



SASTA NEWS

Newsletter of the SA Sugar Technologists' Association

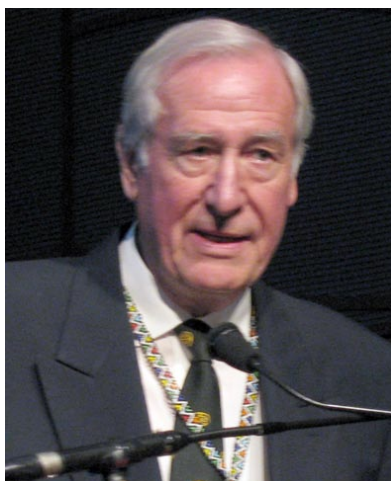
November 2009

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SASTA Congress 2009

This year's SASTA Congress saw record attendance of 520 delegates, 422 of whom were from South Africa, 72 from other African countries and 26 from other continents. The breakdown of country and region of origin of the delegates is given in the table below.

The first day of Congress consisted of the Opening Session, followed by three Plenary sessions. The keynote address was delivered by Prof Esté Vorster, Director of COE for Nutrition, North West University and the technical address by Dr Mieke Faber, Nutritional Intervention Research Unit, MRC. In keeping with the Congress theme of 'sustainable development' these two speakers examined relationships between nutrition research and the sugar industry. Sugar is frequently portrayed in the media as being bad for health and responsible for causing several diseases. Prof Vor-



Dr Geoff Cleasby

ster however, presented research that demonstrated no direct link between sugar and conditions such as cardiovascular disease, obesity and Type II diabetes. Dr Faber presented a study on biofortification of sweet potatoes to assist the diet of malnourished children. Of interest to the sugar industry is the possibility of using sugarcane to produce alternative products. Dr Faber's study offered many points to consider in this regard.

In this issue:

- SASTA Congress 2009
- Awards from Congress 2008: presentations
- Congress 2009 Prizewinners: Announcement of Award winners
- Congress 2010: Call for Abstracts
- SASTA Website
- SASTA Lab Manual 5th edition
- SASTA Council 2009-2010
- Call for nominations for Innovation awards
- Factory Day to Illovo Merebank 26 November 2009: call for participants

A gold medal was awarded to Dr Geoff Cleasby in recognition of his outstanding service to SASTA and ISSCT back in 1974 when he organized the ISSCT Congress to be hosted by South Africa.

Continued on Page 2

SOUTH AFRICA	422	KwaZulu-Natal	332	Umhlanga/Tongaat	152
				Durban/Kloof	82
				South Coast	42
				Pmb/Eston/Midlands	33
				North Coast/Zululand	23
		Gauteng	52		
		Mpumalanga	27		
		Other provinces	11		
OTHER AFRICAN COUNTRIES	72	Swaziland	23		
		Tanzania	11		
		Zimbabwe	8		
		Kenya	7		
		Sudan	6		
		Mozambique	5		
		Malawi, Zambia	4 from each		
		Uganda	2		
		Botswana, Cameroon	1 from each		
		COUNTRIES IN OTHER CONTINENTS	26	India	8
United Kingdom, Vietnam	3 from each				
France, Germany, Mauritius, Reunion	2 from each				
Saudi Arabia, Sweden, Syria Arab Republic, USA	1 from each				



The Robin Renton Memorial Award (presented to a young engineer who shows leadership potential and presents a paper at Congress) was presented to Pradeep Sharma by PGBI (the sponsors of this prize), for his paper presented during the 2008 SASTA Congress.



Pradeep Sharma, the winner of the Robin Renton Memorial Award

The plenary sessions focused predominantly on economic issues and supply chain management. A first for SASTA Congress was the plenary session on Agriculture Success Stories. The three presentations in this session highlighted developments in payload efficiency, biological control of water weed and combined farming of small-scale growers. The progress made in these areas was well received by delegates.

The Agriculture section on Days 2 and 3 saw a full and diverse programme with 31 paper and 9 poster presentations. Overall the standard and quality of research presented was high and sessions well attended. The session on small-scale growers highlighted the many opportunities and challenges that this sector of the industry presents. Three sessions devoted to Crop Protection saw developments in methods of pest detection and control. Progress in Integrated Pest Management strategies was also communicated. Research results presented on the performance of sugarcane varieties and various agronomic characteristics contributed valuable information to the industry's knowledge base on varieties. Key outcomes in nutrition research demonstrated the range of factors that influence the balance of nutrients in the soil and surrounding environment. A session on Irrigation

featured papers that described developments in irrigation scheduling and the economics of harvesting irrigated green versus burnt cane.

The Factory papers were arranged into five themed sessions and the now traditional commercial session. Thursday 27 August started off with advances in sugarcane research from a factory's perspective which includes the effects of green cane harvesting on downstream factory processing, the quest for deterioration indicators, bioproducts and bioenergy. This was followed by equipment design issues including presentations on the new Tongaat Hulett's continuous pan and the Bosch chainless diffuser. The poster session was combined with presentations on the management of refining and the management of laboratory information through typical Laboratory Information Management Systems (LIMS). Friday 28 August continued with factory safety systems, considerations to minimize sucrose losses and the optimization of imbibition for cogeneration followed by a number of commercial presentations where exhibitors and suppliers were allowed to present their wares and technological advances.

The final day concluded with a workshop and panel discussion on "Training needs in the African Sugar Industry". The objective of the Workshop was

to review the current status of training and development in the African Sugar Industry, to identify the areas of greatest need and discuss ways to address these thereby ensuring effective training delivery across the industry. The panel consisted of training representatives from Illovo Head Office, UCL, Tongaat Hulett's TEG, the SASTA International Training Centre, Tsb and the SMRI.

It was agreed that the industry is currently characterised by:

- factories suffering as a consequence of the lack of effective planning for training and development;
- an ageing workforce;
- ineffective succession planning, hence the ongoing need to recall retirees to assist in the industry, particularly with regard to project work; and
- the evolution of a substantial gap in terms of training and development.

The large trade exhibition was well supported by local and foreign supplier companies, some old, loyal SASTA friends and some new companies. SASTA thanks all sponsors and exhibitors for participating in this annual sugar industry highlight. The best exhibition stand award was won by BMG, and Highly Commended ex-



The BMG stand



hibition stand awards were presented to Kirton Mechanical Equipment, Adapt IT and Siemens Ltd.

Cindy von Pannier (Adapt IT), Stuart Kellaway (Siemens Ltd) and John Wrathmall (Kirton Mechanical Equipment) receive their prizes from Gavin Smith.



The inaugural BNC/SASTA golf day was held on the Tuesday afternoon before Congress at the Toti golf course. SASTA thanks BNC Industrial for their organization of the event and the sponsorship. The inter-mill competition was won by Illovo Sezela. The supper and prizegiving after the golf was a wonderful opportunity for socializing with other sugar industry players. SASTA hopes that 2010 will see more mills entering teams in the golf day, and more sponsors participating.

Photos from Congress 2009



Call for Abstracts SASTA Congress 2010

The 83rd Annual SASTA Congress takes place from **25 – 27 August 2010**. The venue is the International Convention Centre, Durban.

The Organisers invite submissions in the following categories:

Peer reviewed articles

Full Papers

Review Papers

Operational Papers (Factory section only)

Non-peer reviewed articles

Short Communications (Agriculture section only)

Practical Success Stories (Agriculture section only)

Poster papers

Important Deadlines

Abstracts: 4 December 2009

Notification of Abstract acceptance: 18 December 2009

Abstracts are 250 words maximum and must be submitted on the **SASTA Abstract Template**. The template is available from the SASTA Secretariat (sasta@sugar.org.za) or on the SASTA website (www.sasta.co.za).

Full papers, Review papers, Operational Papers and Short Communications: 19 March 2010

Practical Success Stories and poster papers: 27 April 2010

The updated Instructions for Authors will be available shortly on the SASTA website (www.sasta.co.za).

For information regarding the Trade Exhibition and sponsorship opportunities please contact Deidre Hancke-Haysom at The Conference Company. Ph: +27 31 3039852, email: deidre@confco.co.za.

For other information please contact the SASTA Secretariat at (sasta@sugar.org.za).

SASTA LAB MANUAL 5th edition:

The 5th edition of the renowned SASTA Laboratory Manual (including the Official Methods) is now available. Apart from a complete list of field, factory and refinery definitions, calculations and formulae, the Manual sports a variety of preferred methods for the analysis of:

- cane
- mixed juice
- bagasse
- clear juice
- clarified mud and filter cake
- syrups, massecuites and feeds
- raw sugar
- molasses
- refined sugar
- a full range of refinery products
- boiler feed water
- lime
- enzymes (for starch hydrolysis)

The manual also hosts the official publication of methods described by the Sugar Act for cane payment purposes and is championed by the SASA Cane Testing Services.

Call for nominations for the Innovation Awards

Nominations are invited from SASTA members for candidates to be considered for the 2010 Innovation Awards, in either the Factory or the Agricultural sectors. Please send your nomination with a detailed motivation to sasta@sugar.org.za.

The criteria which are considered by Council are: The design, development and implementation of an idea, machine, process or technique which has shown definite value in improving technology, cost-effectiveness or sustainability or safety of factory and agricultural operations. Corporate innovations will not be considered.

Closing date for 2010 nominations: 31 May 2010

SASTA Council 2009-2010

The newly elected Council members are listed below; additional Council members may be co-opted at the first meeting of the new Council in November 2009.

President: Paul Schorn (THS)

Vice-President: Deborah Sweby (SASRI)

Carel Bezuidenhout (UKZN)

Martin Eweg (Training Consultant)

Keith McFarlane (SASRI)

Barbara Muir (SMRI)

Sinithi Rama (Illovo)

Kerry Redshaw (SASRI)

Ruth Rhodes (SASRI)

Gavin Smith (SMRI)

Sandy Snyman (SASRI)



BNC/SASTA golf day



Awards from Congress 2008

Pradeep Sharma received the Robin Renton Memorial Award donated by PGBI Engineers and Constructors.

Prizes were presented by Dr Deborah Sweby to the winners from Congress 2008.

Sinthi Rama (and Stan Munsamy – not present) receives the Cecil Renaud Factory Award

Richard Simpson (and John Oxley – not present) receives the Talbot-Crosbie award

Barbara Muir and Bonginkosi Gwegwe receive a Highly Commended in Talbot-Crosbie category award.

Bryan Barker receives a Highly Commended in Talbot-Crosbie category award.

Bryan Barker (and James Wesley-Smith – not present) receives the Factory Poster award.

Sandy Snyman, Gwethlyn Meyer, Marzena Banasiak, Tania van Antwerpen and Pavithra Govender (Tarryn Nicholson and Jan Erasmus not present) receive the Kynoch award.

Justin Murray receives the Cecil Renaud Agriculture award

Isiah Mahlangu (and Fonda Lewis – not present) receives a Highly Commended in Cecil Renaud category award.

Alasdair Harris receives the Agriculture student paper award.

Sharon McFarlane, Tania van Antwerpen, Pavithra Govender and Grant Buchanan receive the Agriculture Poster award.

Mike Way receives a Highly Commended in the Agric Poster category award.



SASTA WEBSITE

The SASTA website has recently undergone a complete overhaul and now spoils with free access to all SASTA publications in searchable pdf format since a number of years before the official inauguration of the association in 1926. Presentations and summaries of recent Workshop as well as regular updates on upcoming events, including the 2010 SASTA Congress, can be easily accessed. The web site can be found at: www.sasta.co.za



Congress 2009 Prizewinners

Congratulations to the winners announced below! The presentations will take place at the 2010 Congress.

Factory Section

CECIL-RENAUD AWARD Factory

Schorn PM, Smith L, Peacock SD, Love DJ and Muzzell DJ

Coming soon to a factory near you - the new Tongaat Hulett continuous pan

Comments : The paper presents an Innovative continuous pan design that incorporates several new features. An excellent description of the basis for the design gave useful and practical insights into the thought processes involved. Such open sharing of information was a welcome change from the modern trend to restrict such technical information. The pan has been installed and is in operation in a sugar mill and so has moved beyond the conceptual phase.

TALBOT-CROSBIE Award

Muir BM, Eggleston G and Barker B

The effect of green cane on downstream factory processing

Comment: Building on similar work undertaken previously this paper reported on experimental work that was methodical in design and execution and thoroughly well done. The results presented will be useful by many researchers and process designers in the future who will work in this area.

Robin Renton Memorial Award

Rambakus Z (with Moodley M as co-author)

A just-in-time approach to refining

Comment: An interesting documentation of an approach to solving a pressing and urgent problem thrust upon the Hulett's refinery. The paper balanced the importance of a technical as well as a management solution. The animated, dramatic presentation was well received.

Factory Poster Award

Walford S, Egli S and Martincigh B

Separation, identification and characterisation of extractives from sugarcane (*Sacharrum officinarum*) leaf

Agric section

Kynoch Prize - 1st prize

Singels A, Smit MA, Butterfield M, van Heerden PDR and van den Berg M

Integrating crop modelling and genomics to accelerate plant improvement: preliminary assessment of progress from a pilot study in sugarcane.

Comments: The research approach followed in this paper was novel, the concept innovative and the paper combined complicated research principles that could be used for an applied outcome (prediction of crop yield, effects of stress and selection of environment-specific cultivars to name a few).

Highly Commended in the Kynoch category

Ramburan S, Sewpersad C and McElligott DM

Effects of variety, harvest age, and eldana on coastal sugarcane production in South Africa.

Comments: This paper is certainly meritorious as it covered a topic of interest – eldana, yield and length of crop cycle. The paper was well written and presented, trials were carefully designed and the statistical rigour was excellent.

SASTA Student Award

Dittrich-Schroder G, Conlong DE, Way MJ, Harrison JduG and Mitchell A

Identification key to Scarabeid beetle larvae attacking sugarcane in South Africa using DNA barcoding and integrative taxonomy.

Comments: This paper was based on meticulous research which resulted in what is likely to become an important tool in the identification of Scarabeid beetle larvae once finalised. The presentation was clear and interesting. The work has not only usefully updated current

knowledge but has moved the field of scarab taxonomy into a new era. A particularly useful contribution was the development of a key that can be used by all workers in this field.

Cecil-Renaud Award - 1st prize

Wynne AT, Murray TJ and Gabriel AB

Relative cane payment: realigning grower incentives to optimize sugar recoveries.

Comments: Cane payment is a sensitive issue that has been discussed behind closed doors for many years. The authors gave a good overview of how the current RV system came about and were successful in applying critical thinking around a serious industry issue. The suggested approach by these authors is novel in that it is a method that hasn't been used elsewhere in the world. The topic was well-presented and written and offers an alternative payment system which could be of benefit to both millers and growers.

Highly Commended in the Cecil-Renaud category

Murray, JJ

A regional analysis of labour trends in the South African sugar industry

Comments: The author was able to capture some of the key issues related to changes in labour trends over the last few years. Labour trends were analysed and assessed and reported on clearly in both the paper and presentation. The analysis of results have opened up further opportunities for research.

Poster Award – 1st prize

Campbell PL, Leslie GW, McFarlane SA, Berry SD, Rhodes R, van Antwerpen R, Rutherford RS, van Antwerpen T, McElligott DM and Conlong DE

An investigation of IPM Practices for pest control in sugarcane

Highly Commended poster

Koch AC, Ramgareeb S, Snyman SJ, Watt MP and Rutherford RS

Pursuing herbicide tolerance in sugarcane: screening germplasm and induction through mutagenesis





SASTA FACTORY VISIT DAY

To Illovo Merebank ethanol plant

Date: Thursday 26 November 2009

Programme:

- 13:00: Meet in allocated carpark to board quantum and depart
- 13:45: Arrive at Merebank site
Sign in at security and declare items, and be breathalysed
- 14:00: Proceed to Canteen for Introduction to Illovo staff and a general presentation of the Merebank site and operations
- 14:30: Split into two groups and go on parallel site/plant tours to see **alcohol production** (molasses handling, fermentation, distillation, QC, QA, packing, despatch) and **lactulose production** (raw material handling, reaction, ion exchange, evaporation, packing, QC, QA, despatch)
- 15:15 Convene at the canteen for snacks and juice courtesy of Illovo Merebank
- 15:35 Depart in quantum back to where you parked your vehicles

Cost: SASTA members: R60 including VAT (and R120 for SASTA non-member guests of members)

Important Information:

- There is no facility for parking your own vehicle at Illovo Merebank, and hence transport will be arranged in quanta from vantage points near Durban, so that delegates can leave their vehicles in secure parking areas from 13:00 to 16:30. It is envisaged that transport will leave from SMRI, and from SASRI/Kwashukela, Mount Edgecombe and possible others can be designated once we know the location of delegates.
- Delegates will be required to sign indemnity forms, which will be handled on each quantum during the drive to Illovo Merebank.
- Delegates must wear suitable clothing for a factory visit, which includes safety shoes/closed leather shoes.
- No cameras allowed
- No cell phones allowed
- No firearms are allowed into the Factory premises.
- Each delegate will be subject to a breathalysing test on entry (and refused entry if fail!).

The tour will be restricted to the first 40 SASTA members who book places, and pay.

To book a place and receive an invoice: contact Danile Macdonald on sasta@sugar.org.za
Or on 031-5087543 (mornings only). The information needed for the booking is:

Name/s of delegate/s: _____

Email address: _____

Telephone contact number: _____

Address and VAT number to be inserted on the invoice: _____

Location most suitable for leaving your car: SASRI/Kwashukela/SMRI/suggest other _____