

ISSCT Co-Products Workshop

30 November – 4 December 2015

Holiday Inn Mauritius Airport

Speech by General Secretary

30 November 2015

Honourable Mahen Kumar Seeruttun, Minister of Agro-Industry and Food Security of the Republic of Mauritius

Dr. Suleiman José Hassuani, Engineering Manager - Centro de Tecnologia Canavieira, Brazil & ISSCT Co-Products Commissioner

Mr. Vishnou Gondeea, Permanent Secretary

Excellences of the Diplomatic Corps

Honourable Members of the National Assembly

Dr. Salem Saumtally, Director, MSIRI

Mr Lindsay Fayolle, Chief Operations Officer, Omnicane

Dr. Lars WALDHEIM, Director, Waldheim Consulting

Mr Nelson Mirthil, Chief Finance Officer of Omnicane

Chairpersons, CEOs and Senior Management of Sugar Cane Industry institutions and those of the Public and Private Sector

Vice-Chancellor of the University of Mauritius

Distinguished Guests

Ladies & Gentlemen

Dear Participants

All Protocols observed

Good morning

On behalf of the International Society of Sugar Cane Technologists (ISSCT), I would like to welcome you to the Opening Ceremony of the international Workshop on sugar cane Co-Products.

At the outset, I would like to extend a very special welcome to you Honourable Minister on your return to an ISSCT activity. If many members of the audience know you as Minister and sugar cane producer, few probably are aware that in a previous life you were the Secretary Accountant of the Mauritius Sugar Industry Research Institute, the MSIRI. As such you were the first Treasurer of the ISSCT when the Secretariat was created in 1996 and hosted by the MSIRI. You held the post for nine years during which you served the ISSCT with the professional competence that characterises you. May I take this opportunity to thank you not only for having found time to be in our midst this morning but for the services that you have rendered to the Society as our accounts were meticulously kept under your tenure. We are proud at ISSCT that you are serving the country at ministerial level. In fact

you are the second Minister in Mauritius that has been a member of ISSCT. I will come back on this at the end of my address.

Honourable Minister, Ladies and Gentlemen, I would like to put this workshop in context. The ISSCT was created in 1924 in Hawaii. It is the oldest and largest sugar technologists association in the world and one of the rare international organisations having its seat in Mauritius. It has a constitution which is constantly updated to keep pace with development in science and technology. Its membership is in thousands from 64 countries. Its supreme body is its Council made up of 25 members while the running of the Society rests with the Executive Committee of 10 members from a wide geographical spread. Since its inception ISSCT has held international congresses every three years except during World War II. The last Congress the XXVIII was held in Brazil, the world largest sugar cane producer, in June 2013 and the next Congress, the XXIX will take place in Thailand, the world second largest sugar exporter in December 2016.

In 1983 at the XVIII Congress in Cuba, the then Board of Trustees now the Council, decided to organise specialised workshops in the disciplines represented at ISSCT during the inter-congress period. The first one was held in Pathology at United States Department of Agriculture (USDA) in Maryland in November 1984. The interest for these specialised workshops from our membership has increased over the years as they provide the ideal fora for

reporting technological advances, for panel discussions, for exchange of ideas, for networking and for collaborative ventures as well as knowing better the sugar cane industries where they are held.

For the present inter-congress period 2013-2016, eight workshops have already been held in Agronomy, Agricultural Engineering, Breeding, Molecular Biology, Pathology, Entomology, Factory Process and Engineering. The present workshop is the ninth to be held and the last one on Management will take place at Congress in December 2016.

The history of Mauritius is intimately linked with that of its sugar cane industry. It is pertinent to mention that when sugar cane was introduced by the Dutch in 1639, the purpose was to make an alcoholic drink called arrack which would be equivalent to rum today or ethanol and therefore co-products were on our agenda right from the start. Sugar was produced in Mauritius in 1696 well after arrack had quenched the thirst of the Dutch colony, probably having barbequed dodo as snacks. Sugar became established as an industry under the French as from 1745 and it was really developed during the British period 1810 to 1968. At the time of Independence sugar cane occupied 82 000 hectares with 23 factories, contributed 30% of the GDP and represented 90% of the value of export. It was a monoculture economy which had allowed the country to develop. However, it became imperative to diversify the economy and this was undertaken successfully to the point that

sugar today represents less than 2% of the GDP and 14% of the value export. However, it still occupies 32% of the area of Mauritius. It has undergone successive even drastic reforms to maintain its viability in a changing and highly competitive world context. Its multi-functional role has been more than ascertained as it provides for sustainability through: Employment, Net export earnings, Avoidance of fossil fuel import, Cheaper electricity, Carbon sequestration, Assignments for service industry, Low pollution load, Soil conservation, Greenery for tourism and Broad land ownership.

Over the years workshops have been held in Mauritius in Pathology, Agronomy, Breeding, Molecular Biology and Entomology while in 2003 a specialised workshop was devoted to Cogeneration. It is the first time, however, that the Co-Products Workshop is held in Mauritius. Mauritius has played a pioneering role in the development of sugar cane Co-products, the most evident contribution is that it is in this country that electricity generated from bagasse was sold to the grid for the first time around the world, we were then in 1957. Since then, the production of electricity has become a major component of the industry and we will have to opportunity to demonstrate this later today. Interestingly cogeneration of electricity is now carried out practically worldwide in the sugar cane industry.

Sugar cane Co-Products in Mauritius also include refined sugar, special sugars, 13 types of them, rum, bioethanol, organic fertilisers, carbon dioxide for the beverage industries and soon green cement and hopefully bioplastics to ensure that the whole sugar cane biomass is put to use profitably and that there is absolutely no waste. We have had successes and also not so successful ventures like pelletisation of bagasse and production of particle board. Other countries have played pioneering role in the field of Co-Products like in Brazil. Today the installed capacity in Brazilian mills for electricity production has surpassed the 10,000 MW mark and sugar cane is the second most important primary energy source representing 16% of the Primary Energy Supply, with electricity and ethanol being the secondary sources in use. No doubt the ISSCT Co-Products Commissioner, Dr. Hassuani will highlight this.

In spite of all our achievements worldwide, the sugar cane industry is facing a difficult future in many countries. The most important factor is the present low price of sugar which is likely to last for a few years. In this context, there is a pressing need to address all the challenges attached to economic viability of which we are all aware in this room. The obvious approach is through innovation, science and technology which should allow us to diversify our activities and products within and outside the industry. To that end we have not only to consider sugar cane processing and refining but the whole

biomass. In the particular time that we are living through in the industry, we are in a position, because sugar cane is the most efficient converter of energy in the plant kingdom, to proclaim that we have still a bright future because we can address the major societal issues which are the need for food for an increasing world population, the need for renewable energy through bioethanol and cogeneration of electricity from bagasse, to depart from fossil fuels which are now finite, the need to reduce greenhouse gases as sugar cane is a net sequester of carbon dioxide, the need to reduce pollution associated with plastics as bioplastics may be produced from sugar trash, etc... Co-Products on a large scale or for niche markets provide for an answer at least partially to the economic woes that the industry is facing in an era of trade liberalisation. As the Conference of Parties COP21 takes place in Paris this week, we can consider ourselves to be in some way a satellite of it since we have several objectives in common. Paradoxically, if the level of carbon dioxide rises, it will allow sugar cane owing to its C4 pathway of photosynthesis to become more productive. However, we are not advocating a higher level of greenhouse gases, but if this happens; the biomass converter that sugar cane is may be at an advantage; this could be the silver lining in the cloud.

The final day of the Workshop will be devoted to the meeting of International Sugarcane Biomass Utilization Consortium (ISBUC) which like the International Consortium for Sugarcane Biotechnology (ICSB), is an initiative of ISSCT. On its agenda, bagasse gasification, which can more than double the present energy derived from bagasse, high fibre cane, energy cane and new hybrids issuing from sugar cane and related genera like Miscanthus, Erianthus, etc...

Before ending, I will revert to the beginning of my speech when I said Honourable Minister that you are the second member of the Society to form part of Government, the other one is the famous Maurice Paturau, the world authority on sugar cane, by-products as they were called. He was Minister of Industry and Trade from 1962 to 1966. He was ISSCT Co-Products Commissioner in 1989 and was made Honorary Life Member in 1977. He wrote back in 1969 ***By-Products of the sugar cane industry and introduction to their industrial utilisation***, the third completely revised edition of which was published by Elsevier Science Publishers in 1989. This book is the bible on co-products and when one looks at scientific publications on co-products, more than 75% of them even today refer to that book. Maurice Paturau was unique under many respects and we dedicate this Workshop to his memory. You will see on the slide a few of his achievements which have been recognised not only by Mauritius which has issued a bank

note with his effigy and has awarded him the second highest distinction of the country: Grand Officer of the Order of Star and Key of the Indian Ocean (GOSK), but he had also been honoured by France and England for his services as fighter pilot in World War II. We do not know of another sugar technologist who has a bank note to his effigy.

To conclude, I would like to express my sincere thanks to all those who in one way or another have provided us with assistance without which we would not have been able to organise this Workshop. First among equals, I would mention the MSIRI and the Omnicane Group as well as the Terra Group and the Holiday Inn. May we convey to their management and their staff our sincere appreciation for their unfailing support.

May we also thank you Dear Participants to have taken time from your different countries to travel to Mauritius and we hope that you will find Workshop worthwhile attending.

Finally, we are grateful to the Chair and Members of the Co-Products Commission of ISSCT who have spared no effort to put together an interesting programme which will include not only oral presentations but also passionate discussions and fruitful exchange of views.

Honourable Minister, Ladies and Gentlemen, I thank you for your attention.