



**XIV INTERNATIONAL PROTEA
RESEARCH SYMPOSIUM**

**XIX INTERNATIONAL PROTEA
ASSOCIATION CONFERENCE**



13 - 18 MARCH 2022

CANARY ISLANDS
LA PALMA - TENERIFE
SPAIN



**XIX INTERNATIONAL PROTEA ASSOCIATION
CONFERENCE
XIV INTERNATIONAL PROTEA RESEARCH
SYMPOSIUM PROGRAMME**

MARCH 13-18, 2022

**LA PALMA AND TENERIFE, CANARY ISLANDS,
SPAIN**



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Dear Conference Delegates

It is my great pleasure to welcome you all to this XIXth International Protea Association Conference and XIVth International Protea Research Symposium being held here in the Canaries (La Palma and Tenerife). I want to dedicate a special welcome to our international delegates from different countries and continents around the world.

Since the 80s of the last century, the cultivation of the proteas here has gone through periods of active development and others of stagnation, according to the island in which it was implanted (Tenerife, La Palma and Gran Canaria). Currently, there is a period in which an increasing number of farmers are establishing new proteas crops. During your stay here, you will be able to see how our country men face the problems posed by this crop. On the other hand, we hope that the Symposium will serve delegates to know the most recent research on the cultivation of proteas, which together with the technical information that will be presented in the Workshops, will enrich their training in this crop. I want to thank all for the great help given to us from the IPA Board, the ISHS, the public authorities, the Scientific Committee and everybody who made possible this Conference in the Canary Islands.

Regards,

Juan A.Rodríguez-Pérez,
Convener



LA PALMA

Sunday March 13th

Time	Venue	Venue
17.00-19.30	Registration	Hotel Taburiente Playa
18.00-19.00	IPA Board meeting	Hotel Taburiente Playa
19.30-21.00	Welcome reception	Hotel Taburiente Playa

Monday March 14th

Visit to the north of the island

Time	Location	Location/Venue
8.30 am	Buses leave	Hotel Taburiente Playa
10.00-12.00	Garafía	José B. Fernández Farm Agroprot Garafía Farm
12.00-13.30	Barlovento	Wilber J. Avila Farm María I. Rodríguez Farm
13.30-17.00	Puntallana	Lunch Ecofarm Nogales
17.00	Buses departure to the hotel	Free dinner

Tuesday March 15th

Visit to the east and west of the island

Time	Location	Location/Venue
8.30 am	Buses leave	Hotel Taburiente Playa
9.15-13.00	El Paso	Pablo Yanes Farm Daniel Martín Farm Caldera Taburiente Visitor Center of Caldera of Taburiente
13.00-13.30	Breña Alta	Proteas La Palma Farm and packing facilities
16.30	Buses departure to the hotel	Free dinner

The organization will give the participants a bag with some snacks and drinks (water and juice) to take during the visits, there are no stops at restaurants this day.



Wednesday March 16th

IPA Workshop 1: Crop management in the production areas

Time	Presenter	Title	Institution
8.00-8.30	José Adrián Hdez.	Councillor for Agriculture	La Palma Council
	Laura García Yanes	Director La Palma-Hierro	La Caixa Bank
8.30-9.00 am	Antonio Barreiros Domíngues	Main pests and diseases of the Proteas crop in the Azores. Control strategies.	Servicio Desenvolvimento Agrario Terceira – Azores
9.00-9.30	María Leandro	Propagation methods in the cultivation of Proteas	Flora United Farm Portugal Lda
9.30-10.00	Gerhard Malan	General situation and trends of Protea cultivation in South Africa	Fynflor, South Africa
10.00-10.30	Ben Gill	Cultivation of the Proteas crop in the USA	Proteas crop consultant, California
10.30-11.00	Morning coffee		

IPA Workshop 2: New cultivars and marketing

Time	Presenter	Title	Institution
11.00-11.30 am	Olga Keijser	Trends in the Proteas market at a global level. How the Dutch auction works.	Coloríngz, Netherlands
11.30-12.00	Olga Keijser	Quality certification in the cut flower sector	Coloríngz, Netherlands
12.00-12.30	Tiago Fleitas	Classification and marketing of proteas. Experience of Fruter Coop, Island of Terceira, Azores.	FruterCoop, Azores
12.30-13.00	Francisco Molina	Classification and marketing of proteas. Experience of Proteas de La Palma, Island of La Palma, Canary Islands	Proteas La Palma, Canary Islands, Spain
13.00-13.30	María Guzmán	Experience with new protea cultivars. Ayobas Group	Proteas La Palma, Canary Islands, Spain
13.30-15.30	Lunch		



15.30-16.30	Ismael Resendiz	Reports of the proteas production areas	International Protea Association
16.30-18.00	Ismael Resendiz	Assembly of IPA	International Protea Association
19.30	Flight to Tenerife		
20.30	Arrival of buses to the Nivaria Hotel, La Laguna		

TENERIFE

Thursday March 17th

Visits to protea farms

Time	Location	Location/Venue
9.00 am	Buses leave	Hotel Nivaria
9.30-12.30	Los Realejos	Los Realejos Protea Farms
12.45	Buses arrive	Hotel Nivaria
13.00-15.00	Lunch	Hotel Nivaria

Symposium Sessions

Time	Session	Presenter	Title	Institution
16.00-16.30	Welcome	Ismael Resendiz, President Intern. Protea Assoc. (IPA)	Opening ceremony	International Protea Assoc.
16.30-16.40	ISHS activities	Dr. Margherita Beruto	Activities of the ISHS Division Ornamentals Plants	Chair of the ISHS Division Ornamental Plants
16.40-17.10	Afternoon coffee			
17.10-17.55	Session 1 Propagation Keynote speaker	Juan F. Pérez Francés	Proteas micropropagation - A review	La Laguna University, La Laguna, Tenerife
17.55-18.15		María C. Vera Batista	Effect of Wounding and Reduction of Foliar Area of the Scions on Cutting-grafting of <i>Leucospermum</i> 'Rigoletto' on <i>L. patersonii</i>	La Laguna University, La Laguna, Tenerife
18.15-19.00	ISHS business meeting	Dr. Magherita Beruto	Next symposium venue and convener. Chair of the IPWG.	ISHS
18.15-19.00	Poster setup			



Friday March 18th

Morning session

Time	Session	Presenter	Title	Institution
9.00-9.45 am	Session 2 Breeding Keynote speaker	Kenneth W. Leonhardt	Breeding <i>Leucospermum</i> for improved horticultural characteristics, disease tolerance and cultivation in tropical climates	Dept of Horticulture, University of Hawaii, 3190 Maile Way, Rm 102, Honolulu, HI 96822-2232, U.S.A.
9.45-10.05		Isidoro Rodríguez- Hernández	Breeding of <i>Leucospermum</i> to Obtain Clayey and / or Alkaline-clayey Soil Tolerance Hybrids	La Laguna University, Tenerife, Spain
10.05-10.50	Session 3 Crop Management: Nutrition and Irrigation Keynote speaker	Avner Silber	Evolutionary adaptation of plants to phosphorus deficiency: the multifaceted role of proteoid roots	Inst. Soil, Water & Environm. Sci., ARO, The Volcani Center, Bet Dagan 50250, Israel
10.50-11.20	Morning coffee			
11.20-12.05	Session 4 Crop Management: Pruning, flowering and production Keynote speaker	D.G. Malan	Pruning cut-flower protea	Fynflor, Kleineweide 4, Stellenbosch 7600 South Africa
12.05-12.25		Flavia Schiappacasse	Manipulating flowering time of <i>Protea</i> 'Pink Ice' in Chile to prevent bud freeze injury	University of Talca, Facultad de Ciencias Agrarias, Casilla 747, Talca Chile
12.25-12.45		N. Hattingh	Phenological studies of <i>Protea cynaroides</i> (L.) 'Arctic Ice' following a synchronising winter pruning regime	Stellenbosch University, South Africa
12.45-13.05		Eugenie-Lien Louw	Curvature development in vegetative <i>Leucospermum</i> 'Soleil' and 'Succession II' shoots in response to gravity and a consistent force	Arnelia Farms, Technical Manager, PO Box 63, 7355 Hopefield, South Africa
13.05-15.00	Lunch Hotel Nivaria			



Afternoon session

Time	Session	Presenter	Title	Institution
15.00-16.00	Poster session			
16.00-16.20		Flavia Schiappacasse	<i>Protea</i> 'Pink Ice': base temperature and growing degree hours from flower bud to harvest stage in Maule Region, Chile	University of Talca, Facultad de Ciencias Agrarias, Casilla 747, Talca Chile
16.20-16.40		Antonio López Cappa	ASOCAN and Current Canaries <i>Proteaceae</i> Production: Achievements and Challenges	ASOCAN, Canary Islands, Tenerife, Spain
16.40-17.00		M. L. Fuertes	Agricultural biodiversity, proteas as instrument of integral development in the protection space Seven Lomas, southeast of Tenerife, Canary Islands	Calle Mendez Nuñez 17 Bajo, 38003 Tenerife Santa Cruz de Tenerife
17.00-17.30	Afternoon coffee			
17.30-18.15	Session 5 Postharvest Keynote speaker	Lynn Hoffman	Recent advances in postharvest research for <i>Proteaceae</i> ornamentals	Department of Horticultural Science, Stellenbosch University, 7600 Western Cape Stellenbosch, S.Africa
18.15-19.00	Session 6 Plant protection Keynote speaker	María Leandro	<i>Proteaceae</i> Plant Protection - An Overview from Portugal	Flora United, Portugal
19.00- 19.20		Antonio Domingues	Calendar of risk occurrence for pests and diseases most common in <i>Proteaceae</i> in the Azores islands	SDAT, Vinha Brava, Conceição, 9701-880 Angra do Heroísmo Azores, Portugal
19.20-19.40		Enrique Huertas	Risk map of the main diseases and pests that affect in the Canary Islands	La Palma Council, La Palma, Spain



19.40	Young Mind Rewards Recognition and Certificate to the Convener	Dr. Magherita Beruto		ISHS
21.00	Hotel Nivaria: Closing dinner			

Posters

A.M. de León-Hernández ¹ , M.C. Vera-Batista ¹ , V. Herrera-González ¹ , M. Hernández ² , I. Rodríguez-Hernández ¹ and J.A. Rodríguez-Pérez ¹	Propagation by grafting on <i>Leucospermum patersonii</i> and <i>L. 'Spider'</i> of <i>Leucospermum</i> cultivars: 'Anouk', 'Raziya', 'Succession I' and 'Themba'	¹ Department of Agricultural, Nautical, Civil and Marine Engineering, University of La Laguna, Tenerife, Spain; ² Instituto de Productos Naturales y Agrobiología, Consejo Superior de Investigaciones Científicas, Avenida Astrofísico Francisco Sánchez ,3, La Laguna, 38206, Tenerife, Spain.
A.M. de León-Hernández ^{1,a} , M.C. Vera-Batista ¹ , V. Herrera-González ¹ , M. Hernández ² , I. Rodríguez-Hernández ¹ and J.A. Rodríguez-Pérez ¹	Propagation by cutting-grafting on <i>Leucospermum patersonii</i> of <i>Leucospermum</i> cultivars: 'Anouk', 'Raziya', 'Succession I' and 'Themba'	¹ Department of Agricultural, Nautical, Civil and Marine Engineering, , University of La Laguna, Tenerife, Spain; ² Instituto de Productos Naturales y Agrobiología, Consejo Superior de Investigaciones Científicas, Avenida Astrofísico Francisco Sánchez ,3, La Laguna, 38206, Tenerife, Spain.
María Candelaria Vera-Batista ¹ , M. Carmen Alfayate ² , Emma Suárez ³ , Zuleima González ² , Isabel Hernández ¹ , Andrea Lozano ² , Patricia Marrero ² ,	Structural and ultrastructural study of leaf and stem of six cultivars of <i>Leucadendron</i> (R.Br.) and <i>Leucospermum</i> (R.Br.) genera (<i>Proteacea e</i>)	¹ Department of Agricultural, Nautical, Civil and Marine Engineering; ³ Faculty of Pharmacy; ² Faculty of Biology, La Laguna University, Tenerife, Spain
María Candelaria Vera-Batista ¹ , Emma Suárez ³ Isabel Hernández ¹ , Yaiza Chávez ² Andrea Lozano ² , Patricia Marrero ² , M. Carmen Alfayate ²	Vegetative Propagation of <i>Leucospermum</i> R.Br.: a comparative study at the developmental and tissue levels after different treatments	¹ Department of Agricultural, Nautical, Civil and Marine Engineering; ³ Faculty of Pharmacy; ² Faculty of Biology, La Laguna University, Tenerife, Spain
María Candelaria Vera-Batista ¹ , Emma Suárez ² , J. A. Rodríguez-Pérez ¹ , M. Carmen Alfayate ³ , and I. Frías ⁴	Peroxidases as biochemical markers for rooting in some species and cultivars of two <i>Proteaceae</i> genera	¹ Department of Agricultural, Nautical, Civil and Marine Engineering; ² Faculty of Pharmacy; ³ Faculty of Biology; ⁴ Faculty of Sciences, La Laguna University, Tenerife, Spain
I. Rodríguez-Hernández ^{1a} , M.C. Vera-Batista ¹ , A.M. de León-	Cutting grafting of <i>Leucospermum</i> 'Tango' on <i>L.</i>	¹ Agricultural Engineering Section, Department of



<p>Hernández¹, M. González-Hernández¹ and J.A. Rodríguez-Pérez¹.</p>	<p>'Spider'. Effect of wounding, rooting media, and reduction of foliar area of the scion.</p>	<p>Agricultural, Nautical, Civil and Marine Engineering, Higher Polytechnic School of Engineering, University of La Laguna, Carretera de Geneto, 2, 38200, La Lguna, Tenerife, Spain.</p>
<p>I. Rodríguez-Hernández¹, M.C. Vera-Batista¹, A.M. de León-Hernández¹ and J.A. Rodríguez-Pérez¹.</p>	<p>Effects of pretreatment of mother plants with BA and concentration of IBA on rooting of <i>Leucospermum</i> 'Succession II' stem cuttings</p>	<p>¹Agricultural Engineering Section, Department of Agricultural, Nautical, Civil and Marine Engineering, Higher Polytechnic School of Engineering, University of La Laguna, Carretera de Geneto, 2, 38200, La Lguna, Tenerife, Spain.</p>
<p>J.A. Rodríguez-Pérez¹, A.M. de León-Hernández¹ and M. Hernández²</p>	<p>Influence of clay soil on two <i>Leucospermum</i> cultivars planted directly or grafted on clay-soil resistant rootstock. Study of Na and micronutrient nutrition.</p>	<p>¹Agricultural Engineering Section, Department of Agricultural, Nautical, Civil and Marine Engineering, Higher Polytechnic School of Engineering, University of La Laguna, Carretera de Geneto, 2, 38200, La Lguna, Tenerife, Spain.</p>
<p>J.A. Rodríguez-Pérez¹, A.M. de León-Hernández¹, M. Hernández², M.C. Vera-Batista¹, and I. Rodríguez-Hernández¹</p>	<p>Influence of clay soil on two <i>Leucospermum</i> cultivars planted directly or grafted on clay-soil resistant rootstock. Study of plant growth and cut flowers production.</p>	<p>¹Agricultural Engineering Section, Department of Agricultural, Nautical, Civil and Marine Engineering, Higher Polytechnic School of Engineering, University of La Laguna, Carretera de Geneto, 2, 38200, La Lguna, Tenerife, Spain.</p>