



How to Grow UBI

(STEPS IN PLANTING)

Volume 1, Series 1



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PHOTOS courtesy from Zenaida D. Darunday, SNMPC, Carmen, Bohol and ATI-RTC 7 Central Visayas
ILLUSTRATIONS courtesy from M.B. Cerna

CROPESTABLISHMENT

Setts Preparation



About 20,000 to 27,778 setts are needed for a hectare of land. There are four types of setts: head, middle, tail and whole. The first three are prepared by cutting large tubers into pieces. The fourth type refers to the whole small tuber. Setts should be obtained from healthy tubers of healthy plants.

Slice large tubers into setts weighing from 60g to 250g. Do not slice tubers weighing less than 60g.

Be sure that each sett has enough skin area. Treat cut sides of setts with ash or fungicide. Air or sun-dry the setts until cuts are dry. After drying, setts may be pre-sprouted or planted directly.

Pre-sprouting Setts

Sprouts emerge from setts about 2-3 weeks after planting. Pre-sprouting the setts before planting is recommended to minimize weeding expenses before sprout emergence.

For a pre-sprouting bed, dig a shallow ditch in a shady area or clear the ground in a shady area by removing stones, weeds and debris.



Plant setts cut from large tubers either skin up or skin sideways. Whole tubers measuring 60 to 250g either crown up or crown side ways should be planted. Then cover the setts with a thin layer of soil. Water the pre-sprouting bed at least one a week until most of the setts have sprouted.

PLANTING

Planting is done from March to June. However, planting time for ubi depends upon the time tuber dormancy is broken and the start of rain in the area.

A. NON-SPROUTED SETTS

Plant setts in the seedbed at a distance of 1m x 50cm or 60cm x 60cm. Plant the setts 10cm deep during the rainy season and 15cm during dry season, especially if the field will not be mulched. Setts can be planted in any position

B. PRE-SPROUTED SETTS

Plant the setts at the start of rain if it is not possible to irrigate or mulch the field. Plant the setts in the seedbed at a depth of 10cm and a distance of 1m x 50cm or 60cm x 60cm. Be sure to orient the sprout upward in planting.

Divide the field into four to six section and if staggered planting is applied. Each section is intended for one planting batch. The size and the time to prepare each section depend upon the rate of sett sprouting.



MULCHING



Mulch the field to reduce soil temperature, conserve soil moisture, increase organic matter content of the soil and suppress weed growth.

Use dry coconut fronds, corn stalks, rice straw and other similar materials in mulching. See to it that these materials are free from weed seeds.

Mulch the field just after planting.

Make the mulch thick if rice straw or any material that rot easily are used.

WEEDING

With non-sprouted setts and without mulching, 3-5 weeding are needed. With pre-sprouted setts and with mulching, only two weeding at 2-month intervals are needed.

While plants are still short and unstaked or if the stake set-up allows, use animal- drawn implements to control weeds in an unmulched fields. Vines crossing the path of the animal should be lifted and placed along the rows before plowing.

Use handtools to weed the field once plants are already staked and the stake set-up does not allow the use of animal-drawn implement or if the field is mulched.

With non-presprouted setts and without mulching pre-emergence herbicides applied within one week after planting, maybe used to control weeds.



Ubi (Dioscorea alata L.) or yam is a vine which produces both aerial tubers called bulbils and underground tubers or roots.

The **bulbils** weighing a few grams and to over a kilogram come out from the leaf axils three (3) months after planting.

The underground **tubers** weighing one to six kilograms can be harvested six months after planting.

The ubi roots has 70 percent moisture and 28 percent starch. It also contains traces of fats, crude protein, sugar, crude fiber, ash and Vitamin C, B1 and B2.

Ubi is grown primarily for its roots or tubers. The tubers can be eaten boiled, baked, roasted, flakes, chips and can be processed into powder form. Dehydrated yam slices are used for the preparation of food such as ice cream, cakes, pastries and other dessert. The ubi skin or peeling can be used as a raw material for the manufacture of food coloring.

RECOMMENDED VARIETIES

| VU-1 (BASCO UBI) | VU-2 (ZAMBALES UBI)-LA 167 | VU-3 (LEYTE)-LA 100 | KINAMPAY VARIETY |
|---|--|--|---|
| YIELD 18-20 tons/ha | YIELD 16.08 tons/ha | YIELD 21.26 tons/ha | is known for its sweet aroma and good taste and dubbed as the "Queen of Philippine Yams" which has smooth and round roots. Ubing Kinampay is classified into five (5) varieties namely; |
| DRY MATTER 28.80% | DRY MATTER 30.49% | DRY MATTER 30.10% | ORIGINAL KINAMPAY reddish purple flesh |
| STARCH 21.25% (wet basis) | PROTEIN 1.33% | STARCH 20.96% | KABUS-OK white flesh with large roots |
| PROTEIN 1.55% (wet basis) | MATURITY 29 weeks | PROTEIN 1.52% | TAM-ISAN reddish white flesh and sweeter in taste |
| MATURITY 29 weeks | SKIN COLOR brown | MATURITY 31 weeks | BINANAG creamy-white flesh and elongated |
| SKIN COLOR brown | CORTEX COLOR purple | SKIN COLOR brown with blackish tinge | BINATO big and hard root with whitish flesh color |
| CORTEX COLOR white with purplish flesh/tinge | GROWTH HABIT twinning | CORTEX COLOR cream to pink | |
| GROWTH HABIT green with purplish leaf veins, nodes and petiole ends | FOLIAGE COLOR green with purplish leaf veins, nodes and petiole ends | FLESH COLOR white | |
| | REACTION TO DISEASE Resistant to foliar fungal disease | GROWTH HABIT twinning | |
| | | FOLIAGE COLOR green with light green veins, petiole ends | |

SOIL AND CLIMATIC REQUIREMENT

Ubi thrives anywhere in the Philippines and in a wide range of soil types and elevation because it can tolerate adverse conditions such as droughts and pest infestations.

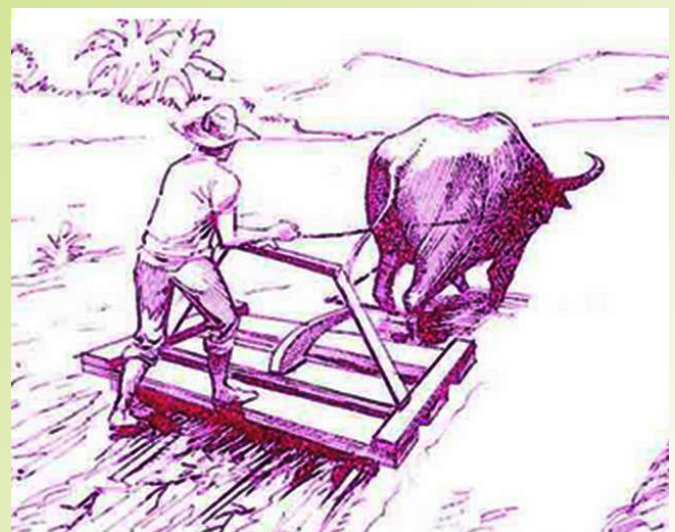
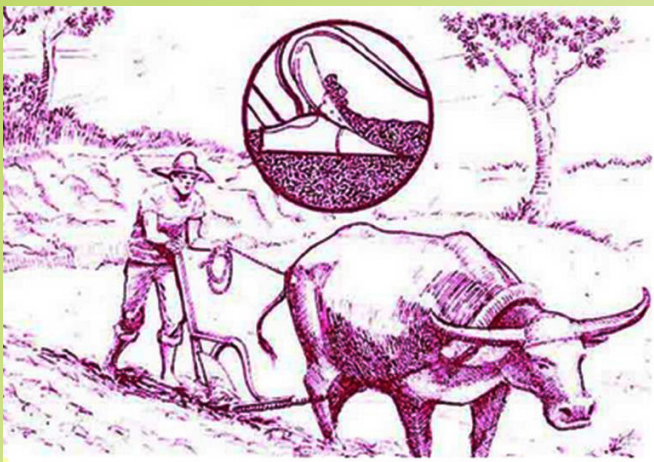
However, it thrives best in sandy loam or silt loam fertile, well-drained soil and temperature ranging from 25°C to 30°C. Ubi needs ample moisture throughout the growing season.

The crop can be grown anytime of the year but for best results, planting should be done at the beginning or just after the rainy season when it can obtain all the moisture it needs for growth.



CULTURAL MANAGEMENT

Land preparation



TILLAGE – Two plowings and two harrowings are usually enough for ubi for a field that has been previously cultivated. Plow deeply. Ubi needs a deep loose soil. Harrow along and across the length of the field to pulverize the soil.



SEEDBED – Plant ubi on flat or ridged seedbeds. These are preferable to other types of seedbeds;

If flat beds are used, plant after the last harrowing.

On sloping or rolling fields, contour the ridges to minimize soil erosion.

STAKING



Place a stake for each plant before vines start crawling on the ground. Stakes should be 1-2m long.

Bamboo, wood, cassava stalks, talahib stalks, or any similar materials that can support the ubi vines which can be used as stakes for at least seven months.

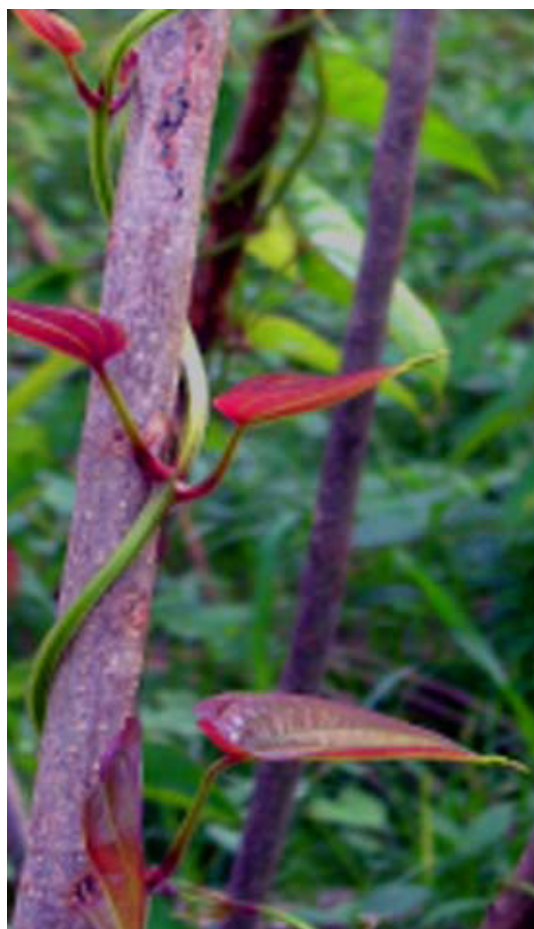
If cassava stalk is used, it should be set up in an inverted position

(young end down) to prevent the stalk from producing new shoots.

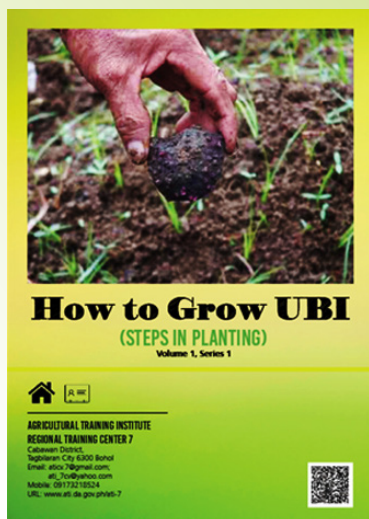
TRAINING VINES

Ubi vines twine to the right. When vines start trailing on the ground, train the vines climb their respective stakes.

Also, train the vines again when branches start crossing the rows, especially when weeding and hilling-up operations by using animal-drawn implements.



THIS IS A FOUR-SERIES BROCHURE:



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