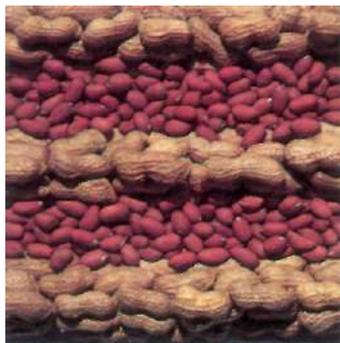

Groundnut Elite Germplasm ICGV-SM 86715



- High-yielding interspecific derivative released in Mauritius for cultivation in pure stands
- Resistant to rust and late leaf spot
- Resistant to pepper spot
- Matures in 111-159 days in southern Africa
- Average shelling 64%
- Oil content 48%



ICRISAT

Plant Material Description no. 75

International Crops Research Institute for the Semi-Arid Tropics
Patancheru 502 324, Andhra Pradesh, India

Purpose of description

ICGV-SM 86715 is a high-yielding interspecific backcross derivative resistant to rust, late leaf spot and pepper spot. It was released in 1992 as Veronica for cultivation in pure stands in Mauritius. It has also performed well in Malawi, Swaziland, and Niger.

Origin and development

ICGV-SM 86715 is derived from a cross between Makulu Red and a tetraploid interspecific backcross derivative [(Samaru 38 x *Arachis chacoense*) x Samaru 61]. It was developed by following repeated bulk selections for foliar diseases reaction, and agronomically desirable characters.

Performance

ICGV-SM 86715 was tested against local cultivars Mawanga, Chitembana, Egret, and Mani Pintar in Malawi and Swaziland from 1988 to 1991. In these tests, ICGV-SM 86715 gave a seed yield superiority ranging from 8 to 388% over different cultivars (Table 1). It also outyielded the local controls 28-206 and ICGS 11 in Niger with a seed yield advantage ranging from 8 to 18%. In trials conducted at three locations in Mauritius it outyielded the control cultivars with an average pod yield advantage of 65% over Cabri and 24% over DHT 200 in pure stands. As Table 2 shows, pod yields of ICGV-SM 86715 ranged from 2.4 to 4.7 t ha⁻¹ (average 3.5 t ha⁻¹).

ICGV-SM 86715 is resistant to rust and late leaf spot diseases in Mauritius and Swaziland (Table 3). It shows only slight susceptibility to pepper spot unlike the moderately susceptible Cabri.

Plant characters

ICGV-SM 86715 belongs to the Virginia group with a decumbent-3 growth habit, alternate branching, and medium, elliptic, green leaves. It has seven primary and four secondary branches. It matures in about 111 to 159 days depending on the season and location in southern Africa.

Pod/seed characters

ICGV-SM 86715 has prominently reticulated pods with a moderate beak, and moderate to deep constrictions. Most pods are two-seeded. The seeds are red, with an

average 100-seed mass of 57 g, and they contain about 48% oil. The average shelling percentage is 64%.

Acknowledgements

We gratefully acknowledge the help given by the research staff of Mauritius Sugar Industry Research Institute for evaluating ICGV-SM 86715 in Mauritius, and for the information on yield performance, and disease and insect pest reaction of this germplasm.

Table 1. Seed yield of ICGV-SM 86715 and control cultivars in three countries in Africa.

Country	Mean seed yield (t ha ⁻¹)		Superiority (%) over local cultivar ²
	ICGV-SM 86715	Local cultivar ¹	
Malawi ³	1.61	1.14(Mawanga)	41
		0.33 (Chitembana)	388
Swaziland	1.49 ⁴	0.92 (Egret) ⁴	62
	1.18 ⁵	0.87 (Mani Pintar) ⁵	36
Niger ⁶	1.51	1.40(28-206)	8
		1.28 (ICGS 11)	18

1. Cultivar names in parenthesis.

2. Based on yield data from the corresponding trials for each variety vs ICGV-SM 86715.

3. Average of two seasons and two locations.

4. Comparison based on average data from two seasons at one location.

5. Comparison based on average data from two locations during 1989-90 and one location during 1990-91.

6. Data from one season and one location.

Table 2. Pod yield of ICGV-SM 86715 and control cultivars Cabri and DHT 200 at experimental stations, Mauritius.

Location/ year	Pod yield (t ha ⁻¹)			SE
	ICGV-SM 86715	Cabri	DHT 200	
Reduit (1988)	2.43	1.62 (50%) ¹	1.85 (31%)	±0.17
Reduit (1989)	4.73	2.64 (79%)	5.41 (-24%)	±0.16
Pamplemousses (1989)	3.70	1.68(120%)	0.95 (290%)	±0.13
Belle Rive (1989)	3.21	2.59 (24%)	3.18 (1%)	±0.28
Mean	3.52	2.13 (65%)	2.85 (24%)	

1. Figures in parentheses refer to seed yield advantage of ICGV-SM 86715 over the cultivars.

Source: Mauritius Sugar Industry Research Institute-Annual reports 1989 (p 66), and Annual report 1990 (p 76).

Table 3. Reaction of ICGV-SM 86715 and control cultivars to foliar diseases in Mauritius and Swaziland.

Country	Variety	Rust ¹	Early leaf spot ¹	Late leaf spot ¹	Pepper spot ²
Mauritius ³	ICGV-SM 86715	2.0	0.0	0.0	+
	Cabri	5.8	5.0	4.0	++
	DHT 200	3.0	4.0	4.0	+
Swaziland ⁴	ICGV-SM 86715	1.7	-	3.1	-
	Egret	7.5	-	5.5	-
	Marti Pintar	6.1	-	6.5	-

1. Scored in Mauritius on a 0-9 scale where 0 - no disease, and 9 - very highly susceptible; and in Swaziland on a 1-9 scale, where 1 - no disease, and 9 - 50-100% of foliage damaged.

2. + - slight infection; ++ - moderate infection.

3. Data from nine trials for rust, six trials for early leaf spot and pepper spot, and three trials for late leaf spot.

4. Data from one trial for both rust and late leaf spot.



ICRISAT

Plant Material Descriptions

from the

International Crops Research Institute for the Semi-Arid Tropics

Brief descriptions of crop genotypes identified or developed by ICRISAT, including:

- germplasm accessions with important agronomic or resistance attributes;
- breeding materials, both segregating and stabilized, with unique character combinations;
- cultivars that have been released for cultivation.

These descriptions announce the availability of plant material, primarily for the benefit of the Institute's cooperators. Their purpose is to facilitate the identification of cultivars and breeding lines and to promote their wide utilization. Requests for seed should be addressed to the Director General, ICRISAT, or to appropriate seed suppliers. Materials for research are sent by ICRISAT to cooperators and other users free of charge.