

Fresh From the Field: Growing the Irish Potato in the Mutare Farming Area of Zimbabwe

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For ENGL 4057/5057 Writing: Theory and Teaching

Tsitsi Nyabando is a Zimbabwean graduate student at East Tennessee State University studying Secondary Education. She grew up on a small potato farm and dreamed of becoming a commercial farmer until sometime in her late teens when the passion for teaching took over.



Making a transition from corn growing to potato growing

I have seen potatoes growing ever since I was a child. My father has been growing potatoes for more than twenty years now on the family's farm 25 miles from Mutare. Whenever I seek his advice before taking a big decision, he will always refer back twenty two years ago, when he broke away from traditional corn growing to potato growing armed with a borrowed handbook from a friend who grew potatoes in Nyanga about 60 miles away. The family had grown with the birth of Jacob, my brother, and my father had been looking for an investment that would pay him more than corn growing. He then realized that potato growing

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paid him about three times more than corn growing with a ready market in the local city of Mutare and Africa University a few miles away from the small farm.

More farmers in the farming area of Mutare should consider changing from corn growing to potato growing. Although a farmer would need a lot of money for establishing the project, setting up infrastructure like storage facilities, the venture is worth the investment. In his handbook on potato growing, Sithole (2007) pointed out that potatoes give about three times higher yields than corn, and with a good water supply a farmer can grow potatoes three times a year. There is a growing demand for potatoes in Zimbabwe's cities and neighboring Mozambique which is only thirty minutes away from this farming area. Growing potatoes will therefore not only pay back high dividends to the farmer but it will also contribute greatly to Zimbabwe's food security.

Potato Varieties and Types

Potatoes are in two main classes; sweet potatoes, and ordinary or Irish potatoes. The Irish potato comes in hundreds of varieties and some of the common ones in Zimbabwe are Jasper, Diamond, BP 1, Montclare and Amethyst. Different varieties look different in size, skin and inside color. Some varieties take as long as fifteen weeks to mature, whilst others will be ready in just twelve weeks. The height of plants as well as flower color also differs among varieties. The chef would also choose different varieties for different dishes because different potato varieties are good for baking, roasting and boiling. A farmer will take all these factors

into consideration when choosing a variety to grow. The market's preference will also definitely affect his choice.

My father has grown different varieties over the years before settling for Amethyst and BP1. He grows BP1 as an irrigated crop during the dry season, between July and October. It saves on irrigation costs because it is a short term variety which takes between 14 and 15 weeks to mature. Although Amethyst takes almost 19 weeks to mature, my father grows it because it gives higher yields than the other varieties. Amethyst grows well as a rain fed crop from November to March.

Climate and Soil Type

Potatoes grow well in areas with cool temperatures of not more than 80°F. High temperatures will dry up the potatoes, and if they do survive they might not produce anything worth selling. Potatoes will thrive in the highlands near Mutare where temperatures are moderate throughout the year. Water for irrigation should also be in abundance since potatoes need lots of water except when potatoes are grown during the rainy season when the area usually gets good rains.

Rich loamy soils produce the best potatoes because potatoes need a lot of nutrients to do well. If the soil is not fertile a farmer would have to add organic manure to the soil or mulch it long before planting. My father always manures the farm every other year to maintain soil fertility and improve aeration. As the tubers grow under the soil they need

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space to grow so light soils will give them all the freedom they need. The soil should also be well aerated and should drain well. Deep tilling of the land when it is not too wet will pay back the farmer at harvest time. The land should be weed free and well disked at planting.

Seed Grading and Planting

The quality of seed a farmer plants definitely has a bearing on the yield. Tubers can be purchased from seed farmers, or a farmer might leave over some of the harvested crop for seed. Tubers should be healthy looking and firm at the time of selection. Potatoes selected or bought for seed should be stored in a warm, well-ventilated area with adequate light to help them sprout in about four weeks. When sprouts of about six inches develop, potatoes will be ready for planting.

The sprouts should not be left to grow too long because the tuber will be spent and will not have enough energy to grow and produce. To delay sprouting potatoes can be temporarily stored in a cool dark place.

Tubers can be planted in rows of about ten inches deep and two feet apart. This will ensure that the tubers will have adequate space to grow under the soil. The tubers should be placed one foot apart with the sprout facing up.



Ideal potato rows

Weeding, Watering and Fertilizer

The fertile nature of potato soil makes it a thriving ground for a host of weeds. Some of the most common ones are the Wandering Jew, black jack and star grass. Weeds such as these should be controlled to ensure that they do not compete for nutrients with the potatoes, stalling growth and ultimately reducing yields. It also becomes more difficult to control weeds when they are established than before or just after emerging.

Selective herbicides can be safely used in potatoes after germination. Another alternative would be spraying non-selective herbicides soon after planting. Non-selective herbicides have an advantage to the farmer over selective herbicides because they control all types of weeds. If a farmer chooses to use selective herbicides they will have to use mechanical methods to remove the remaining weeds. My father uses two herbicides; Metribuzin 48EC and Alachlar to control weeds. Using herbicides is cheaper than hiring labor to remove the weeds mechanically.

The potato field should be well watered because potatoes need lots of water to grow well. Ideally watering should be done weekly but this will depend on soil type and daily temperatures. When the temperatures are high, watering should be done more frequently. This also applies for soils which have a low water retention rate. Ridging up should also be done ensuring that the plants are well covered with earth about four inches high, through-out the season. Ridging the potato plants will cover the developing tubers ensuring that they are not exposed to the sun.

A farmer can apply fertilizer to a potato crop to supplement nutrients in the soil. At planting, Compound S can be applied in the furrows to encourage good leaf and stem development. This should be applied in small amounts. High quantities will destroy the crop. Potassium Nitrate can be applied every three weeks to ensure the good development of the tubers. As an alternative, mulching and adding organic can also supplement nutrients in the soil.

Common Pests and Diseases

To effectively control some of the common pests and diseases, pesticides can be applied to the crop soon after planting as a preventive measure. Some of the most common pests are the potato beetle, which is very small and red in color as well as aphids, mites, nematodes and cutworms. These pests affect the leaves and developing tubers of the potato plant and if not controlled early the plant wilts and die. Ensuring that the crop is weed free is one of method of controlling pests. Early blight, late blight and common scab is also common in potatoes. The potatoes will dry up and the diseases can wipe away a crop of potatoes in a few days if the farmer fails to control the diseases.

The Commercial Farmers' Union of Zimbabwe recommends the use of pesticides such as Navacon, Thionex and Azodrin 40 to control the pests which affect potatoes. They also suggest rotating potato growing with grasses such as Rhodes, Sabi and Panucum every three years as an effective measure in controlling pests and diseases which threaten potato production.

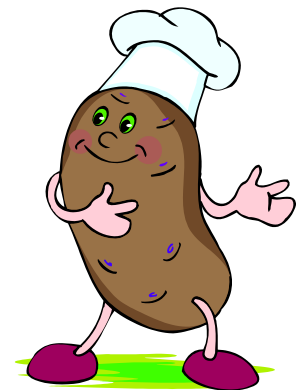


Harvesting, Storage and Packaging

Harvesting time varies among different varieties. It can be anytime between 14 and 20 weeks depending on the variety. When potatoes are ready for harvesting the leaves and stem will dry up. Watering should be stopped at the first signs of maturing. A farmer can also tell that a crop is ready for harvesting by looking at the tubers. The skin should be firm and should not easily peel away when rubbed. A pitch fork can be used to harvest the potatoes by carefully unearthing them.

The harvested potatoes can be left in a warm place for two days to harden them. After hardening, potatoes may be graded by size, quality and quantity. The potatoes can now be stored in a well-ventilated, dark and cool place of about 41°F or delivered to different markets. Moist conditions are not ideal for potato storage because the potatoes will rot.

My father sells potatoes soon after harvesting while they look firm and fresh. Potatoes for the Mutare market are usually sold in 11, 22 and 33 pound bags. Prices may vary depending on factors such as supply, demand and seasonal production. Exporting potatoes to Mozambique is something Mutare farmers may consider. The Mozambican market may offer higher prices than the local Mutare market.



RESOURCES

Potato tubers for seed

- *Seed Potato Co-op*
 - *National Tested Seeds (Pty) Ltd. –
www.natseeds.com*
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*Herbicides, insecticides,
fertilizer and technical
advice on potato growing*

- *The Zimbabwe
Department of
Agricultural,
Technical and
Extension Services
(AGRITEX)*
- *Windmill (Pvt) Ltd.*
- *ZFC farmer training
program -
www.zfc.co.zw*

Citations

Sithole, S. (2007). A guide to potato growing. Department of Agricultural, Technical and Extension Services.

The Zimbabwe Commercial Farmer's Union Fact Sheet: Potato Production. Retrieved 13 February 2012 from http://zcfu.org.zw/index_files/downloads/potatoe-production.

Pictures from Microsoft Office