



# How to Grow UBI (STEPS IN PLANTING)

Volume 1, Series 1



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## **REFERENCES:**

- 1) UBI: A Guide to its Culture and Use  
By Nestor L. Pido, M.S. and Myrna B. Pepino, PhD  
Philippine Root Crop Research and Training Center/Department of Home Science  
Visayas State College of Agriculture, Baybay, Leyte
- 2) Ubi: Its varieties, cultural traditions and folklore in Bohol  
by: Dr. Jes B. Tirol, PhD  
Director, University of Bohol Planning and Research
- 3) Major Pests and Diseases of Yam and their control  
by: Erlinda A. Vasquez  
PhilRootcrops, Leyte State University, Visca, Baybay, Leyte
- 4) <http://businessdiary.com.ph/1381/how-to-grow-ubi-yam/> (Downloaded: 27 September 2017)

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

# CROP ESTABLISHMENT

## Setts Preparation



**A**bout 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 setts 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 maybe pre-sprouted or planted directly.

## Pre-sprouting Setts

**S**prouts 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

**P**lanting 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



**M**ulch 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

**W**ith non-sprouted setts and without mulching, 3-5 weedings are needed. With pre-sprouted setts and with mulching, only two weedings 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)

**YIELD**  
18-20 tons/ha

**DRY MATTER**  
28.80%

**STARCH**  
21.25% (wet basis)

**PROTEIN**  
1.55% (wet basis)

**MATURITY**  
29 weeks

**SKIN COLOR**  
brown

**CORTEX COLOR**  
white with purplish  
flesh/tinge

**GROWTH HABIT**  
green with purplish  
leaf veins, nodes and  
petiole ends

### VU-2 (ZAMBALLES UBI)-LA 167

**YIELD**  
16.08 tons/ha

**DRY MATTER**  
30.49%

**PROTEIN**  
1.33%

**MATURITY**  
29 weeks

**SKIN COLOR**  
brown

**CORTEX COLOR**  
purple

**GROWTH HABIT**  
twinning

**FOLIAGE COLOR**  
green with purplish leaf  
veins, nodes and  
petiole ends

**REACTION TO DISEASE**  
Resistant to foliar fungal  
disease

### VU-3 (LEYTE)-LA 100

**YIELD**  
21.26 tons/ha

**DRY MATTER**  
30.10%

**STARCH**  
20.96%

**PROTEIN**  
1.52%

**MATURITY**  
31 weeks

**SKIN COLOR**  
brown with  
blackish tinge

**CORTEX COLOR**  
cream to pink

**FLESH COLOR**  
white

**GROWTH HABIT**  
twinning

**FOLIAGE COLOR**  
green with light  
green veins, petiole  
ends

### KINAMPAY VARIETY

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;

**ORIGINAL KINAMPAY**  
reddish purple flesh

**KABUS-OK**  
white flesh with  
large roots

**TAM-ISAN**  
reddish white flesh  
and sweeter in taste

**BINAG**  
creamy-white flesh  
and elongated

**BINATO**  
big and hard root  
with whitish flesh  
color

# SOIL AND CLIMATIC REQUIREMENT

**U**bi 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.

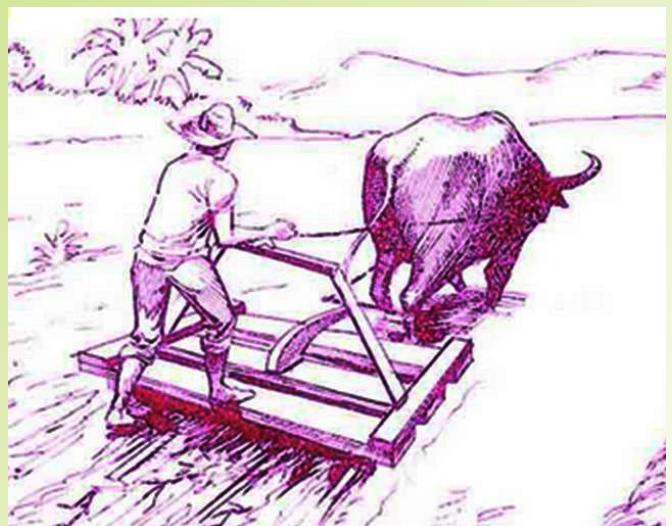
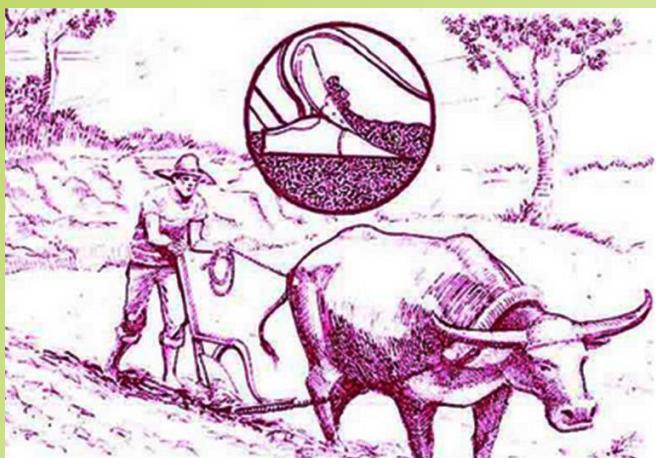
However, it thrives best in sandy loam or silt loam fertile, well-drained soil and temperature ranging from 25°C to 30°C. Ubi needs ample moisture throughout the growing season.

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



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

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

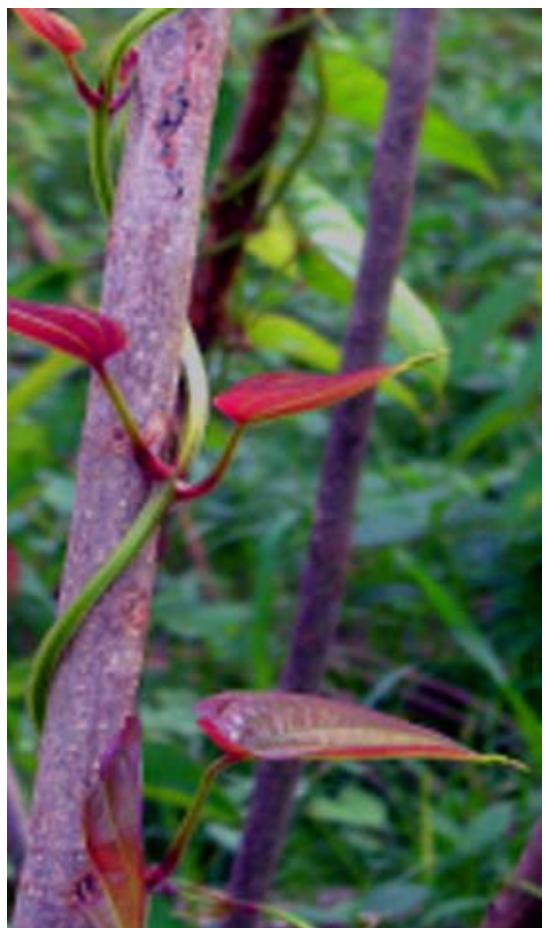
Bamboo, wood, cassava stalks, talahib stalks, or any similar materials that can support the ubi vines which can be used as stakes for at least seven months.

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

# TRAINING VINES

**U**bi 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 hillng-up operations by using animal-drawn implements.



## THIS IS A FOUR-SERIES BROCHURE:



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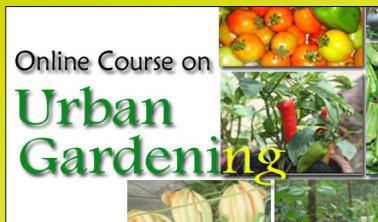
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