



**STARKE
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PUMPKIN & HUBBARD SQUASH

PRODUCTION GUIDELINE

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SEEDS OF SUCCESS

PUMPKIN AND HUBBARD SQUASH

1.1 HISTORY AND BACKGROUND

Pumpkins and Hubbard squash are widely grown in sub-Saharan Africa and in Australasia. There are many variations in shape, colour and form. For many years the main type grown in South Africa was the flat white boer type. With the advent of the grey-skin types the popularity of the white types declined and these are now not widely planted. The grey-skinned types offered better yields and improved flesh quality. Most also had smaller seed cavities so recovery rates were better for the processors. Semi-bush growth habits were introduced in the 1990's and this made higher populations possible. The increased number of plants per unit area led to increased yields. More recently white-skinned varieties have been developed with quality comparable to the greys but with the advantage of being sunburn resistant.

2. ADAPTABILITY

2.1 CLIMATIC REQUIREMENTS

Ideal soil temperature for germination : 20 – 25 °C

Ideal temperature for growth : 18 – 27 °C

2.2 SOIL REQUIREMENTS

pH 5.8 – 7.0

Best results are obtained on deep, sandy loam soils with high levels of organic matter. Pumpkins can be produced on a wide range of soil types but good drainage is important on any soil.

2.3 PRODUCT TYPES

Pumpkins can be divided into white or grey skinned types. Historically the whites achieved greater size and yields but were of inferior quality. The greys produced smaller but higher quality fruit. The greys are more susceptible to sunburn so have to be managed slightly differently. The most recent white types combine the advantages of both. Commercial Hubbard squash varieties all produce fruits that are similar in appearance to the standard open-pollinated Chicago Warded. The hybrids tend to be quicker with a somewhat smoother skin.

3. CULTIVATION PRACTICES

3.1 SOIL PREPERATION

Soil should be thoroughly prepared and loosened to a depth of 1m. The land should be level as far as possible to prevent any water accumulating in hollows. Pumpkins are sensitive to waterlogging and this has an adverse effect on development. Plastic mulch can be used to good effect. This assists in weed control and speeds up the growing cycle by elevating soil temperatures.

3.2 PLANTING PERIODS

Pumpkins and Hubbards are both sensitive to frost and should not be planted if there is any danger of this. Young plants may be killed by sub-zero temperatures while larger plants may survive but will not produce an optimal crop. In general, growth will be quicker where temperatures are higher.

3.3 SPACING

Semi-bush varieties are normally planted at a population of 6,500 – 7000 plants/Ha

Vining types are normally planted at 5000 plants/Ha. Under dryland production, the population is reduced to 3,500 plants/Ha.

3.4 FERTILIZATION

The following is an indication of macro-element requirements for the different growth habits of pumpkins. A soil analysis is required for a more accurate programme.

	Vining types	Semi-bush types	Hubbard Squash
Nitrogen (N)	160	120	130
Phosphorus (P)	40	70	50
Potassium (K)	180	150	150

3.5 IRRIGATION

The amount of irrigation required will vary according to soil type, temperatures and growth stage of the crop. Soil should not be allowed to become waterlogged or to dry out. As a guide:

Vining types . 25 to 40mm per week, total of 420mm through growing cycle.

Semi-bush types. 25 to 40 mm per week, total of 380 mm through growing cycle.

Semi- bush types require less water due to the quicker maturity.

3.6 OTHER CULTURAL PRACTICES

- 1) Effective pollination is essential for high yields. Natural bee populations should be supplemented with 2 – 3 hives per Hectare if they are low.
- 2) A 4 year rotation is recommended.
- 3) Weed control is by hand and is particularly important in early growth stages. Semi-bush types allow implement access for longer than is the case with vining types.
- 4) Storage is possible, varieties show varying degrees of suitability for this purpose. Only clean mature, undamaged fruit should be used.

4. HARVESTING AND MARKETING

The majority of pumpkins and Hubbards are sold through municipal markets in bags. These bags are 30-35Kg in weight. The number of fruit in a bag will vary according to size, but 5 to 6 fruit per bag is preferred. There is an increasing preference for smaller fruit. Hubbards in particular can reach large sizes and some manipulation of plant population, sowing time and fertilizer is possible to reduce fruit size. For the processing segment larger fruit is more acceptable as this reduces the percentage loss when peeled.

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