

flavonoids, anthocyanidins, triterpenoids, steroids and alkaloids. It is good to lower cholesterol, blood pressure and blood sugar control. It also has anti-inflammatory, anti-microbial, anti-helminthic and anti-oxidant property. It can help in weight loss as it can prevent amylase secretion and regulates absorption of glucose. It has potential role in relieving menstrual pain, helps in restoring hormonal balance (which can reduce other symptoms of menstruation like mood swings, depression, and overeating).

6



#### **Drumstick (*Moringa oleifera*):**

Drumstick is considered as a miracle tree; every part of this plant contains important nutrients. The leaves of *M. oleifera* contains some important minerals like calcium, potassium, zinc, magnesium, iron, copper and vitamins such as beta-carotene of vitamin A, vitamin B (folic acid, pyridoxine and nicotinic acid), vitamin C, D, E. It contains medicinally important phytochemicals such as tannins, sterols, terpenoids, flavonoids, saponins, anthraquinones, alkaloids and reducing sugar along with anti-cancerous agents like glucosinolates, isothiocyanates, glycoside compounds. The pods of *Moringa* contains lots of dietary fibres and fair amounts of proteins which is good for people with diabetes and obesity. Several antioxidants compound like quercetin, chlorogenic acid etc. which is beneficial for free radicals removal and reduction of oxidative stress. It can lower cholesterol and may have protective role against arsenic toxicity.

7



#### **Amaranthus (*Amaranthus sp.*)**

Amaranthus is a leafy vegetable consumed widely from very beginning of the human civilization. Amaranth leaves and stems are good economic sources of carotenoids, proteins, including the essential amino acids methionine and lysine, dietary fibre and minerals, such as magnesium, calcium, potassium, copper, phosphorus, zinc, iron, and manganese. Amaranthus has many natural antioxidant source such as beta carotene, anthocyanin etc. which helps in free radical removal and oxidative stress reduction in body. It is a rich source of Vitamin C too. Amaranthus leaf contains considerable amount of iron which is beneficial for patient with anaemia. It can lower bad cholesterol and prevent heart diseases.

8



#### **Greengram (*Vigna radiata*)**

Greengram or mung bean is a rich plant-based source of protein. Apart from protein it is a store house of several minerals and vitamins. It contains few essential vitamins like riboflavin, folate, thiamine and other vitamins of B<sub>complex</sub> group which are beneficial for women health and healthy pregnancy. It contains ample amount of dietary fibres and potential antioxidants which are helpful for lowering cholesterol and thus protecting heart health. Greengram boosts immunity and it can avert the onset of cancer. Natural dietary fibre in greengram act as bulking agent in intestine and delays digestion thus helpful for weight loss. Moreover, it increases secretion of cholecystokinin which fights the problem of obesity.

9



#### **Guava (*Psidium guajava*)**

Guava is a wonderful fruit loaded with nutrients. It contains Vitamin C more than oranges and rich in other antioxidants. It contains lots of other minerals such as iron, calcium, potassium etc. Guava is good immune booster and shows antimicrobial activity. It is good for digestive system and helps in bowel clearance. Leaf extract of guava is beneficial to relieve menstrual pain. Guava leaf tea can reduce blood sugar level and helpful for diabetes patient. Guava can reduce LDL or bad cholesterol and thus keeps heart healthy.

## Health benefits of Selected NUS crops

1



#### **Ridge Gourd (*Luffa acutangula*):**

Ridge gourds contains many beneficial vital components like dietary fibres, water content, vitamin A, vitamin C, iron, magnesium and vitamin B6. They are naturally low in calorie content, unhealthy saturated fats and cholesterol. Being rich in Vit A it helps in eyesight improvement and helps detoxification of optic vessels. It is good for weight loss and cures anaemia, helps in lowering blood glucose level. It boosts immunity and as it contains dietary fibre it helps in bowel clearance. Lot of recipes can be made too from out of this crop.

2



#### **Lablab bean (*Lablab purpureus*):**

Lablab bean is a protein rich vegetable in Legume family. This winter vegetable is consumed as green pod or dry seeds can be consumed in many forms. It contains dietary fibre which act as laxative and protects colon mucosa by decreasing its exposure time to toxic substances. Dietary fibre has shown to reduce blood cholesterol levels by decreasing reabsorption of cholesterol binding bile acids in the colon. Lablab bean seeds are good source of B-complex vitamins like thiamine, pyridoxine, riboflavin, pantothenic acid, folates, and niacin. Green pods are good source of Vitamin A, C and Vit K. It is full of minerals such as iron, copper, zinc, magnesium, phosphorus, potassium etc. Lablab bean has antimicrobial, antioxidative and anti-inflammatory activity. It helps in management of type II Diabetes.

3



#### **Lesser yam (*Dioscorea esculenta*):**

Lesser yam is an underground tuber crop which is good source of potential nutrients like vitamins, minerals and fibre. *Dioscorea* contains no fat and good source of calorie which makes it a wonderful food. It grows naturally without application of any chemicals which makes it safe food and food packed with goodness of medicinal property. Yams are not only an excellent source of fibre but also high in few essential minerals like potassium and manganese, which are vital for supporting bone health, growth, metabolism, and heart functioning. It is a good source of copper which is important for red blood cell formation and also absorption of iron. It contains a compound known as "Diosgenin", which promotes neuron growth and enhance brain function. It can help in hormonal balance during menopause and helps to alleviate menopausal discomfort. It has anticancer, antimicrobial, hypoglycaemic (lower blood glucose) property.

4



#### **Winged bean (*Psophocarpus tetragonolobus*):**

Winged bean is known as "poor man's food" since the root, flower, leaves, pods everything is eaten either raw or cooked. But this great gift of nature is somewhat underutilized and unexploited food source. It is used in traditional medicine since long back. The pods of winged bean contain antimicrobial, antioxidant, anti-inflammatory property. It helps in detoxification of the body and activates body during toxin stimulation or any adverse situation. It contains many potential nutritional factors like essential amino acids, fatty acids and minerals such as iron, zinc, potassium etc. Winged bean oil was found to be better than soybean oil, because of its high oxidative and high thermal stabilities. It has some anticancer property and extract of seed protein is used in one cancer cell diagnostic tool.

5



#### **Roselle (*Hibiscus sabdariffa*):**

Roselle has many beneficial properties. It is a plant under *Hibiscus* genus i.e., same genus of China rose. The mature calyces of flower are consumed and used to prepare tea, jam, jelly, pickle etc. Young leaves and tender shoots are also consumed as vegetable. Roselle leaf, calyx and seeds all are potential source of many nutrients such as organic acids, minerals, amino acids, carotene, Vitamin C and total sugar etc. Different parts of roselle contains