# Seed Time

Volume 32 April - June 2010

## In this Issue


Pg.2 Cabbage Blue Dynasty, Word from Management
Pg.3 Field Day ATC Kaguru
Pg.4 Assila F1 Tomato, Squash Ambassador
Pg.5 Double-cobbing DKC80-33
Pg.6 Cabbage Black rot Disease
Pg.7 Kaguru Pictorial, Butternut soup recipe,
Pg.8 Weva Supplies, Kisumu


# Growing on . . . Transplanting Nursery Beds

By Daniel Musyoka



*Healthy tomato seedlings >>>>*





*>>>> farmers transplanting in a well-watered field*

## What is transplanting?

Transplanting is the transfer of ready seedlings from the nursery bed, seedling trays or pots to the main field which is already prepared.

## Why transplant seedlings?

Seedlings in a nursery or in seedling trays are closely planted and cannot continue growing well under such conditions due to competition for nutrients and sunlight. So the seedlings need to be moved from the nursery to the main field where there is more food and space to grow.

Normally, small-seeded crops are first sown in a nursery to let them establish under close care until they are strong enough to withstand the harsh field conditions. The small-seeded crops have very little food reserves in their seeds which means that they need to get nourishment as soon as they develop roots and as shoots emerge onto the soil surface. The little food incorporated into the nursery bed is never enough to sustain the fast-growing seedling for long.

Big-seeded crops are not easily transplantable unless they are grown in seedling trays or pots because their roots establish very fast and are bound to be cut when scooping the seedling, causing death of the seedling once transplanted. Examples of such crops are cucumbers, water melon and butternut.

## When is it best to transplant?

The right time to transplant depends on the crop, nursery management and the existing weather conditions. It ranges from 4 - 6 weeks. It is very important for the farmer to observe the physical appearance /size of the seedlings in the nursery and not just rely on the on the stipulated period that seedlings should stay in the nursery.

Timely transplanting is very important for successful planting. Delayed transplanting just like early transplanting will lead to poor establishment or even death of the seedlings once transplanted in the main field.

A young seedling is much better than an old one. One of the most common errors farmers make is starting a nursery too early in the season. When the seedlings overstay in the nursery bed they become too old and woody and are slow to resume growth after transplanting.

*Continued on pg. 3 ...*

# In the SPOTLIGHT

## Cabbage Blue Dynasty F1, the Blackrot Fighter

By Isaac Nzuka



*Tending to a healthy crop of Blue Dynasty F1 are Polycarp Limisi (left), a grower, and Monsanto's Nathan Kosgei*

Over the years, the major challenges facing cabbage farmers have been pests and diseases and the restrictive costs of the pesticides needed to control these. All this has resulted in poor yields.

Monsanto's Cabbage Blue Dynasty F1 provides a breakthrough for the cabbage grower as it is tolerant to both Black rot and Diamond Back Moth, two of cabbage's most notorious pests often responsible for low cabbage production.

Other attributes of cabbage Blue Dynasty F1 are:

- Resistance to ring spot
- Heat tolerance
- Blue green head
- Head weight: 4-6kg
- Yield potential: 45-68 tonnes/acre
- Maturity: 80-85 days from
- transplanting.

### Benefits

include:

- Low crop protection costs
- Adapted to a wide range of agro-ecological zones
- High market demand
- Excellent field holding capacity
- Good transport quality
- Easy to cook
- High profit margins

**Our new- look newsletter**

In keeping up with changing times, the *Seed Time* has taken on a new, more technical outlook aimed at giving increased value to you the reader. Hope you enjoy the read.

From the *Seed Time* Team

# Word from Management

My word today is thanks to our loyal customers and stakeholders for the continued business and support. Over the past months we visited customers across Kenya and received valuable feedback on our business. During the visits we discussed new initiatives we are rolling out to improve and further enhance customer services and general feedback to customers. I'm sure you will notice improved levels of service in the future. However, only through your objective feedback can we improve our service, so please feel free to contact us to give honest feedback.

During the same visits our customers had another message, telling us how they appreciate the outstanding quality of our seeds. This is something that we are extremely proud of, but it does not come by chance! Our products of highest quality are the result of extremely hard work and stringent quality controls. We would like to assure you that our standards will never falter, but most likely get even better.

The integration of Seminis, De Ruiter Seeds, Western Seeds and Peotech under one common umbrella, Monsanto Vegetable Seeds, is progressing well. We are utilizing the expertise, knowledge and experience from out top people to manage and grow our Vegetable Business.

What is even more exciting is Monsanto's future product pipeline, where we expect products that will bring our farmers increased yields, disease resistance, heat resistance and various other good quality traits. By increasingly leveraging Monsanto's technology platform, including marker assisted breeding; we will shorten the period from discovery to product introduction. Our focus is to develop products that will be of value to Kenyan agriculture.

On this positive note, and from all of us at Monsanto Kenya, may you have a blessed growing season.

*Kobus Burger*

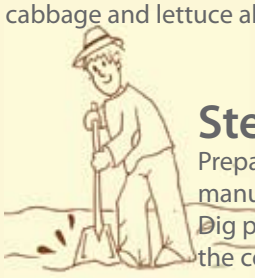
. . .continued from pg 1



## Preparing to transplant

### Step 1: Hardening off

Before transplanting it is important to prepare the seedlings so that they are able to withstand the harsh field conditions which they will be subjected to once transplanted. This is called hardening off and is done 7 - 10 days before transplanting by gradually reducing watering, removing shade, withholding nitrogen fertilizer and any other tender care which the seedlings have been receiving. Certain vegetables such as cabbage and lettuce also gain greater resistance to frost from hardening off.



### Step 2: Preparing the garden

Prepare your garden by digging out any weeds and mixing manure into the soil.

Dig planting holes big enough for the plant's root ball, observing the correct spacing.

### Step 3: Watering the seed bed

If on a normal nursery bed, the seedlings should be watered at least two hours before scooping the seedlings. Scooping the seedlings immediately after watering is not desirable because the soil will be too muddy and similarly, waiting for too long after watering is not good either. For both cases there will be no soil around the roots of the seedlings leading to their death or taking a long time to recover once transplanted due to very intense transplanting shock. Seedlings established in trays also need to be wetted to also ensure that the media adheres to the roots. It is also important to apply the necessary chemicals against soil borne pests especially cut worms and nematodes and against soil borne diseases especially damping off or pithium.

### Step 4: Transplanting

- Try to plant on a cloudy day or in the late afternoon to avoid planting in high temperatures. Planting in high temperatures will put your plants under a lot of stress.
- Try not to damage the root system as you remove the plant from its pot.
- Plant in a well-watered field. Moist soils help reduce the impact of transplant shock.
- Space the seedlings at recommended distances. Place the plant into the hole and fill the soil around it. Lightly press some of the soil to secure the plant in the hole. Continue transplanting the rest of the vegetables.
- A starter fertilizer high in phosphorus, such as DAP or TSP, is recommended. Phosphorus helps to promote root development. Promoting root development will get your plant off to a good start.



**TIP**

When purchasing vegetable seedlings, the best are not necessarily the largest and tallest available. For example, tomato plants which have flowers should be avoided since the flower's presence indicates the plant's growing under stress. Generally, good quality transplants can be selected by their stocky, healthy appearance, medium-size, deep green color, and freedom from insects and diseases.

# Monsanto Vegetable Seeds Shine in Kaguru

By Isaac Nzuka




*Isaac Nzuka shows off our healthy bell peppers*

The Field Day took place on Friday 12th February 2010 at Kaguru Agricultural Training College in Meru. Monsanto was represented by Isaac Nzuka, Martin Irungu and Erastus Matete.

We had a stand and a demonstration plot displaying the Seminis and De Ruiter Vegetable Seed brands. Top among the products were our Jambar F1 onion, tomatoes, Assila F1; Eden F1 and Anna F1 (outdoor), Red Knight F1 sweet peppers and cabbage varieties, Blue Dynasty F1; Victoria F1 and Oxylus F1.

The Farmers Centre sales team was invited to sell Monsanto's products over-the-desk. Since our demo plot was amongst the best, Farmers Centre made good sales of Red Knight F1, Assila F1 and Blue Dynasty F1.

Monsanto's stand stood out from the rest. Its attractiveness saw many farmers troop to our stand to enquire about seed availability - and these were readily available from the Farmers Centre team. The crops, especially Blue Dynasty, Red Knight, Anna F1 and Assila surprised many because of their features. Blue Dynasty out-performed other cabbage varieties owing to its resistance to Black Rot. The Red Knight pepper was also distinct in the size of its fruits and their uniformity. The Anna F1 outdoor variety upheld the features of its popular greenhouse sister. Farmers who did not have cash at hand were advised to visit local agrovets to buy the seeds.

(See PAGE 6 for more field-day pictures)

# Squash Ambassador F1- Still the best

By Daniel Musyoka



Mr. and Mrs. Muiruri in their field of squash Ambassador. >>> Inset: mature squash

Mr. and Mrs. Muiruri Kimani from Kimende don't know how they could ever live without growing Squash Ambassador F1. They have grown the variety for the last 4 years and each time they have a new crop, it always appears better than the previous one.

They even wondered whether we kept on improving the seeds every time. They also lacked words to describe this variety.

Asked what makes the variety special, Mr. Muiruri said, "I like the variety because it matures fast with excellent grade out and ideal for export market"

*"I like the variety because it matures fast with excellent grade out and ideal for export market"*

At any one time, the couple have a quarter acre under the crop and have a permanent contract to sell their produce.

" We are grateful to Monsanto for their continued supply of very high quality seeds and its committed field staff", says Mrs.Muiruri.

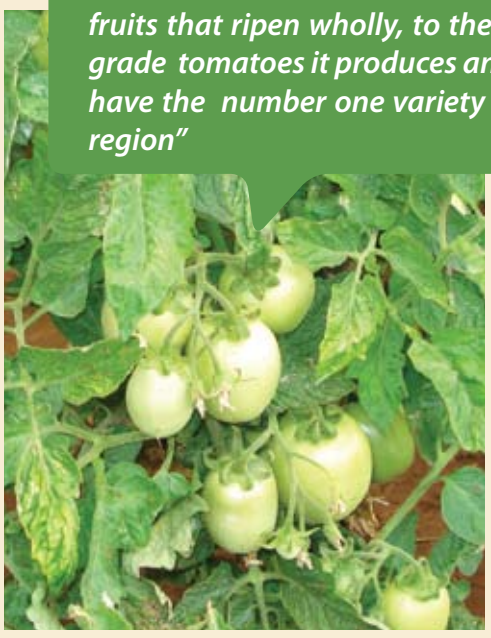
# Assila F1 Proves itself to Mwea Tomato Farmer

By Nathan Koskei

Low production, pest and diseases have been a big challenge for tomato growers in Mwea before tomato Assila came along. Many farmers have not been able to break-even owing to high production costs and various challenges during the production cycle. For Mr. Simon Mwangi, disillusionment had been the order of the day, until he tried a new tomato variety, Assila F1 from Monsanto Kenya Ltd.

At first, the cost of seed seemed a little bit high, but Mr Mwangi decided to try with a few seedlings. From the 350 plants that he grew, he managed a harvest of 10 crates, each carrying about 60 kilograms. Like many other farmers, Mr. Mwangi was sceptical at first, he thought the variety would not measure up to its seemingly unbelievable attributes, which he had heard mentioned during the trainings, but he is no longer doubtful. He attests that the variety can yield up to 20 tonnes per acre. "The variety has the ability to produce more if well taken care of and losses that are attributed to tomato yellow-leaf curl virus, which is a big problem here, have been minimised by the variety's tolerances, thus the big harvest ," said Mr. Mwangi.

*" Our market dictates the kind of fruits that we produce, so Assila's Kamongo fruit shape has a big liking among our farmers and consumers here. Add the shiny red fruits that ripen wholly, to the good grade tomatoes it produces and you have the number one variety in the region"*



"Our market dictates the kind of fruits that we produce, so Assila's *Kamongo* fruit shape has a big liking among our farmers and consumers here. Add the shiny red fruits that ripens wholly, to the good grade - grade 1 and grade 2 - tomatoes it produces and you have the number one variety in the region" added Mr. Mwangi. He advises farmers in the region to always go for Tomato Assila F1 from Monsanto which has the ability to drive poverty away and keep the youth employed. This is a variety that has all the qualities a farmer wants from a tomato and what the buyers and end users want, it will not fail you.

# A Double-cobbing Wonder: 35 bags per acre from DKC80-33

By Peter Kiburih







***Top:*** *Mr. Nturibi and Monsanto's Abraham Mbugi in his maize field >>>*
***Middle & Bottom:*** *cobs from the maize field*

Meru farmer Stephen Nturibi is one happy farmer, last season he harvested a record 35 bags of maize from each acre he planted with DKC80-33, Monsanto's newly introduced DEKALB Maize variety. From the 10 acre plot he planted, he was able to pay-off the cost of inputs and still pocket a handsome profit.

The DKC80-33 variety was introduced in the latter half of 2009, it is well suited to the mid-altitudes of Meru central where Mr. Nturibi farms; his farms are located in Ruiri and Kathirune. His crop produced so well that even his neighbours came to admire it. This prompted this hard-working farmer to invite the Monsanto technical sales team to pay him a visit. So, during our routine field visits we made a stop over at Mr. Nturibi's farm. True to the variety, every stem we saw had two big and uniformly sized cobs.

> ***" I have tried many varieties and at long last have found the best of them all – it has the cobs I like."***

Maize hybrids from Monsanto Kenya Ltd. are popular with farmers in Meru and the surrounding region. We have the early maturing variety DK8031 and mid maturing variety DKC80-53, with these farmers are able to realize stable yields for two seasons in a year; DKC80-33 now joins these two.

For many farmers living in the cooler mid-altitude areas, DKC80-33 is a variety to watch. Sentiments that were clearly supported by Mr Nturibi as he said, 'I have tried many varieties and at long last have found the best of them all – it has the cobs I like.' He was full of smiles as he took the Monsanto technical team round his farm.

The goal of our technical team is to see many farmers with a good crop, and this can only be achieved by good seed selection, good crop management and good moisture conservation.

Farmers of Meru central are good maize farmers. The rains are usually good and maize production is done two seasons in a year. They also have good loamy soils in most parts. But even so, at 15 bags per acre, average yields are still far from the best.

Watch out for our next edition as we talk about good crop management to achieving a smart crop.

**OTHER DEKALB MAIZE HYBRIDS AVAILABLE**

**DK8031** A variety for all seasons (both short rains and long rains). Has good drought tolerance.
**DKC80-53** A variety suited for the green-maize market, it also does well under irrigation. Flint and sweet for roasting.
**And coming soon . . . . DKC90-89** A flint, long, double-cobbing variety suited for long rains.





# KAGURU FIELD DAY






RECIPE

## Cream of Butternut Soup

By Nashone Mukabane



Cooking time approx. 30 mins

Serves 4-5

**Ingredients:**

- 900g of butternut (peeled, seeds removed and chopped)
- I large onion (roughly chopped)
- 1 large potato (peeled and chopped)
- 1 large carrot (peeled and chopped)
- 1 stick of celery (chopped and thick strings discarded)
- 700 ml of vegetable stock
- 1 vegetable stock cube
- 25g of butter
- 250 ml of cream
- 2 tbl spoons of chopped chives or spring onion to garnish
- Salt and pepper to taste

**Method:**

- Melt the butter in a large heavy bottomed saucepan and add all the vegetables.
- Cook gently for 5 mins, stirring occasionally. Don't allow the vegetables to brown.
- Pour in the stock and add the stock cube and stir.
- Simmer gently until the vegetables are just cooked (about 20 minutes) and then purée with a blender.
- Return the puréed vegetables to the saucepan and season to taste.
- Add the cream and re heat very gently and thin with more stock if necessary.
- Sprinkle with the chopped chives or spring onion and serve.

**Tip:**

The soup can also be made with pumpkin instead of butternut squash.

Your QUESTIONS Answered

# Cabbage Blackrot or not?

By David Mbogo & Erastus Matete

**Question:** *I planted my cabbages two months ago, and the seedlings looked fine. Recently, the leaves started turning yellow around the edges, now the leaf veins are turning black and it seems as if the plants are dying. what could this be?*

**Answer:** What you're describing seems like Blackrot

## What is it?

Black rot is a bacterial disease that affects vegetables in the cabbage family (crucifers). It is caused by the bacterium, Xanthomonas campestris pv. campestris. It is particularly damaging to cabbage and cauliflower, but turnip, rutabaga, collard, kohlrabi, and Chinese cabbage are also susceptible. Broccoli is somewhat more resistant.



## What does it look like?

The disease is easily recognized on most crucifers by large, V-shaped or U-shaped, yellow-to-brown areas on the leaves, extending inward from the leaf edge. As the disease progresses, the yellow patches turn brown, then the tissue dies. Blackrot is also characterized by the midrib of the leaves and leaf veins darkening on infected cabbage plants. This vein discoloration progresses toward the base of the leaf as the bacteria spread through the leaf veins into the stem. If you cut off a section of black rot infected plants they will either ooze a yellowish brown colour or the section will have a black ring where the bacteria have moved into water-conducting vessels. The discoloration extends from the stem to the upper leaves and down into the roots.

The lower leaves on infected plants are usually stunted, yellow to brown, and wilted and often drop prematurely. Infected plants may consist of only a long, bare stalk topped with a tuft of leaves. Infected cabbage heads rarely reach full size. Plants may quickly rot immediately before or after harvest, due to secondary soft-rotting bacteria.

## How does it spread?

Black rot bacteria enter cabbage plants through the root system as wells as through any wounds or openings in the plant, Black rot flourishes in the water and nutrient conducting vessels of these plants. Additionally , black rot is spread by seed, seedlings, water, insects, garden tools, shoes and other means of contamination. The bacteria can live for as long as two years in soil, plant debris, infected plants and seeds.

The disease develops best under warm, wet conditions. Free moisture, in the form of rain, dew, or fog, is required for infection to occur.

## What can you do about it?

If you want to control Black rot in your cabbage crop:

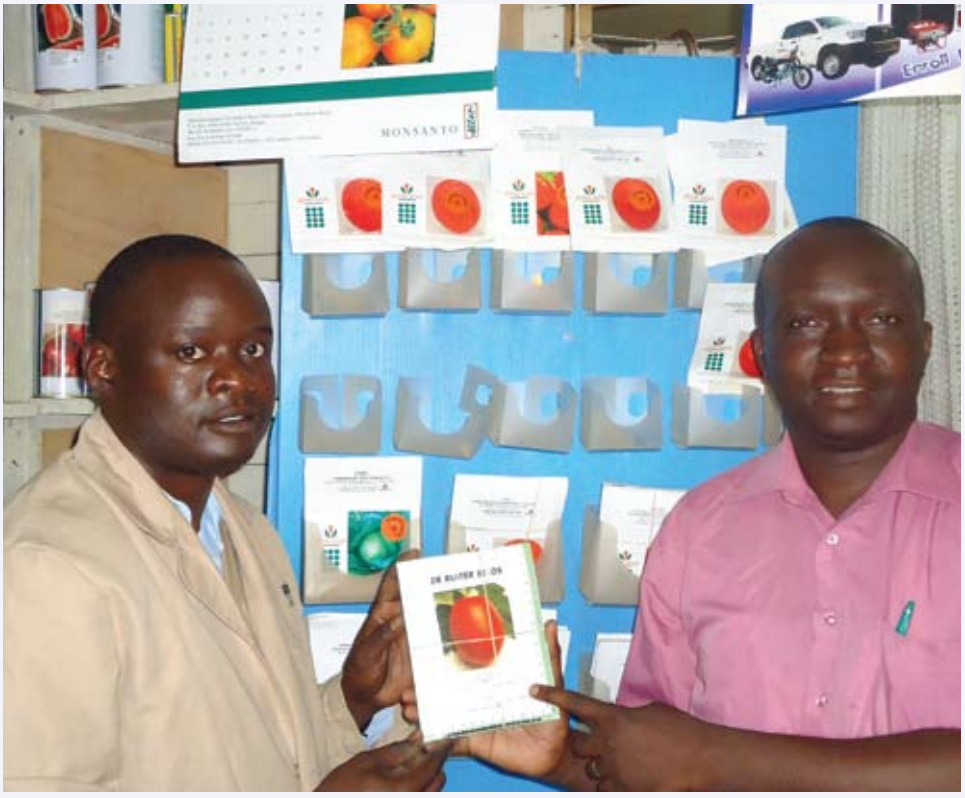
- Plant resistant varieties, (Cabbage Blue Dynasty F1 from Monsanto is highly resistant to this disease).
- Do not buy seedlings that are wilted, are an unhealthy shade of green, or have black spots on the stems or leaves.
- Grow plants in fields that have not had cruciferous crops for at least 2 years.
- Do not work in fields when plants are wet.
- Remove infected plants to avoid the spread.
- Remove plant debris. Collect the leaves, stems and tops; and burn or dispose of them. The bacteria can persist and lie dormant in diseased plants.
- Do not put diseased plants into the compost pile.
- Avoid practices (crowding, overwatering, planting in poorly drained soil and inadequate insect control) that support the disease organisms of black rot.
- Avoid overhead irrigation if possible or water early in the day.
- If infections are detected early, application of copper-containing fungicides may reduce spread of the disease to healthy plants. However, copper products cannot cure diseased plants.

Meet our CLIENTS

# Weva Supplies
## Thrives by the Lakeside in Kisumu

Weva Supplies is located in Kisumu town on Accra Street. The store was started in 2004 with an aim of providing animal health products, agrochemicals and seeds to the farming community in Nyanza and the surrounding areas of Western Kenya. During the early years of their business, Weva Supplies used to sell Cal J and Onyx tomatoes and watermelon from Monsanto. The high quality seeds offered by Monsanto has seen this supplier come back for more each time. For them, high quality seeds ensure better returns both to the farmer and the dealer.

Monsanto products that they currently stock include: Tomato Anna F1, Cabbage Blue Dynasty F1, Tomato Eden F1, Cabbage Victoria F1, Cabbage Oxyllus F1, Tomato Onyx, and Dekalb Maize varieties DK8031 and DKC80-53. The highest contributors to their sales are Tomato Onyx, Tomato Anna F1 and DK8031 maize.



*Mr Jacob Odida (left) of Weva Supplies with Monsanto's Sammy Okita*

Weva Supplies has made sure that their employees are well trained to handle customer needs and provide up-to-date advice to the farmers. This enables them meet their objective of offering high quality goods and services to their customers, ultimately contributing to food security in the region. According to Jacob Odida, a Manager at Weva, besides offering quality products, Monsanto also has some of the best product packaging these usually catch the customers' eye.

## EVENTS

| Event | Venue | Date |
|---|---|---|
| Field day | Loitokitok ( Kimana, Isinet, Nanilok) | April |
| Field day | Kibwezi ( Kwa Kyai) | April |
| Field day | Nyahururu | April/May |
| ASK Show | Nakuru | June |
| ASK Show | Meru | June |
| Field day | Uganda | June/July |
| Field day | Kisii, Rongo | June |
| Field day | Bungoma (Mabanga ATC) | June |


**MONSANTO KENYA LTD,**
**TUSKYS HEAD OFFICE COMPLEX**
**MOMBASA RD.**
P.O. Box 47686, 00100, NAIROBI, KENYA
Tel: 254 20 2060922/44, 3574301/4,
Fax: 254 20 823086, 3574300
Mobile: 254 722 205594, 722 205294,
722 205529, 254 733 600468, 733 629414
**www.monsanto. com**