



**STARKE  
AYRES®**



# ONION

## PRODUCTION GUIDELINE

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**SEEDS OF SUCCESS**

# ONIONS

## 1.1 HISTORY AND BACKGROUND

Onions are part of the Allium family which also includes garlic and shallots. They are grown world-wide and form an important part of many national diets. Onions have been cultivated since ancient times and are a commercially significant crop on all continents.

## 2. ADAPTABILITY

### 2.1 CLIMATIC REQUIREMENTS

Although onions are essentially a cool season crop, in South Africa they are planted virtually all year round. In the Northern regions of the country sowing is normally from February to April, in the central region from April to July and in the Southern regions transplanted from July to October. Bulb formation is largely dependant on day length and very specific varieties are needed for each area.

Ideal soil temperature for germination : 11-25 °C.

Ideal temperature for growth : 22 – 28 °C.

### 2.2 SOIL REQUIREMENTS

pH 6 – 6.8

Onions grow on a wide range of soils but good drainage is important.

## 3. CULTIVATION PRACTICES

### 3.1 SOIL PREPERATION

It is essential that soil is well-prepared for an onion crop. It should be loose to a depth of at least 75cm and if heavy rain is expected in the early stages of growth, raised beds will reduce the effect of any waterlogging. Where seed is to be direct-sown a fine, even seed bed is vital in order to produce an acceptable stand.

### 3.2 SOWING DATES

Optimal sowing dates vary with locality, soil type and variety. Short day varieties are used in the Northern and central areas of South Africa with Intermediate day-length varieties used in both central and Southern regions. Guidelines are available from suppliers as to which varieties should be used at which time.

### 3.3 PLANT POPULATION AND SPACING.

A final population of 700-800,000 plants per hectare gives the highest proportion of medium-sized bulbs which are preferred by the South African market. Seed is sown at a depth of 1 – 2cm.

### 3.4 FERTILIZATION GUIDELINE

N – 180 Kg/ha. 60 Kg pre-plant, 60Kg at 2 leaf stage 60Kg at 4 weeks.

P – 100Kg. All applied pre-plant.

K – 170 Kg. 110Kg pre-plant, 60Kg 7-8 weeks prior to harvest.

A soil analysis is required for formulation of a detailed programme.

### 3.5 IRRIGATION

The soil profile should be wet to a depth of 50 – 60 cm. The amount of water applied will vary according to soil type, irrigation system temperature and growth stage of the crop. Many growers now make use of monitoring systems in order to make the best use of available water. Dryland production of onions is not recommended. Soil should not be allowed to dry out, especially during bulb formation.

### 3.6 OTHER CULTURAL PRACTICES

- 1) Onions may be direct sown or transplanted. Where direct sown, a fine, even seed bed is essential for best results.
- 2) A 3 year rotation is recommended.
- 3) Weed control is vital, especially in early growth stages. Chemicals are available, but control by hand may be necessary until plants are big enough to allow use of chemicals.
- 4) Storage of mature bulbs is possible. Only clean, mature, undamaged bulbs should be used. The longer maturing varieties are better suited to this purpose. Bulbs should be dry before storage and there should be free flow of air through the stacks of stored bulbs.

## 4 HARVESTING AND MARKETING

Once the onions have fallen they are lifted and left to dry in windrows or heaps until cured. The curing process allows for development of scale leaf colour and firming of the bulbs. The bulbs are then either cleaned by hand or machine and sized, sorted, graded, and packed. Most onions are marketed in 7 or 10 Kg bags through municipal markets. A medium sized bulb is preferred but there is also demand for smaller and larger bulb sizes.

The largest demand in South Africa is for yellow or brown onions but there is a small market for red and pink varieties.

## 5 SOWING GUIDE

Northern Region Sowing Guide

| VARIETY      | JAN |   |   |   | FEB |   |   |   | MAR |    |    |    | APR |    |    |    | MAY |    |    |    | JUN |    |    |    | JUL |    |    |    | AUG |    |    |    | SEPT |    |    |    | OCT |    |    |    | NOV |    |    |    | DEC |    |    |    |    |    |    |    |  |  |
|--------------|-----|---|---|---|-----|---|---|---|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|------|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|----|----|----|----|--|--|
| WEEK         | 1   | 2 | 3 | 4 | 5   | 6 | 7 | 8 | 9   | 10 | 11 | 12 | 13  | 14 | 15 | 16 | 17  | 18 | 19 | 20 | 21  | 22 | 23 | 24 | 25  | 26 | 27 | 28 | 29  | 30 | 31 | 32 | 33   | 34 | 35 | 36 | 37  | 38 | 39 | 40 | 41  | 42 | 43 | 44 | 45  | 46 | 47 | 48 | 49 | 50 | 51 | 52 |  |  |
|              |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Madalyn      |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| STAR 5516    |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Cristalina   |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Soberana     |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| STAR 5517    |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Annika       |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Mata Hari    |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Rasta        |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Sowing date  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Harvest date |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |
| Risk period  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |  |  |

Sowing date   
 Harvest date   
 Risk period 

#### NOTE

Fall date is influenced by day length, sowing or transplant date, temperature, plant population and nitrogen fertilization. These can result in variation from year to year.

## N.CAPE SOWING AND HARVESTING

| VARIETY    | JAN |   |   |   | FEB |   |   |   | MAR |    |    |    | APR |    |    |    | MAY |    |    |    | JUN |    |    |    | JUL |    |    |    | AUG |    |    |    | SEPT |    |    |    | OCT |    |    |    | NOV |    |    |    | DEC |    |    |    |    |    |    |    |
|------------|-----|---|---|---|-----|---|---|---|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|------|----|----|----|-----|----|----|----|-----|----|----|----|-----|----|----|----|----|----|----|----|
| WEEK       | 1   | 2 | 3 | 4 | 5   | 6 | 7 | 8 | 9   | 10 | 11 | 12 | 13  | 14 | 15 | 16 | 17  | 18 | 19 | 20 | 21  | 22 | 23 | 24 | 25  | 26 | 27 | 28 | 29  | 30 | 31 | 32 | 33   | 34 | 35 | 36 | 37  | 38 | 39 | 40 | 41  | 42 | 43 | 44 | 45  | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| Gold Medal |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Early Gold |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Celerino   |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Louisa     |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5523  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Madalyn    |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5516  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Cristalina |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Annika     |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Soberana   |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5517  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5524  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Mata Hari  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Rasta      |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5519  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Lucinda    |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Patricia   |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5563  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5560  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| STAR 5553  |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |
| Lombardi   |     |   |   |   |     |   |   |   |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |      |    |    |    |     |    |    |    |     |    |    |    |     |    |    |    |    |    |    |    |

Sowing  
Risk Period  
Harvest



### NOTE

The above dates are based on a normal year in the Northern Cape. Dates may differ with locality and your local sales representative should be consulted for detailed recommendations.  
Falling dates are influenced by many factors including day length, temperature, sowing and transplanting date, transplant density, and nitrogen fertilization. This results in variation from year to year.

## OPTIMUM TRANSPLANT & MATURITY INDICATION GUIDE FOR THE WESTERN CAPE

### STARKE AYRES INTERMEDIATE HYBRID ONIONS

| Slot       | Colour | Variety   | July |  |  |  | August |  |  |  | September |  |  |  | Oct | Nov | December |  |  |  | January |  |  |  | February |  |  |  |
|------------|--------|-----------|------|--|--|--|--------|--|--|--|-----------|--|--|--|-----|-----|----------|--|--|--|---------|--|--|--|----------|--|--|--|
| Very Early | Brown  | STAR 5563 |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
| Early      | Brown  | STAR 5560 |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
|            | Brown  | STAR 5553 |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
| Medium     | Red    | PINOTAGE  |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
|            | Brown  | LOMBARDI  |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
|            | Red    | RUDOLF    |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
| Late       | Red    | STAR 5559 |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
|            | Brown  | GOBLIN    |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
|            | Brown  | MANUKA    |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
| Very Late  | Brown  | OLIVINE   |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |

### STARKE AYRES INTERMEDIATE 'OP' ONIONS

| Slot     | Colour | Variety | July |  |  |  | August |  |  |  | September |  |  |  | Oct | Nov | December |  |  |  | January |  |  |  | February |  |  |  |
|----------|--------|---------|------|--|--|--|--------|--|--|--|-----------|--|--|--|-----|-----|----------|--|--|--|---------|--|--|--|----------|--|--|--|
| Late-ELK | Brown  | GOLDA   |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |
| RLK      | Brown  | ELDORA  |      |  |  |  |        |  |  |  |           |  |  |  |     |     |          |  |  |  |         |  |  |  |          |  |  |  |

### INDEMNITY

All technical advice and/or production guidelines given by STARKE AYRES or any of its personnel with reference to the use of its products, is based on the company's best judgement. However, it must be expressly understood that STARKE AYRES does not assume responsibility for any advice given or for the results obtained.

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