

Tons of Tomatoes

by Georgina Barnes



No Soil Allowed

Inside the glasshouse, there are rows and rows of tomato plants. Uncle Reupena tells Johnny that there are 3800 of them! The plants are in bags – two plants share each bag. In the bags, Johnny can see something brown like soil, but it looks hairy like bark.

“I thought you grew without soil. What’s that?” asks Johnny.

“That’s coconut fibre,” Uncle Reupena replies. “It helps to hold the plants in place. It’s good to use because it’s totally free of disease – unlike soil. But coconut fibre doesn’t have any minerals.”

Johnny knows that plants need minerals to grow. His plants at home get their minerals from the soil.

“I have to buy minerals by the bagful,” Uncle Reupena says. The minerals he buys are powders and crystals.

To grow tomato plants, you need a good, rich soil, right? Well, not always ...

Johnny’s Uncle Reupena (Roo-pen-a) grows his tomatoes without soil.

“How do you do that?” Johnny asks.

“Come and see,” smiles Uncle Reupena.

“Wow! This is amazing,” says Johnny. They are walking towards a house that’s as big as twenty classrooms. It’s also totally clear because it’s made of glass.

Working Water

Carefully following a recipe, Uncle Reupena adds the minerals to big vats of water. The water dissolves the minerals, and then they are carried to the plants in the water. Growing plants this way is called hydroponics, which means “working water”.

But the vats of mineral solution are in the control room, and the plants are in the main part of the glasshouse. Johnny is puzzled. How do the minerals get to the plants?

Back in the glasshouse, it looks totally dry. Johnny can't see any water. Then he spies black pipes snaking along the floor. Lots of small tubes branch off each pipe. Each tube goes to a plant. Uncle Reupena explains that the mineral solution is pumped from the control room along the pipes, through the tubes, and into each plant bag.



With Strings Attached

Johnny notices strings that drop from the ceiling. There is one for each plant. The plants look small now, but they will eventually grow up the strings. “Tomatoes are actually vines,” Uncle Reupena says. “They can grow as long as 30 metres – that’s as long as three buses!”

Uncle Reupena shows Johnny how to tie the plants to the strings. Then he points at a row of plants. “You tie down this side of the row, and I’ll do the other side,” he says.

The knot is tricky, and the stems are very delicate. Uncle Reupena finishes his side while Johnny is still on his first plant.

“You win,” says Johnny. “It’s really hard!”





Flying Workers

“Can you see my workers?” Uncle Reupena asks.

Johnny can’t see anyone. Then Uncle Reupena shows him a box. On the outside of the box, there is a picture showing its contents. Johnny smiles. “Bumblebees!”

In his garden at home, Johnny has seen how pollen sticks to the legs and bodies of bees as a yellow dust. As they fly from flower to flower, the bees shift the pollen around. When the flowers have been pollinated, they transform into fruit.

“I used to do the pollination myself,” Uncle Reupena says.

Johnny tries to imagine Uncle Reupena flying around the glasshouse like a bee!

“It was a big job,” Uncle Reupena continues. “There are over seventy flowers to pollinate on each plant. I had to walk around and touch every flower with a feather. Imagine having to do that to 3800 plants!”

These days, the bumblebees do the pollination. The bees live for only a month, so Uncle Reupena replaces them every three weeks.

Checking Up

As Johnny is leaving the glasshouse, Uncle Reupena shows him a box with two plants in it.

Every day, Uncle Reupena places a meter in the water that runs out from these two plants. The meter is a measuring instrument that tells him whether or not the plants are getting the right amount of minerals. If they’re not, Uncle Reupena has to quickly adjust the recipe in the vats. Otherwise, the two plants and all the other plants in the glasshouse could die.

Johnny has enjoyed finding out about hydroponics. He says goodbye to his uncle but promises he will return to sample some of the crop.



Six Months Later

Walking towards the glasshouse, Johnny sees that it now looks completely full of plants! Inside, leaves and bunches of tomatoes cram every space. It's time to pick the fruit. Johnny wonders what the picking machine will look like. It will have to fit between the rows and not squash the fruit.

When Uncle Reupena gives Johnny a green crate, Johnny realises his hands will be part of the picking machine.

Uncle Reupena's wife, Eseta, their children, and their grandchildren all help to pick the tomatoes for market.

"We've been picking tomatoes for four months now," Uncle Reupena says. "By the end of the season, we'll have picked about 300 000. When we've picked them all, we'll pull out the plants and get ready for next year's crop."

He points to a big crate of tomatoes. "Now, you still have one more job to do. It's time for the taste test!"

Are the tomatoes ...
too watery?
not sweet enough?
or simply delicious?



An Interview with Reupena



When and where were you born?

I was born in 1957 in Magiagi, Western Sāmoa, but I came to New Zealand to do a horticultural apprenticeship.

What is the first thing you grew?

Actually, the first thing I grew was tomatoes! That was when I was fourteen years old, and I was at Leulumoega Fou College.

What was it like to do an apprenticeship, and what did you learn?

I had to work hard in a nursery every day for nine hours. At night, I would study. I did that for over three years. I learned how to grow everything – trees, plants, flowers, and vegetables.

Why did you decide to grow tomatoes?

Flowers are beautiful, but people always have to eat, so I chose to grow vegetables. And tomatoes are still the most popular vegetable. A tomato is actually the fruit of the plant, but it is used as a vegetable in cooking.

What would you say to anyone who wants to be a horticulturist?

It's good fun, and it's also amazing to watch the plants grow. Out of a little seed comes a big plant, and a big plant feeds a lot of people.

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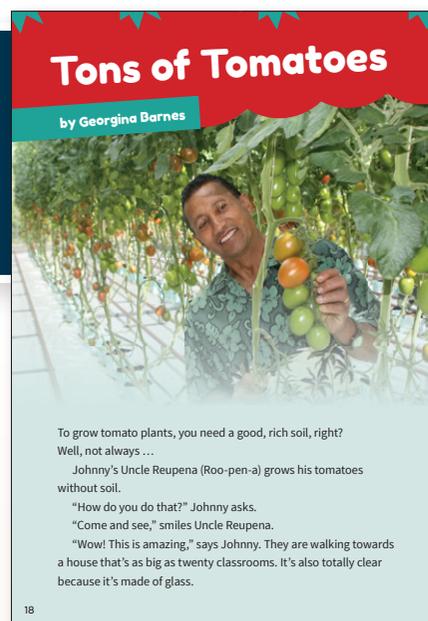
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