

Cropping Calendar of Bajo Guli I & II

Activities	1	2	3	4	5	6	7	8	9	10	11	12
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Layout and pit Digging												
Planting												
Fertilizer												
Irrigation												
Weeding												
Pest & Disease control												
Leaf Analysis												
Harvesting												



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 Royal Government of Bhutan
 Ministry of Agriculture & Forests
 Department of Agriculture



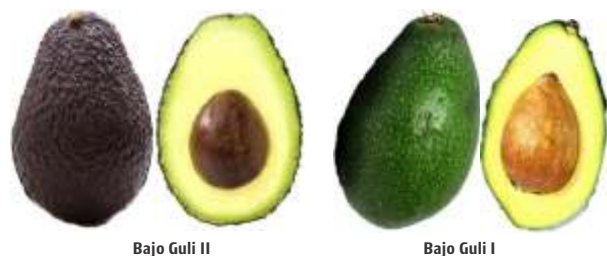
CULTIVATION OF BAJO GULI I AND II AVOCADO



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Background

Two avocado varieties namely Bajo Guli I and Bajo Guli II were released in the year 2012 by ARDC, Bajo. The Bajo Guli I (Bacon) and Bajo Guli II (Hass) are among the most popular avocado varieties in the world. These varieties were sourced from Australia and found to be performing well under Bajo condition. Bajo Guli II is Type A (flower opens with receptive stigma in the morning of the first day, closes towards afternoon and then reopens in the afternoon of the second day to shed pollen) while Bajo Guli I is Type B (flower opens with receptive stigma in the afternoon, closes towards the night and then reopens in the afternoon of the second day to shed pollen). The A and B types compliments each other by increasing the pollination owing to its flower opening schedule and results in increase in yield when mixed in the orchard.



Characteristics of Bajo Guli I and II

Cultivars	Type	Tree size	Fruit Shape	Fruit weight	Fruit Color	Fruit's Skin Texture	Flesh Color	Bloom Time	Harvest time	Yeild/ tree
Bajo Guli I	A	Medium Erect	Obovate	280-500 g	Green(UR) Green(R)	Smooth	Creamy White	Mid-March	Dec.	125 kg
Bajo Guli II	B	Medium Spread	Pear Shape	170-396 g	Green(UR) Black(R)	Pebbly			Mar.	53 kg

Climate and Soil Requirement

Avocado can be grown in elevation ranging from 300 to 1500 masl. It requires cool to warm temperature with minimum not falling below 7°C and maximum

temperature of 35°C. The optimal temperature is 15°C to 25°C. Bajo Guli I can tolerate cooler climate and can be grown in higher altitude than Bajo Guli II.

Avocado can be grown in wide range of soil types but prefers coarse and well-drained soils. The soil should be about 1.5m deep but shallow soil are also suitable if it is well drained and regularly irrigated. Waterlogging soil should be avoided as avocados are highly prone to root rot disease due to water logging. Clay soil or impermeable soil are therefore not suitable for avocado cultivation.

The ideal soil pH is from 5.5 to 6.5 but can be grown in both alkaline and acidic soils. Both the varieties and particularly Bajo Guli I are not salt tolerant and high saline soils should be avoided.

Propagation

For true to type seedlings, avocado must be either budded or grafted. Avocado can be grafted or budded with several methods like veneer and cleft (tip) grafting, and chip budding. The rootstock should have a girth diameter of about 1cm for grafting. The rootstock should be of introduced cultivars of Mexican, West Indian or Guatemalan origin. It is not graft compatible with the wild avocado (*Machilus edulis*) found in Bhutan. Grafting or budding is carried out in the month of February and March.

Seed sowing

Avocado seeds can either be sown immediately after extraction or can be stored for 3-5 months in cold store chamber at 5°C in poly plastic after washing and drying it (in shade). If stored in normal temperature, it will lose its viability rapidly. Dip in fungicide solution for about 30 minutes, dry it and sow with the pointed end upwards.

Planting

Planting is done in the month of March-June at a spacing of 7.5m x 7.5m. Dig a 1m x 1m x 1m size pit. Place the seedlings

and add mixed top soil and compost (1:1 ratio). Place the seedlings straight with the graft line about 7-12cm above the ground level. Stake the seedlings to provide support from strong winds with bamboo or other stakes. Mulch with several inches of straw, saw dust etc.

Training and Pruning

Avocado require less pruning and good branching system are developed even without pruning. However, branches going sideways and unruly top should be corrected.

Bajo Guli I tends to grow erect and the terminals of the upward growing shoot should be pinched to encourage more lateral growth and limit the height of the tree.

Fertilizer application

No fertilizers are applied during the planting. For proper addressing of nutrient requirement, fertilizer application should be based on leaf analysis. However, in general, apply 3kg of Suphala (15:15:15) per tree in February - March.

Pest and Disease

Phytophthora root rot (*Phytophthora cinnamomi*) is the most destructive disease in avocado. The fungi feeds on the feeder roots and can result in the death of the tree. Typical symptoms are pale green wilted leaves with brown tip which drops easily. Feeder roots of the infected trees might be absent or black, brittle and decayed. During initial stage, gypsum might be applied or otherwise systematic fungicides like Mancozeb at the rate of 2g/litre of water.

Harvesting

Bajo Guli I is harvested in Mid-December. It does not change in color when ripe and remains green. Bajo Guli II is harvested in Mid-March. It changes to dark purple/dark color when ripe. Avocado is climatic and ripens after harvest. Consume the fruit after few days from harvesting when the fruit has turned soft. However, one must be careful as the fruit decays within one to two days after softening.