Eureka!™ Seedless Lemon performs well under right conditions

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Due to its unique characteristics (high juice content and no seeds) Eureka SL® is a novel, high-quality citrus variety that can be differentiated by the trade making it a good choice for citrus farmers in the long term. It is sought after globally, specifically in markets where these characteristics are particularly valued in terms of the food and drinking cultures, such as the United Kingdom, Europe and parts of Asia, such as Japan. The elongated shape is known to appeal to the Asian market because it provides more slices per fruit. As long as it is planted in suitable climactic areas, this lemon is good choice for future lemon production in South Africa.

When the ESL variety was first released in 2001, the most optimum climates for high production yields had not yet been determined. While it had been established that the tree had similar growth habits to that of the standard Eureka Lemon (EL), many other variables which influenced the ESL variety had not yet been determined. It is thus perhaps worthwhile to first compare the standard and seedless Eureka varieties and then examine issues relating specifically to the seedless variety.

The Eureka!™ Seedless lemon (ESL) and Eureka lemon share many common traits. Like the standard Eureka, the ESL is a terminal bearer with small thorns. Its fruit is elongated, smooth-skinned and extremely juicy. The flowering potential of the two varieties is very similar and both varieties generally flower well. Both varieties also have two main fruit sets per season. A higher fruit set in from a late winter bloom in ESL than the spring bloom is often common and both sets occur on the tree simultaneously.

In commercial orchards in the Eastern Cape, many ESL trees seemed to have a slightly larger percentage of larger sized fruit than standard Eureka lemon trees of the same age though in general fruit size is very similar. Early fruit of both varieties appear to be somewhat susceptible to Endoxeriosis, but this can be circumvented by doing thorough maturity indexing and ensuring that harvesting is done when fruit reaches optimum maturity. It is worth noting that while the ESL fruit may have a green tinge on the skin, it is often internally mature. Due to pollen and ovule sterility, which results in ESL’s seedless character, fruit set under moderate environmental stress i.e. hot, dry conditions, may be somewhat lower than for the standard Eureka lemon.

While both varieties tend to produce similar yields, the standard Eureka lemon sometimes has the tendency to put on a bumper crop and may thus intermittently out-perform the ESL. Like most citrus varieties, ESL commercial production generally begins in the fourth year after planting, though exceptions have been found on farms in the Eastern Cape where commercial production began within the second year after planting.

Comparisons between yields on various Eastern Cape farms seem to indicate that while the standard Eureka lemon may be more precocious at first, the yields of the two varieties tend to even out within a few years. The immense commercial potential of the seedless variety makes such small disparities inconsequential. As previously noted, ESL fruit also tends to be extremely juicy due to the fact that it is 100% seedless.

In terms of orchard management, irrigation and fertilisation, Eastern Cape producers have found little difference between these two varieties. There are no reasons therefore why the ESL variety should not perform well under the right climatic conditions. In the last few seasons it has become apparent that ESL performs best in cooler climates which also includes those with a (predominantly) winter rainfall. The Eastern Cape
In the seven years since its release in South Africa, the Eureka!™ Seedless Lemon (ESL), the world’s first truly seedless lemon variety, has performed well.

Currently appears to do being well with this variety, as are parts of the Western Cape and cooler Northern areas. Coastal areas with a Mediterranean climate fare better as well as milder climatic zones which are not quite Mediterranean but which also do not have a summer rainfall season. Areas with hot, dry climates where irrigation may be a problem due to low rainfall and also low humidity do not fare as well with this variety. In general, the variety performs less well in the country’s hotter, drier regions and may bear fewer fruit than anticipated by producers. There are a number of reasons for these disparities in the variety’s yield potential.

One factor which seems to particularly affect the ESL variety is its sensitivity to Bud-mite infestation. Low yields usually occur due to the stress placed on blossoms because of these infestations rather than because ESL trees never produce a large amount of fruit. Bud-mite tends to attack during cell division and as a result, ESL blossoms do not set. Because ESL is sterile and sets parthenocarpically, it is more sensitive to stress than certain other seeded lemon varieties, especially during the critical period between cell division and fruit drop. The result may be a poor fruit yield when climatic conditions are not optimum and trees are not sprayed for Bud-mite. However, when climatic conditions are more suitable and spraying occurs, the ESL variety flourishes.

In areas where fruit is grown for the fresh produce market, this is less of an issue, as farmers are able, in the past, to spray with miticides such as Acorol (bromopropylate) to prevent the malformation of buds and fruit. Fruit grown for processing purposes can of course not be sprayed, due to residue restrictions. It is thus reasonable to suppose that farmers who produce ESL fruit for processing may thus have encountered production problems, particularly instances of poor yields, caused by the effects of Bud-mite infestation. While these may have been regarded as intrinsic problems of this variety, it is important to realise that if precautions are taken and the right climatic conditions exist, such production problems are likely to arise. Farmers who bear this in mind will find that ESL can be managed in a very similar fashion to the standard Eureka lemon. The advantage of the seedless variety is that in the long-term, it will not doubt overtake seeded varieties in the market and become the lemon product of choice. The Eureka!™ Seedless Lemon is owned by the Agricultural Research Council-Institute for Tropical and Subtropical Crops (ARC-ITSC), South Africa. Licensing and marketing are controlled by Citrogold, a horticultural IP management company based in Stellenbosch. Eureka SL lemon is protected by the Plant Breeders’ Rights Act, 1976 (as amended), and unlawful propagation is not permitted (PBR No. ZA 20043010).

In the previous months we recognised the extensive vacuum in fruit logistics expertise left by the deregulation of the fruit industries. With the support of a fruit logistics consultant and overseas backup, services were extended to Clearing and Forwarding as well as quayside supervision. By 2001 GoReefers opened additional offices in Durban and Port Elizabeth to attend to customers’ needs.”

Although GoReefers is the leading independent fruit logistics service provider to the South African fruit industries, it knows that its services will have to cater for a range of customers. “We are big enough to make a difference but small enough to care,” says Delena Engelbrecht.

With its knowledge of the total supply chain, it was possible for GoReefers to offer innovative solutions to its clients. GoReefers played a leading role in the commercial loading of ambient citrus into reefer containers within the framework of strict disciplines. It was also the first organisation that shipped more than a hundred containers in a season out of Maputu when everyone else said it could not be done. GoReefers was also instrumental in arranging the first citrus reefer container train from Tzaneen to Cape Town.

GoReefers also demonstrated its social commitment by a programme of support for the orphanage for the children of HIV-Aids victims in the workers’ township at Aussenekehr in Namibia. It has also helped the center to set up its own vegetable garden to improve nutrition amongst the children. Closer to home, in Cape Town, GoReefers’ Shack to Shelter programme will benefit one of its own disadvantaged employees who will soon be able to move into suitable accommodation.