

Maxi Growers for Mini Tubers

*Sanette Thiar, ARC-Roodeplaat

South-Africa is in the fortunate position that it has a very good base for all its potato seed. The country has experienced and dedicated growers of mini tubers. This is where the Seed Certification Scheme begins. Currently, there are six companies with greenhouses which are accredited for mini tuber production in South Africa, four of which boast with their own tissue culture facility.

A questionnaire was sent to each laboratory and the information given in this article was supplied by the representatives of each company.

Potato Seed Production (PSP), which is situated in the Long Tom pass in the Lydenburg district in Mpumalanga, is the first established greenhouse facility in South Africa. It was initially established by the Potato Board in 1971 as South Africa's first

nuclear seed production unit. The unit was privatized in 1994 and taken over by the Mellet family in 2002.

PSP plants 50% of their production themselves, 35% is sold to early generation seed growers and approximately 15% is sold

to processors. PSP gets all their mother material from ARC-Roodeplaat *In Vitro* Genebank and is then propagated in its own tissue culture facility. PSP aims to be the biggest and best supplier of pathogen-free seed in South Africa.



Growth room at Potato Seed Production.

continued on p 36

*Sanette Thiar is the Laboratory Manager of the *In Vitro* Genebank at ARC-Roodeplaat. E-mail: sthiart@arc.agric.za. Tel: 012-8419811, Fax: 012-8080844.

Maxi Growers

continued from p35



Greenhouse at Potato Seed Production

Rascal Seed Research Laboratories (Pty.) Ltd. (Rascal) established the first privately owned commercial facility in 1993. Rascal is situated in the Christiana district in the North-West Province. This laboratory has also been approved by the National Department of Agriculture as a quarantine facility and can therefore import directly from other countries without making use of the quarantine facility at ARC-Roodeplaat. Mother material is sourced from Holland and Scotland and local varieties are supplied by ARC-Roodeplaat.

Western Cape Seed Potatoes (Pty) Ltd (WCSP) erected their greenhouses in 1994. WCSP is situated in the Piketberg district in the Western Cape on the farm Sandberg, which has been in the Laubscher family since 1869. Western Cape Seed Potatoes *In Vitro* Laboratory sources all their mother material from ARC-Roodeplaat. Even their imported varieties are maintained in

the *In Vitro* Genebank laboratory of ARC-Roodeplaat. Plant material is produced for their own multiplication.

Ceres Potatoes (Pty) Ltd established their greenhouse in 1994 and recently joined the ranks of the laboratory owners when they started their *in vitro* facility in 2003. The greenhouse and laboratory is situated in Prince Alfred Hamlet in the Ceres district in the Western Cape. The company supplies material for seed production to its own members. Their biggest challenge is to increase the ratio of mini tubers to *in vitro* plant.

Advanced Potato Propagation (Pty) Ltd (APP), which forms part of the First Potato Dynamics Group of companies, established their facilities in 1995 on the mountain at Piketberg in the Western Cape. The location is ideal for the production of mini tubers, as there is no other commercial production of potatoes in the area. APP



Greenhouse of Rascal Seed Research Laboratories



Rascal's Laboratory

does not have its own tissue culture laboratory. Mother material is sourced from ARC-Roodeplaat, Ceres Potatoes, as well as Potato Seed Production. APP produces any open variety on request, as well as any controlled variety with written permission from the owner or agent. Propagation for trials is also done at APP.

Potato Producers International C.C. (PPI) is situated on the farm, Three Oaks, Modder River, in the Kimberley district. PPI was established in 1996, but since 2004 is run

under the sole proprietorship of Mr John Edwards. PPI is the sub-license holder of Aviva, which was bred by ARC-Roodeplaat. PPI does not have its own tissue culture facility and sources all planting material for its greenhouses from ARC-Roodeplaat. Mini tubers are produced for individual growers and a major percentage is supplied to processing firms. PPI likes trying out new varieties. There has been up to 18 varieties at one time in the greenhouse. Selection is then the deciding factor for continuation. All PPI's imported varieties are kept in the *In Vitro* Genebank at ARC-Roodeplaat.

Laboratory at Western
Cape Seed Potato.



Survey of laboratories and greenhouses for the supply of GO mini tubers

Company	Potato Seed Production	Rascal Seed Research	Western Cape Seed Potatoes
Sub-license holder			
Agents for		Mondial, Fabula, Platina	Achill, B015AL, B015V, Chellah, Columbus, Elkana, Gasore, Imola and Pentland Dell
Laboratory capacity	Currently produces 250 000 plants per year, but has the capacity to produce 500 000 plants per year	The laboratory produces 1 000 000 plants per year	Two productions of 40 000 plants per year
Greenhouse space	2 584 m ²	10 000 m ²	1 440 m ²
Greenhouse established in (year)	1979	1993	1994
Certified mini tubers per year	± 1 500 000	±3 000 000 from 2004	±200 000
Availability of minitubers	Three harvests	Two harvests	Two harvests
Motto	Our strength lies in our exclusive focus and commitment to our clients' needs	We lead, others follow!	Good seed doesn't cost - it pays!
Contact details	Willie Roeloffze, Tel: (013) 235 3891, Fax: (013) 235 1107, e-mail: enquiries@potatoseed.co.za	Dawie Ras, Tel: (053) 441 3408, Fax: (053)441 2262, e-mail: info@minitubers.co.za, Website: www.minitubers.co.za	Pieter Laubscher, Tel: (027) 4122442, fax: (027)422 1128, e-mail: potatoes@kingsley.co.za



Greenhouse at Western Cape Seed Potato.

continued on p 40

Conclusion

From the figures mentioned in the table, it is clear that the capacity for mini tuber production in South Africa is in excess of five million mini tubers per year. The total greenhouse space dedicated to mini tuber production is 17 352 m², while the above-mentioned laboratories can produce more than 1.6 million plants per year through tissue culture.

The above is quite a mouthful. Does the potato industry require such large quantities of G0-seed? Perhaps, with the virus pressure it has become a necessity.

Ceres Potatoes	Advanced Potato Propagation	Potato Producers International
		Aviva
	7423, 7441, Ami, Cycloon, Fianna, Lady Rosetta, Lady Jo, Marijke, Melody, Shepody and Yarden	Amethyst, Inia Yagana, Hermes, Romula, Eldena and Clarissa
Two productions of 24 000 per year with an additional 20 000 for other clients	NA	NA
432 m ²	896 m ²	2 000 m ²
1994	1995	1996
±120 000	±330 000	400 - 500 000
Two harvests	Two harvests	Two harvests
High quality seed!	First with the best - Always dynamic	The seed grower's seed grower!
Tiekie de Kock, Tel: (023)313 3100, Fax: (023)313 3686, e-mail: cpotato@lando.co.za	Fanie Louw, Tel: (021)914 5457, Fax: (022) 914 5718, e-mail: fanie@fpd.co.za	John Edwards, Tel/Fax: (053) 581 7002, e-mail: golfmmgc@mweb.co.za



Maxi Growers

continued from p 39

Right:
Greenhouse
at Advanced
Potato
Propagation
in Piketberg.



Left: Greenhouse at Ceres Potatoes.

Below: Greenhouses at Potato Producers International.

