

Reap great yield from passion fruit

Passion fruit is a perennial vine crop which grows to give oval or round shaped fruit. It is native to tropical regions of southern Brazil and it is also grown in Uganda mainly in Masaka and Kasese districts, writes **Lominda Afedraru**...

Passion fruit is easy to grow and a farmer is able to reap within eight-12 months. The most common types grown by farmers include the purple *Grandilla* popularly known for its scent locally known as *Kasese*, Masaka and Kenyan passion fruit variety.

Another type is the highly resistant hybrid which is a cross between the local purple and the yellow passion fruit which farmers in Northern Uganda grow for its aromatic but rather acidic blend.

Julius Peter Ahangaana agronomist from Makerere University Agricultural Research Institute Kabanyolo (MUARIK), explaining best practices farmers should adopt when growing passion fruits, notes that propagation is done using seeds, cloning and grafted prop gules.

A farmer who observes best practice is capable of harvesting 11,000 kg of passion fruits in a season because one plant is capable of producing 20 kg of the fruit. According to Ahangaana, farmers are expected to sell one kg of passion fruit at Shs2,000 meaning a farmer is capable of reaping Shs22m in one season and Shs44m per annum.

Seed extraction

For seed extraction, Ahangaana says, healthy mature fruits are collected from the parent plant and seeds are scooped from the ripe fruits. Extracted seeds are put in water for about three days to ease the separation of seed and pulp. The seeds are then dried under shade and later stored in a cool dry and dark place to avoid loss of viability.

Seeds are either planted in prepared seed bed or into 6cm wide bags filled with sterilised soil. "Sterilization can be easily achieved by using steam and this is mainly aimed at killing parasitic nematodes and soil-borne disease pathogens," he says.

Preparing your land

Land preparation is done by slashing the farm and farmers are advised to use herbicides to eliminate weeds. Thereafter, a hole of 30cm by 30cm is dug and the soil which is removed from the hole should be mixed with manure and poured back in the hole. Spacing should be 3m by 3m apart and one acre of land accommodates between 550 to 600 plants.

When planting, a small hole is opened and one has to apply five grammes of Diammonium phosphate

(DAP) fertilizer in the small hole and cover it slightly then plant the seedling.

Transplant the seedlings at the onset of the rainy season and it should be in the morning or late evening to reduce chances of their failure due to heat stress. Farmers are advised to plant passion fruits on land which receives sufficient sunlight.

Fertilise your garden

After one month, the farmer should begin applying nitrogen, phosphorus and potassium (NPK) fertiliser in a ring dug round the plant. This should be done after every two months up to the flowering stage. When the plants begin flowering, farmers are expected to apply fertiliser containing



Julius Ahangaana, explains the different practices farmers should adopt at the demonstration farm in MAURIK Kabanyoro. PHOTO BY LOMINDA AFEDRARU

only potassium which helps in flower formation.

Farm practices

There are two common farm practices adopted by farmers, namely the elaborate trellising system where the wires and plastic ropes run across the poles and the sideway trellising system where the ropes run horizontally and the plants are spread sideways.

According to Ahangaana, sideway trellising is recommended because it allows the plants to spread well, giving room to enough sunlight whereas the elaborate trellising system leads to too much accumulation of shed which is not good for the plants growth.

A seasoned journalist, John Baptist Wasswa, who has since retired into passion fruit farming in his Bongole farm, Buwama, says it is important

to spray the plant with chemicals to avoid pest infestation.

The challenge is that passion fruits require a lot of time dedicated to supervision, through the various stages right from the nursery to harvest.



Top, a farmer prunes her garden. Above, tending one's garden regularly ensures the production of good yields PHOTOS BY ZADOCK AMANYISE



Handy tips

Mulching

It is important for farmers to practice mulching especially in dry season to provide moisture and warmth to the plant.

Pruning

When the plants are fully grown, they must be pruned and the farmer is expected to maintain three branches which compete for feeding from the same root point.

Grafting for resistance

It is advisable for farmers to plant grafted seedlings where the yellow passion fruit stalk is grafted to the purple stalk. This is because the yellow variety is tolerant to pests and soil borne diseases. The grafted stalk should be one foot high from the soil to avoid disease infection.

Seeds of yellow passion fruit type (root stock) are grown till they are at least 50cm high and three- four mm thick (pencil size). Healthy seedlings with dark green leaves are selected for grafting. Scions from healthy high yielding due to type vines of purple passion fruit are collected preferably when plants have flowered. Ahangaana and team are currently grafting these seedlings at Maurik in Kabanyoro and are encouraging farmers to come access the same at the institute.

Harvesting

During harvest, farmers are advised to pick fruits which are ripe and the ones that fall down should be picked immediately and kept in aerated baskets to avoid rotting. Intercropping. If a farmer opts to carry out intercropping, it can be done with plants like green paper, onion, carrots and other short term growing vegetables.

Additional reporting by Zadock Amanyise

PESTS AND DISEASES

John Bosco Muhumuza, a research officer and crop entomologist at Mbarara Zonal Agricultural Research and Development Institute reveals the following as common diseases and pests that may affect ones passion fruits: Passion fruit virus disease (Woodiness virus, mottle virus and crinkle virus), Brown spot, Alternaria spot, Anthracnos, Grease spot, Collar/black leg. Effective management of these diseases involves prevention of infection, minimising the sources of infection and breaking the disease cycle.

Management of passion fruit virus diseases involves use of disease free planting materials. Here, plants found to be infected are destroyed to avoid further spread of the virus by vegetative propagation or by aphid infections. Disinfecting tools when pruning, and avoid using plant material from infected vines for grafting.

Mr. Muhumuza explains that management of diseases can be achieved by essential control strategies including canopy management, orchard hygiene and effective fungicide spray programme.

The pests include Aphids which suck the juice from the fruit, thrips which sucks sap from the flowers causing them to fall off, mealybugs which attacks the fruit stock leading to formation of molds. The infected fruit becomes distorted with hard cover and woody vines and the leaves are yellow, making the plant stunted.

Ahangaana tips that one should apply copper based fungicide and insecticide on timely basis to control the diseases and soil used to germinate seedlings should be sterilized to eliminate soil borne diseases.

By Zadock Amanyise