate climate

The first the *Boehmeria utilis*
has green leaves on both sides
the *Nivea* has leaves white on one

Side and white on the other side.

There are several other sorts of Ramie but they are not used for manufacturing purposes.

Long before Ramie was known in Europe it was spun in the countries which produced it, it is said that formerly the Chinese sold to the Russians for Damask of pure silk stuffs made with a warp of Ramie and a woof of silk.

Several factories for spinning the Ramie have been established in France since 1881, but they not having plantations in sufficient quantity to supply the factories were obliged to import China grass from China, the cost of the material which was decorticated by hand labour by the natives of those countries made it impossible to

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(made it impossible) to get it at a price low enough to make ordinary articles, the Ramie from China selling at 15 and 17 cents per pound, and loosing besides before it could be used 30% to 35% in the ungumming and Bleaching process, had to be spun into fine numbers to make it Remunerative

To do so required also very expensive machinery so that the Yarn had to be sold at a very high price to make a profit

Experience has proved that Ramie is the strongest and the finest ^{vegetable} textile known, and the one less liable to Rot, and that it can be grown at a much lesser price than any other textile provided

it can be decorticated by
Machinery at a Reasonable price
and the fiber not damaged by
the operation

This problem has been completely
solved by the newly invented
Machine the "Gibson Decorticator"

Planting and propagating
The Ramie

The land for planting Ramie
Should be good and Rather Sandy
though almost any land will grow
Ramie better Crops will be made
on good land than on poor land
the plant will also have a better
fibre

Land which is constantly damp
will not do for Ramie, as the
Roots will Rot in a few Years
though it may have brought two
or three good Crops

as the Ramie is a Perennial plant
which may last fifty Years and
more on the same Spot the land
Should be well manured before

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planting and plowed deeply

Ramie can be propagated
in diverse manners.

By Roots twigs

Suckers or Seeds

To propagate by Roots, furrows
should be made in lines distant
about 3 feet and the Roots laid
12 inches from one another, they
should alternate with those planted
in the next line, so as not to face
one another, they should be placed
in the furrows in their natural
position and in a manner that
the ends of the Roots are nearly on
a level with the soil, they should
be placed obliquely to the line of
the furrow, the Roots should be
five inches ^{in length} if possible

If the planter has already a
field of Ramie, the Roots can

Easily be taken from the old plants
but if they have to be bought, they
will be rather expensive, in that
Case, only a part of the plantation
Should be planted with Proots

Propagation by Seeds.

Land upon which one intends
to propagate Ramie by Seeds
Should be well pulverised, it
Should be Rich, the Seeds Should
be mixed with three or four times
the Same quantity of pulverised
Earth, Spread lightly on the ground,
and not Covered with Earth, a
little Straw, may be lightly Spread
Over, it must be watered lightly—
Every Evening, with a watering

Can having very small holes,
when the seeds begin to grow, a
little watering every other day will
be sufficient

The greatest danger after
the plant begins to grow, is the
heavy Rain, it should be sheltered
in a manner that the Rain will
not crush the Young plant.

It should not be transplanted
and left without shelter, to the
heat of a Burning Sun


Transplantation during the heat
of Summer is dangerous unless
great care is taken

do not transplant before the
Roots are well formed

Propagation by Suckers

Cut from Stalks, Branches having
Several Buds well Ripened —

Divide them into pieces of about 5 inches, Each piece having at least two buds, Lay these Suckers in a furrow, and Cover them with Earth, leaving out one Bud, nearly level with the ground, then water it with liquid manure, the best time to do it is in May June and July, water the Suckers every day with Rain water, to help the formation of the Roots, and keep the Suckers from Drying at the End of fifteen days, these Suckers will develop themselves Rapidly Especially if the weather is favorable and they have been sheltered from the heat of the Sun



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Propagation by Twigs

as soon as the plant in the nursery
arrive at the height of about
Seven inches Rip the top . . .
. . . . Shoots will then grow from
the pit of each leaf, when these
shoots have attained the length of
about four inches, gather the earth
all around leaving out only
the ends of the shoots, at the end
of about six weeks, all these shoots
will have taken roots, they are then
taken from the mother plant and
transplanted,

The same process takes place
for new shoots which will soon appear
Each mother plant can give in one
season 150 plants.

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Propagation by twigs
Another process.

Lay in the ground at the depth of about 3 inches, Young stalks or Branches from the nursery. Keep them down by the means of some wooden hooks, and cover them at intervals with Earth, take care to take of the leaves of the part which is in the ground, ^x Roots will soon grow at the places covered with Earth, then cut of Each Branch which has taken Root from the mother plant, with a sharp knife, and divide it in as many parts as there are Roots

 ^x and lift up the part which is above ground)

Each Root will make a
New plant, the same operation
can be done when the new plants
are at their proper height

Second Part

An acre of Land Containing about 14,500 plants, if kept in good order and properly manured will give from 2000 to 2500 pounds of Ramie Bark to the acre

If the planting of the Ramie Roots take place in Spring, there will be a Small Crop the Same Year in September, and two fair Crops the Year following, it will be in full Bearing the third Year.

In the Southern States of America, the first Crop of Ramie is Cut at about the first Week in June, the Second Crop in September

The first Year of the planting Care must be taken to keep down the Weeds, by Hoeing between the plants, and Prunning the plow

between the lines, in the second Year one Hoeing will be sufficient to keep the plantation in good order.

if it is found necessary a second Hoeing can be made after the first Crop.

a little manure every Year will help greatly to make good Crops and good fiber

In dry Summers irrigation when it can be done is also a great help to a good Crop, but when there has been sufficient manure used the Crop will not suffer so much from the Drought

When the plantation is in full Bearing, Roots can be taken from the plants, by plowing between the Rows near to the plant, it will

furnish Roots for planting
and keep the Pramie from Spreading
too much.

The time for Cutting the Pramie
is when it begins to take a Brownish
Color at the lower End of the Stalk

If the planter wishes to gather
Some Seeds, he must harvest them
from the Second Cutting Crop, the
first Crop do not give Seeds.

Harvesting

The Cutting of the Stalks must
be done with a Sharp instrument
as a Blunt tool will damage the
plant.... the Cutting should be
made at about (2 $\frac{1}{2}$) two and one
half inches from the Root.

The Stalks after being cut
are laid between the plants, and
left to dry for a few days the

leaves will fall off.

They can then be transported to some other place if not completely dry then stored or decorticated immediately by the machine

The Bark will then be stored until it is Baled, if it is intended to be sold in the Raw state. or Else undergo the un gumming process

Decortication

The Gibson Decorticator is altogether made on a new System it does not crush the wood to obtain the Bark and does not injure it in the least, as it peels the Bark on the very same principle as the Chinese and Indians — peel the Pramie, it makes no waste.

The Stalks are fed to a Roller which flatten them (which flatten them) to an uniform thickness and carries them to a Circular cutters made from a piece of Round Steel in which groves have been cut, these cutters running at a great Speed seize the Bark and throws it between two Rollers, which peels it in exactly the same manner

as it is done by the hand.

it does it's work Cleanly and leaves nothing on the stalk, which is drawn by two other Rollers and thrown out in full lenght at the end of the machine

The machines according to their size will decorticate from 400 to 700 pounds per day at a cost of one to one and a quarter Cent per day per lb.

Ungumming

Ramie after decortication can be used without undergoing the Ungumming process before it is Spun, but cannot be spun to any fine numbers, and will have to be

ungummed after it is spun, because it will not stand the dampness when it has the Gum still adhering to it, the gum draws the dampness from the atmosphere but when once ungummed it will stand the dampness better than any other vegetable fibre known.

The ungumming of Ramie after it is spun is more easily done than when it is in Bark, because it can be handled without the danger of Entangling the fibre and can be done much cheaper and loses less weight.

The main point in the ungumming of Ramie is to dissolve the Gum or Rosin which covers and glues the fibre, it can be brought to a very fine point, and can be given the gloss of Silks, but for ordinary purposes, it is useless to go any

Further than the dissolving of the Gum, which also by the same process bleaches the Ramie

There are several methods for ungumming the Ramie one consist in steeping it in Boiling water two or three hours, Rinsing it in lukewarm water, then boiling it in water, in which 5% (five per Cent of the weight of the water of Bicarbonate of Soda has been dissolved.

the Boiling to last from six to eight hours, then Rinse it in lukewarm water and dry it.

a little pure Soap or oil added to the mixture will help the ungumming.

If You wish to have it whiter immerse it before drying

in a weak solution of
 Hypochlorite of lime, wash well
 in Copious supply of water
 Lukewarm if possible, then immerse
 it in water acidulated by Sulphuric
 acid. Taking care not to make
 it too strong as it would burn
 the fibre, wash it with Soap and
 water, and Rinse it in warm
 water. Cold water makes the
 Ramie more stiff

Before ungumming Run the
 Bark between fluted rollers
 it will break the pellicle and
 make it leave the fiber more
 Easely during the Boiling

The quantity of Sulphuric acid in the Bath should not be more than

Sulphuric acid 1 part
Lukewarm water 250 parts

Before ungumming, the Ramie should be made in small bundles as much as You can easily hold in the hand, and tied loosely by the middle part, to keep it from Travelling

The Gloss which is Sometimes given to the Ramie at the ungumming process, is almost all gone, after the fiber has passed through the Spinning machinery

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