

THE IMPORTANCE OF INTRODUCTION OF KUDZU (*PUERARIA JAVANICA*) IN OUR REFORESTATION¹ PROJECTS

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The importance of the introduction of kudzu (*Pueraria javanica*), as a "cover crop" in our reforestation projects, certainly needs evaluation or serious consideration. While it might have been verily a wise step to have had introduced it at the time when the first reforestation project in the Philippines was opened, it can not be too late to adopt it just now.

Quite recently, there has been a nationwide alarm and there still persists a grave concern over the considerable losses to lives and property brought about by floods, allegedly as a result of the tremendous destruction and exploitation of our forests. To remedy the situation, it is thought and planned that a gigantic 10-year program of reforestation be launched with 50 millions of pesos from the national coffer to be involved. Whether the proposed program will be pushed through or the present rate of reforestation activities will merely be maintained, it is but fitting that ways and means be devised to minimize, as much as possible, or entirely check the great losses in our reforestation projects, as a result of grassfires, especially during the hot season of the year. Reforestation work can not be expected to succeed unless plants set out in the plantations are free from the constant threat of grassfires, drought and/or excessive soil erosion.

A part of the 1954-1955 annual report of the Director of Forestry is worth quoting, as follows:

"In spite of the vigilance to reduce destruction of the plantations, several grassfires occurred this fiscal year. Incomplete reports showed that there were about 626.72 hectares burned, containing 444,005 trees valued at ₱122,465.03.

"In some projects the unusually long drought during the fiscal year resulted in a great mortality of young seedlings in the nurseries as well as in the plantations. However, seedlings that died this year amounted to 1,228,601 as against 3,131,478 of the previous year."

It may be mentioned further that, accordingly, the total expenses under Reforestation Fund (Rep. Act No. 115 during the year amounted to ₱157,367.77 as against the aforesaid losses amounting to ₱122,465.03 incurred as a result of grassfires during the same period. It thus appears that about 78% of the total amount spent that fiscal year was merely gutted by fire! The 78% is yet based on the "incomplete reports" of the fire destruction during the period. That is not to mention the value of the 1,228,601 seedlings that died during the same period as a result of drought.

The foregoing figures disclose how much "setback" is made as a result of fires

¹ Reforestation may be divided into two categories, namely: *natural* and *artificial*. The natural method is one where the logged-over areas, i.e., areas where matured trees have been cut or removed, leaving the immature ones in good condition to grow and seed the openings or logged-over places. This is the cheapest and surest way of reforestation. On the other hand, artificial reforestation is the planting of open areas, at present mostly covered with grasses consisting of cogon, talahib and others. These grassland areas are the result of the shifting method of agriculture, known as *kaiingin*. In this paper the discussion refers to the latter.

and droughts every year, against every forward "stride" we try to make in reforestation work. That is due to the fact that in most cases, a great portion of the areas for reforestation is covered with cogon (*Imperata exaltata* Brongn.) which easily gets burned due to its naturally combustible leaves, especially during the summer months. With seedlings and even saplings set out in those cogonal areas, without benefit of an effective deterrent to burning, their destruction by fire can not be helped each time the cogon area will be burned. Evidently, under the present set-up there seems to be so little progress being made in our reforestation activities. While accordingly, the employment of 540 forest guards has been a great help in "minimizing" forest destruction caused "especially by fires", there is just the same no sure and effective guaranty for the protection of our reforestation plantations from fires as long as cogon is found thereon.

In view of the seemingly precarious state of our reforestation program and activities, there arises an urgent need for adopting a "Kill-Cogon-First Policy", to avoid setbacks. In other words, if possible, plantation areas should first be cleared of cogon before any plant or seedling should ever be set out thereto; or, in order not to delay the reforestation program and schedule, the "killing" of cogon should, at least, be simultaneously done with the setting out of plants and seedlings in the plantations whenever and wherever practicable.

Realizing the dire need of first eliminating cogon in our plantations, there comes, next, a necessity for a sort of an "antidote" to our reforestation "detractor" — cogon. That antidote, or we might call, "cogon killer" must possess at least the following qualities or characteristics: (1) Effective cogon killer in as short a time as possible; (2) should occupy area permanently as long as it is needed, but easy to eliminate when its presence will have been already a detriment to plants and seedlings

in the plantation; (3) will not top the plants and seedlings, thereby depriving the latter of sunshine which is necessary for their luxuriant growth; (4) evergreen; hence, not combustible and instead, prevents soil from drying up during summer; and (5) seeds available in large quantities, and cheap.

This writer has had the chance to actually plant kudzu in cogonal area in between coconuts and bananas and has observed its behaviour from the time the seeds were sown until the vine ultimately eliminated the cogon and took over the area. In thus having made the observation, this writer became convinced that kudzu will certainly prove to be a big "asset" in our reforestation projects. It may even create "miracles" by way of perhaps, entirely checking tremendous losses in reforestation activities due to grassfires and droughts, in view of the following characteristics which it possesses, and which, incidentally, meet practically all the above mentioned necessary qualities of a good cogon killer:

1. *Fast and effective cogon killer*—

As a cover crop, kudzu has proved to be very effective killer of not only cogon, but even talahib (*Saccharum spontaneum* L.) which is, in most cases, likewise found wherever cogon grows. As a vine, kudzu thickens itself and widens its coverage considerably from year to year and forms into a sort of a "blanket" over the cogon area and then and there, the cogon is eventually covered and dies out. Talahib is twined around, forced to bend downwards and covered. Ultimately, it is wiped out and kudzu takes over the area.

2. *Occupies area permanently, but easy to eliminate* —

As a vine, kudzu sends out roots at every node that touches the ground. Its vine grows by elongating, branching and enlarging, at the same time, anchoring itself securely to the ground thru its roots for as long as a time it is desired to be there. When

its presence in the plantation will have been detrimental to the plants thereon, it could be easily eliminated by "skinning" the ground surface and piling the debris for sometime to rot or to be burned when dried.

3. *Will not top plants and seedlings* — Unlike ipil-ipil (*Leucaena glauca* (L.) Benth) and other shrubs that are used as cover crops, kudzu can be made to stay just on the ground surface (after killing the cogon) by preventing it from twining around trees or seedlings or by not allowing it to gain access to the bases of taller plants, thereby ensuring that it will not cover or shade the seedlings, eventually depriving them of sunshine which is very essential for the growth of any plant.

4. *Evergreen* — An evergreen vine, kudzu can not easily be burned during the summer months; on the contrary, the "blanket" it spreads over the area where it grows renders the soil underneath consistently moist, or at least not dry even during dry weather. In addition, its dry leaves which fall off by force majeure decay easily and are transformed into humus in a comparatively short time due to the favorable, humid condition under the "blanket". The presence of humus, in turn, makes the soil soft and a good absorbent of water, thereby regulating waterflow to a certain extent. Thence, its crisscrossing vines securely attached to the ground by its roots, contribute heavily in preventing soil erosion.

5. *Seeds available in large quantities, cheap* — Kudzu seeds are now available in large quantities during the months of March and April when atmospheric conditions are favorable during the flowering period. As a cover crop, it is now extensively used in Batangas, Laguna, Quezon and in the Bicol provinces under citrus and coconut plantations. When finally introduced in

our reforestation projects, the procurement of the seeds will subsequently become not a problem. The initial supply of seeds could be had thru the personnel of the Bureau of Agricultural Extension who know where kudzu is found in abundance. By sowing the first seeds say, in May or June, they will bear fruits immediately in the following year during the months of March and April; so that, it will be a question of purchasing the seeds but once at the outset. The seeds that will be borne by the first ones that will be sown will serve as the sowing material for the following year, and so on, until all our *cogonales* will have been transformed into kudzu-covered areas, ready for planting, if not duly planted with trees.

While at this juncture kudzu has been pictured to be an "asset" when introduced in our reforestation projects, it has, too, its shortcomings. The vine has that tendency to twine around taller plants in its effort to get sunshine. When allowed to twine around plants and seedlings it may greatly retard their growth, if not entirely kill them. The retardation or the ultimate killing of the seedlings or plants, however, may be completely prevented by maintaining a clean portion of at least, a radius of one-half to one meter from the base of the plants until they grow tall and big enough not to be adversely affected by the presence of kudzu vines around their trunks. That shortcoming or defect, however, can not be an effective argument against the introduction of kudzu in our reforestation projects since, maintaining a half-to-one-meter radius free from vine such as kudzu, will cost much less than maintaining same area free from cogon, as the latter takes more time and effort to cut close to the ground, only to "show up" again two or three days thenceforth.

The present sad plight and status of our
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THE IMPORTANCE . . .

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Reforestation projects have been told. The tremendous losses from grassfires as well as from drought are now known. A suitable solution to the problem is hereby being broached. There can possibly be no deterrent to the adoption and introduction of kudzu in our reforestation projects. Most, if not all, of our reforestation projects have been and still remain under the constant threat of fires and drought. Tens of thousands of pesos of the national income are annually allotted to reforestation projects without guaranty as yet of their sure protection from the annual hazards. Finally, our government just can not afford to waste considerable amounts in reforestation projects when such amounts are badly needed in more productive ventures of the Administration with prospects of more positive results that would redound to the economic upliftment of the country and the better-

A TIE AS AN . . .

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smaller molave ties, like molave second class ties and/or other substitute ties, is also believed worthwhile to be observed, determined and recorded. With such statistics readily on hand when the time comes that the Company is faced with the problem of what to use and where to get ties, those concerned will have easy time to solve it.

* End *

A small trouble is like a pebble. Hold it too close to your eye and it tills the whole world and puts everything out of focus. Hold it at proper viewing distance and it can be examined and properly classified. Throw it at your feet and it can be seen in its true setting, just one more tiny bump on the pathway to eternity.

—Celia Luce

ment of living conditions of the masses.

Will not the proper authorities act accordingly?

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