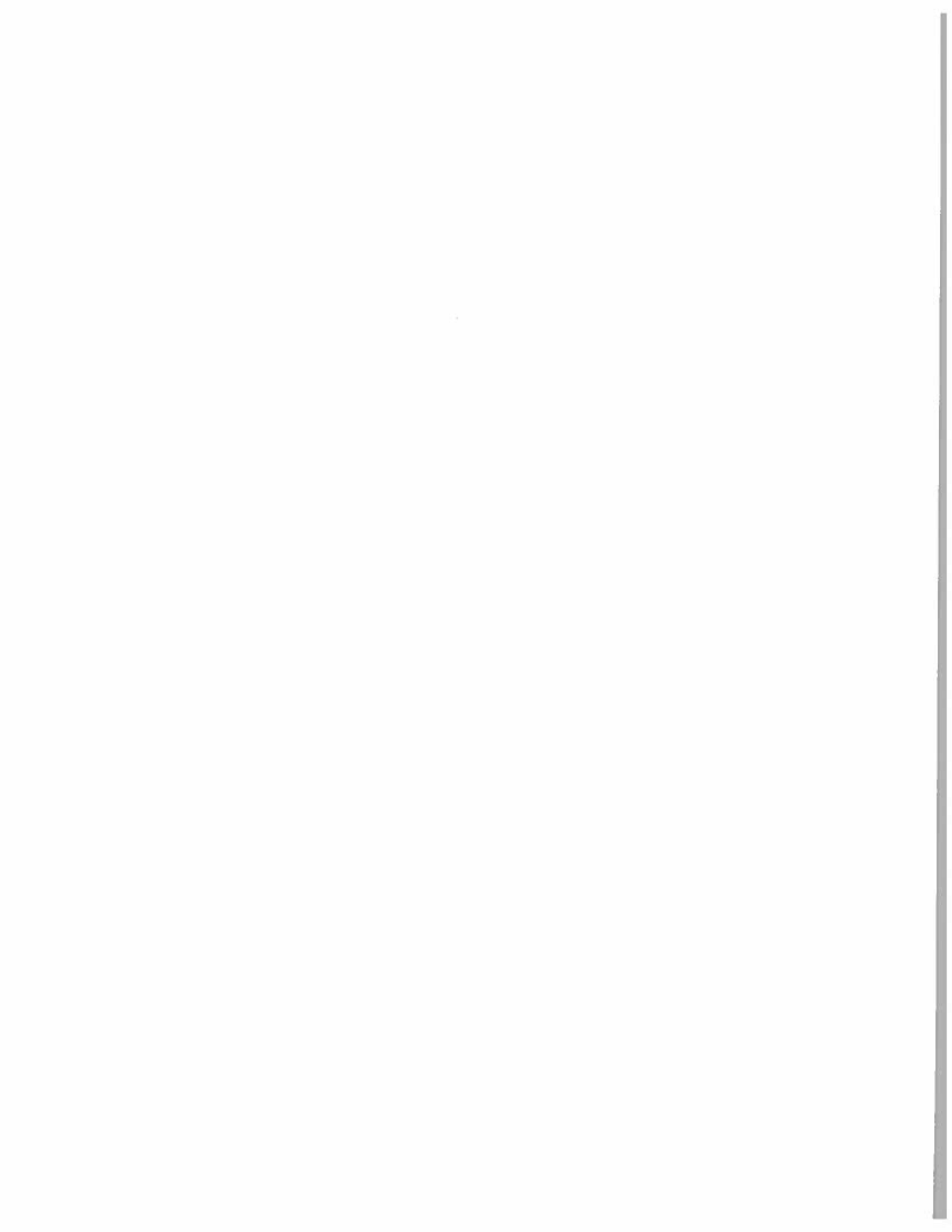




**GUYANA SUGAR
CORPORATION INC.**

TECHNICAL SUPPLEMENT 2001



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1. Work Stoppages

The number of strikes (249) recorded for 2001 was 71 less than the highest for the last 6 years. Agriculture piece rated employees made demands for high prices for obstacles, resulting in work stoppages and refusal to accept work. However, the participation in most of the strikes was very short, and was the lowest in history. The comparative analysis of strikes for 1996-2001 is as follows-

Year	1996	1997	1998	1999	2000	2001
Work Stoppages	320	274	261	215	305	249
Mandays Lost	99,762	89,224	70,826	100,359	66,432	54,690
Wages Lost (\$000)	82,316	95,400	80,400	128,800	85,713	79,603

2. Production Incentives

A total of 112 days tax-free pay was awarded as Weekly Production Incentive: 50 in the 1st Crop and 62 in the 2nd Crop. This represents a decrease of 15% over the previous year.

In addition an average annual production incentive of 20 days' pay was awarded to all qualified employees.

3. Wages and Salaries

An increase in wages and salaries for 2001 was negotiated and agreed with GAWU for an across the board increase of 8.5% for piece rated employees and 8.5% plus 1% Merit Increment for time rated employees. The Union refused to sign the agreement because the Corporation rejected a demand after the accord was reached. A similar offer was made to NAACIE, who rejected the offer and applied for arbitration.

4. Productivity Statistics

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001
Sugar Produced	246,522	256,657	253,837	280,116	276,392	253,871	321,438	273,318	284,441
Tonnes sugar per employee	11.96	13.42	14.28	16.78	14.10	13.45	17.05	14.67	15.18
Mandays per tonne sugar	20.51	18.61	17.74	14.61	13.50	14.69	13.85	14.50	16.00

5. Strikes by Causation

Year	1996	1997	1998	1999	2000	2001
Pricing	159	178	130	92	128	77
Acceptance of Work	138	81	94	85	130	106
Disciplinary Issues	18	8	14	12	11	7
Safety Issues	-	-	8	9	17	19
Wages/Incentives	-	-	9	13	12	18
Mode of Transport	-	-	-	-	-	14
Others	5	7	6	4	7	8
Total	320	274	261	215	305	249



Finance Department Report

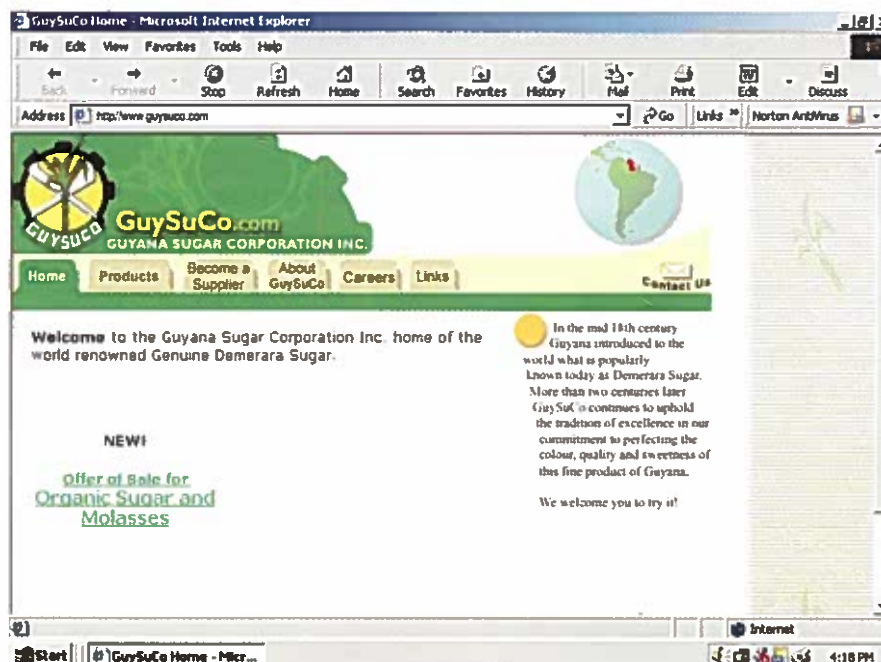
The main activities of the finance function in GuySuCo during 2001 comprised the extension of the range of computerized activities. In particular there was a significant roll out of network connections at estates and extension of E-mail and internet connections. There are now local area networks at all GuySuCo estates and locations. The users in the main building at each location have access to the internet and E-mail through the LAN and users in outlying building are being connected. The GuySuCo intranet and website (www.guysuco.com) were unveiled during the year. Factory daily reports are now available on the Intranet.

The GuySuCo wide area network spans the coast of Guyana from Uitvlugt on the West Coast of Demerara to Skeldon on the Corentyne. Approximately 1,000 telephone users and over 300 computer users utilize this microwave network. It is the largest private communications network in the Caribbean (excluding telecomms utility companies). Users communicate over a distance of more than 120 miles totally independent of GT&T although where possible GT&T frame relay is used as a backup for the network.

GuySuCo took over direct control of the bank accounts in London through a Citibank on-line application. We now pay overseas suppliers directly from our London accounts. We successfully moved to a process of overseas orders being confirmed by the Crown Agents following Bookers Sugar ceasing operation. A considerable amount of progress was made in the development of a computerized payroll for weekly paid workers whose payment structure is extremely complex, particularly in the field. Other in-house developments included a new fixed assets application. The Corporation continues to produce monthly Management Accounts for the eight factories and three central locations within two weeks of the period end, with separate revenue statements and Balance Sheets for each estate.

On the Stores/ Procurement side, the average time from the issue of the purchase request to the receipt of goods (overseas and local) reduced from an average of 90 days in 2000 to 65 days in 2001, a 28% improvement. This includes the delivery period from overseas suppliers. The average for local purchases was 50 days, and the average for foreign purchases was 115 days. This period also includes the time taken to clear goods through Customs (for imports) and the average time taken for this activity also reduced. The gross value of inventories decreased at all locations, except Skeldon, notably at the Central Stores. Construction of the bonded warehouse at Coldingen was completed and is awaiting approval for full implementation. An online registration system for suppliers was set up on the website which is already attracting an increased range of overseas suppliers.

Difficulties continue in staff turnover, which was uncomfortably high in accounting and in systems, and the quality of the power supply from the public utility. As well as blackouts which can largely be catered for, brown-outs are causing considerable damage, as the incoming supply is often inadequate to charge UPS batteries which then fail when a blackout occurs.



*Agriculture Research
Annual Report Summary Highlights - 2001*

Breeding and Selection

Despite the relatively late start to the 2001 crossing season, high flowering intensity facilitated the making of 450 crosses over a 12-week period. Emphasis was placed on high quality crosses to exploit Stage III varieties from the Demerara 1995, Demerara 1996 and Demerara-Barbados 1996 programmes.

A breakdown of the focus of the Programme is presented in the Table below:

Group	Type of Cross	# of Crosses
3	High Quality	76
4	Base Broadening	36
5	Bi-Parental	3
7	Open Polycross	335
TOTAL		450



Four hundred and nineteen distinct parents were used in the 2001 crossing season. It must be noted that the number of Demerara varieties utilized in crosses has increased over the last three seasons reflecting wider exploitations of the local germplasm collection.

GuySuCo's variety development programme is presently examining 90,267 cane plants in the various stages of selection. This does not include seedlings from the 2001 Series, which are now in the greenhouse and crossing area. Sowing of the 2001 crosses is still in progress. Of the 90,267 cane plants presently being examined, the High Quality programme has generated 12,546 Stage I, 1545 Stage II, 65 Stage III and 2 Stage IV varieties. Similarly, the Base Broadening programme has generated 9,961 Stage I, 214 Stage II, 21 Stage III and 2 Stage IV varieties.

Performances of promising varieties in stage IV trials are presented in the following Table.

Variety	Parentage	Times Reaped	T.O.S. ¹	T.S. ²	TC/HA	P % C	TS/HA
DB92142	Pindar x Poly	6	2	1	<u>99</u>	<u>97</u>	<u>96</u>
					111.5	13.1	14.9
D 89211	HJ5741 x D 18563	3	1		<u>103</u>	<u>100</u>	<u>103</u>
					128.6	14.8	17.0
D 9017	HJ5741 x DB7160	5	2		<u>106</u>	<u>88</u>	<u>93</u>
					118.7	14.0	16.7
D 9069	D 8026 x DB38560	2	-		<u>105</u>	<u>83</u>	<u>87</u>
					107.9	14.5	15.4
D 90157	Unknown	4	3		<u>102</u>	<u>96</u>	<u>98</u>
					132.6	14.3	18.8
D 9220	D 8026 x D 8415	2	1		<u>103</u>	<u>99</u>	<u>101</u>
					79.8	14.3	11.3
D 9227	DB7532 x D 8484	2	2		<u>116</u>	<u>98</u>	<u>114</u>
					79.8	14.3	11.3
D 9234	DB7532 x Poly	2	1		<u>125</u>	<u>98</u>	<u>122</u>
					79.8	14.3	11.3
D 9338	DB7532 x Poly	5	2		<u>97</u>	<u>99</u>	<u>96</u>
					121.8	13.9	16.6
D 94456	DB8099 x D 8415	2	2	1	<u>103</u>	<u>109</u>	<u>112</u>
					108.1	11.8	12.6

1. T.O.S. ▶ Times outyielding standard in T/HA.
2. T.S. ▶ Times significantly outyielding standard in tonnes sugar.



Agriculture Research

Annual Report Summary Highlights - 2001 (cont'd)

These data indicate that varieties D89211, D9220, D9227, D9234, D9338, D94456, D90157 and DB 92142 were comparable to the industry standard DB7869 in gross yield and sugar. Only D 94456 appeared to be significantly better than the standard in quality.

Stage V Estate Variety Trials

Varieties D 88156, D 88172, D 89190, and DB89103, which were released to Estates in 1997, have been evaluated on all locations. Because of inconclusive results, D 89190 and DB89103 will be reevaluated in a second series of trials.

Current Variety Status

The major commercial variety DB7869 continued to outperform all other commercial varieties, barring the newly released D 89138 (1996) (when ripened). DB7869 has also reached its 40% threshold and will remain stable at that level. D 15841, D 7661, DB66113, DB7160 and DB75159 will also remain at their present respective percentages. D 89138, D 9017, DB83119 and R 570 are expanding.

Variety Import/Export

The variety exchange programme between GuySuCo and the West Indies Central Sugarcane Breeding Station remains vibrant. To date all Stage IV varieties and promising Stage III varieties from the Base Broadening and High Quality Recurrent Selection programme have been exported. Exports also continue to Indonesia, with 21 Demerara bred varieties exported in 2001. Seven (7) Very High Quality (VHQ) clones from the Barbados High Quality Recurrent Selection programme were also imported. These clones exhibit brix values between 28 and 30 units under Barbados conditions. They are being used to compare expression under the Guyana conditions.

Weed Management

The main objectives in 2001 were:

- a) To reduce the cost of weed control by adopting flexible strategies in weed management.
- b) To find a replacement for 2,4-D Amine.

Strategies in Weed Management

By the application of the results of commercial trials on estates, it was possible to implement a reduction in the rates (and therefore cost) of

- a. 2,4-D Amine by tank mixing with Ally.
- b. Grandstand by tank mixing with 2,4-D Amine
- c. Merlin from 165 g/ha to 141 g/ha
- d. Dual Goal 960 EC from 1L/ha to 0.62 L/ha.

Problem weeds were kept at manageable levels. Reports from Estates indicate an overall reduction in the distribution and density of major weed problems. Roundup herbicide was used instead of the very expensive Arsenal and Basta herbicides for non crop areas.

The planning of weed management strategies for each block at the beginning of the crop/year was introduced on all Estates.

Replacement of 2,4-D Amine:

The industry continued to use 2,4-D Amine for ground application only. The decision to continue use of 2,4-D Amine in the programme was based on its very low cost (\$717.00/L), and EPA (USA), approval for limited continued use of 2,4-D.



Agriculture Research
Annual Report Summary Highlights - 2001 (cont'd)



A combination of Flumioxazin and Ally at 142 g + 5g/ha has been determined to be the most effective alternative to 2, 4-D Amine at this time. This treatment is twice as expensive as 2,4-D but 17% cheaper than the current commercially applied alternative herbicide for broadleaf control - Grandstand, which is a class II herbicide and will be replaced.

Pest Management

In 2001 Entomology research continued its focus on the development and extension of an effective biological and cultural management programme for major pest species.

Pest surveillance data and routine reports showed no evidence of epidemic outbreaks. Damage levels averaged below threshold for all major insect pests with occasional seasonal upsurges of *Diatraea sp.* in some areas at Skeldon Estate.

The biological control programme for the small moth borer *Diatraea centrella* species continued to make progress; 680,695 *Cotesia flavipes* parasitoids were reared in laboratories and 81% of production was released across the industry. This was a 26% increase from the previous year's production. An average 5.4% field parasitism was achieved.

Field recovery surveys continue to reveal the presence of Amazon fly as an established parasitoid of *Diatraea saccharalis* species. An average 37.8% field parasitism was reported across the industry with levels ranging from 78% at Blairmont to 13.5% at East Demerara Estate.

Efforts to increase the activity of the Amazon fly in *Diatraea saccharalis* infested areas at Skeldon Estates were successful. The population of this parasite had declined as a result of what is suspected to be the cumulative effects of insecticide use in non-sugar farms in the surrounding communities .

Surveys to identify and quantify the presence of indigenous natural enemies for *Diatraea sp.* with the aim to understand their role in the sugarcane eco-system commenced.

There was no population upsurge of rodents within the sugar industry during 2001.

A new rodenticide, Gramocoum was compared with the standard treatment Brodifacoum (Klerat). It compared favourably with Klerat in palatability but deteriorated much faster under wet conditions compared with Klerat.

Entomopathogenic nematodes (EPNs) were evaluated in the laboratory and found pathogenic to *C. Licus* and *D. Centrella* (stem borers), *N. Costalis* (termites) and *D. geminatus* (hard back beetle grubs)

Analytical Chemistry

54,193 routine and non-routine analyses were conducted on 11,156 assorted samples generated by routine activities and research projects.

The Central Laboratory acquired a Hach Test Kit for estimating Atrazine levels in water, and a Varian Spectra 220 Atomic Absorption Spectrophotometer for metal analysis in an assortment of samples. The latter would be used mainly for routine work. The older Spectra AA20 Plus Spectrophotometer is to be used for the smaller number of samples generated by research projects.

Proficiency testing continued through collaborative schemes for plant tissue and sugar co-ordinated by the International Plant Analytical Exchange (the Netherlands), and the Sugar Association of London (U.K) respectively. The Laboratory maintained an acceptable level of proficiency in both schemes, which constitute the external (international) component of the CAEMS Quality Assurance Programme for plant tissue and sugar.



Agriculture Research
Annual Report Summary Highlights - 2001 (cont'd)

Routine physio-chemical monitoring of intake water used for agriculture and sugar processing activities, and resultant wastewater produced, continued in 2001. Data revealed that Dissolved Oxygen levels of both intake and waste-water were generally below the World Bank Standard of 5 mg/L, while Chemical Oxygen Demand and Total Suspended Solid levels of wastewater were occasionally in excess of the World Bank Standard of 250 and 50 mg/L respectively. These observations are consistent with those recorded in previous years.

The Central Laboratory continued to measure Ca, Mg, Mn, Fe, Zn and B in foliage samples, which are traditionally analysed for N, P and N_{KJ} on a routine basis. Analyses of Sulphur commenced during 2001. Full use of the resultant data will be made in enhancing the management of crop nutrition for the sustained improvement of yields.

Investigations into the use of an alternative lead-free sample preparation procedure for polarimetry analyses of sugar were resumed. Octapol, a clarifier reagent, based on an Aluminium compound was evaluated against the traditional lead subacetate procedure. Some 200 data pairs were acquired from the evaluation, bringing the total number of data pairs to more than 300 since the evaluations commenced in 2000. Results are encouraging.

In collaboration with the Manager CAEMS, the Agriculture and Factory departments of Blairmont estate commenced environmental impact assessments (EIAs), of their operations. This is a pre-requisite for an Environmental Management System (EMS) in preparation for certification to the ISO 14000 Series standards. Blairmont estate is the pilot estate for an Industry commitment to the process.

UV-VIS absorbance measurements for sugar solutions were made from samples of varying colour, as part of an on-going investigation into the contribution of colourants in sugar-cane stalks to ICUMSA sugar colour.

Work continued on the development of suitable methods for extraction of Atrazine (herbicide) from soil, and preparation of the resultant extracts, for quantification by high performance liquid chromatography (HPLC). The investigation involved extractions from incubated soil samples treated with both commercial grade and analytical grade Atrazine.

Soils & Plant Nutrition

Several plant growth regulators and bio-stimulants were evaluated during the year. These however generally did not provide improved cane yields over that of the control. The exception was Moddus applied at 0.4 L per hectare to older cycle canes at Wales, which gave significantly higher cane yields than the Ethephon treated and untreated canes.

Soil Reference monitoring blocks were established on varying soil series at East Demerara and West Demerara estates to monitor changes in soil physical and chemical properties under long-term management. Sites representative of all soil series have been identified for all estates and will be implemented on each on a phased basis as a permanent agriculture management feature for the Industry.

Field trials have been established at several estate locations to determine the nitrogen requirement and nitrogen uptake efficiency of sugarcane plants grown under the new planting system of 50 bud-eyes per running rod. Trials have so far been established at Skeldon, Albion, Rose Hall, Blairmont, La Bonne Intention and Wales.

Reduced nitrogen fertilization to sugarcane plants on a commercial trial scale was initiated in 1998. The data from reported blocks in several estates have shown that a reduced nitrogen rate (78 kg per ha) in general produced equivalent cane yield performance to the standard rate of 106 kg N per ha. These evaluations will continue on a larger number of fields in 2002. Examples of some of the recorded trends follow:





NITROGEN X POTASSIUM TRIAL – LBI

Available Soil NO ₃ and NH ₄ -N (0-30 cm)			
Trt	NO ₃ -N (kg/ha)	NH ₄ -N (kg/ha)	Total (kg/ha)
N ₀	99	113	212
N ₅₃	105	126	213
N ₁₀₆	97	113	210

NITROGEN EFFICIENCY TRIAL – BLAIRMONT

Field	Kg.N/ha	TC/Ha	TS/Ha
Rw37	80	103	9.2
Rw38	106	104	9.4
Rw45	80	101	10.4
Rw46	106	103	10.5

Soil analyses for determining nitrogen (ammonium and nitrate) “available” to plants were initiated in 1998 during the El Nino phenomenon and repeated at several estate locations during 2001. Results from these evaluations indicated large amounts of ammonium, and to a lesser extent nitrate-nitrogen in our soils, emphasizing the need for caution with respect to the application of supplementary nitrogen to canes.

**SOIL AVAILABLE NITROGEN – 1998 EL NINO
 MEAN NO₃ AND NH₄-N (0-30 cm) FOR VARIOUS ESTATE LOCATIONS**

Location	NO ₃ -N (kg/ha)	NH ₄ -N (kg/ha)	Total (kg/ha)
AN/PM	26(3)	47	73
BCF	31(3)	63	94
EHP	25(3)	130	155
ICBU	27(3)	28(1)	55

SOIL AVAILABLE NITROGEN – 2001 (post extended dry period)

Mean NO ₃ and NH ₄ -N Levels				
Estate	Soil series	NO ₃ -N	NH ₄ -N	Total
SWR (15)	Corentyne (11d, 12)	46 (34-63)	95 (76-114)	141
SWR (4)	Skeldon (13)	44 (40-48)	114 (91-154)	158
SWR (2)	Everton (31 a)	44 (43-45)	177 (104-250)	221
BCF (2)	DeVelde silty clay (1c)	35 (32-38)	95 (83-108)	130
BCF (2)	Rosignol (43d)	38 (34-41)	85 (81-90)	123
BCF (2)	Everton (31 a)	28 (20-36)	118 (94-143)	146
ICBU (20)	Uitvlugt (16)	75 (69-92)	139 (93-202)	214
ICBU (5)	Brickery (36)	70 (65-78)	128 (106-148)	198
ICBU (5)	Stewartville (23)	76 (70-83)	123 (114-144)	199

Agriculture Research
Annual Report Summary Highlights - 2001 (cont'd)

The changes in policy with respect to basic application of nitrogen fertilizers have resulted in a reduction in the use of ammonium sulphate. This led to the adoption of routine laboratory analysis for sulphur in foliar samples.

Several commercial and pre-commercial sugarcane varieties were tested for their adaptability to very acid soil conditions in Guyana. The varieties DB75159, DB7869 and DB66113 were recommended for planting in areas with high soil acidities (acid sulphate soils).

Soil samples representative of three different soil series including Whittaker, Corentyne and Onverwagt Series were separated into clay and silt fractions. The fractions are to be used in soil mineral characterization and laboratory studies to determine ammonium fixation and release in soils.

Preliminary laboratory investigations were done to determine the production of ammonium-nitrogen in soils under submerged conditions to simulate that of flood following. Results showed a greater selectivity and efficiency of Na-Saturated resin than the Hydrogen form in absorbing nutrients. The H saturated resins absorbed negligible quantities of NH_4 in solution whereas the Na Saturated resin adsorbed 50 and 80 percent of the NH_4 in solution during two incubation periods. Submerged soils incubated for 7 days produced substantially greater amounts of NH_4 after the incubation period than soils stored field moist (35 % moisture) for a similar period of time.

Agriculture Engineering

a. Field Layout Modification for Increased Mechanisation

Further exploration of maximum cambered bed width was continued on English bed fields at Montrose (LBI) converted to 16 – 48 metre wide broad bed fields. The para-plow and spring tine cultivators were used in seed bed preparation to minimize the extent of earth movement following the bed joining and shaping operations.

The Research Department farm at C.M. (LBI) was increased by 4 fields. The new fields were developed as more machine friendly ridge and furrow and broad bed layouts and provide scope for field-testing of new equipment.

Two Dutch bed fields at ICBU were converted to wider beds to commence a programme aimed at evaluating systems for increased mechanization from traditional field layouts.



b. Equipment Development and Testing

An ARC developed mounted tandem disc harrow was successfully tested for manoeuvrability on conventional beds and increased soil refinement in a single pass.

An inter-row cultivator based on the principle of the para-plow was successfully tested as a rut-repairer and compaction reliever in the maintenance of flat bed culture. Nine ARC designed whole-stalk cane carts for mechanical loading were successfully tried at SWR Project and EDE. High flotation wheels and weight transfer hitches were special features of the design.

ARC developed tools for mechanically assisted planting in a flat-bed-culture were employed on the broad beds at Montrose (LBI). Implements from the same concept were employed at Manarabisi - Skeldon.

Mechanically Assisted Planting

Estate	Hectares Completed	Manpower Productivity (Ha per Man-Day)	Type of culture
SWR Project	121.8	0.45	Ridge & Furrow
EDE	62	0.40	Flat Planted Bed

- Traditional manual output for planting is 0.06 ha per man-day.
- The introduction of an appropriate piece rate, now being studied, is expected to significantly increase output.

Operator Training

Infield demonstration sessions in plough adjustment and control in conjunction with John Deere training personnel were conducted at LBI for operators from all estates.

Class-room training sessions on "Maximising Tractor Output" were conducted for operators at EDE and WDE at their respective locations.



Field Mechanisation Progress

Mechanical Loading Statistics

Estate	Tonnes Cane loaded		Yield (tc/ha)		Productivity		No. Of Loading Machines	% UTIL.
	1 st Crop	2 nd Crop	2000	2001	Av. Tc/hr Mech. Loaded	Av. Tc/man-day manual cut		
Manarabisi (SWR)	—	15,032	Nil	106	9.6	5.41	Bell	50.0
EBE	4,936.14	19,779.80	66	72	20.91	5.71	6 Bell	42.2
LR (EDE)	—	4,450.90	96	86	18.7	4.77	2 P. Pilers	49.0
					8.6	4.77	2 Bell	52.0
WDE	4,511.50	9,863.10	54	66	10.9	5.30	2 Bell	25.0

- Yields at EDE (LR) showed some fields declined while others increased; this is being investigated in collaboration with the soil scientist.
- The root development relationship with inter-row work is being assessed. Ruts were successfully eliminated by the ARC prototype tool. Inter-row cultivation was extensively done. The early re-growth and tiller development has been good.
- A time and motion study at EDE (LR) showed that the push-piler during work operated a rate of 28 t/hr provided adequate transport was available.



Agriculture Research
Annual Report Summary Highlights - 2001 (cont'd)

Water Management

Dredging of Drainage Outfalls

Visual observations were made and a brief report was prepared on the degree of siltation of sluice outfall channels at Uitvlugt, Leonora, Diamond and Wales. Generally, the drainage outfalls across the Industry were heavily silted and the discharge capacities of sluices were significantly reduced. A evaluation of proposals from contractors for dredging of drainage outfalls around the Industry was prepared and tenders awarded.

AIP Phase III D & I Workshop

Workshop No. 6 of the AIP Phase III on Drainage and Irrigation was held on November 23, 2001. Inspections of D & I infrastructure across the Industry by four teams comprised of senior managers were made on 27 and 28 November, 2001.

Estate Drainage Systems

A re-evaluation was carried out of the drainage of Uitvlugt and Leonora Estates in which a clear distinction was made between the Cornelia Ida/Edinburgh sub-network and the Groenveldt to De Kinderen network. The Cornelia Ida/Edinburgh sub-system was found to be adequate but the Groenveldt/De Kinderen sub-system was found to be deficient in sluicing capacity. The LBI/Ogle system was also reviewed with specific reference to the culverts along the railway embankment. Appropriate advice was offered.

Water level Sensor and Logger

Water level Sensors and Loggers were set upstream and downstream of the Groenveldt East sluice gate (Uitvlugt estate). The data derived is to be used to analyse sluice function and effective drainage periods for the sluice

The upstream data has been analysed and a correlation has been discerned between high upstream water levels in the order of 52 feet GD and relief of the navigation system.

Surveys

Among the survey works carried out during 2001 were:

- Sideline surveys at Ogle/LBI Estate
- Topographic survey of fields 34AB, 36 and 38 at Montrose, LBI estate.
- Main façade drains at Uitvlugt estate
- Setting out of structures at Fields A9 and 30 at Wales Estate.
- Eccles side-line and Versailles sideline at Blairmont Estate.
- Survey of the breach in the dam of the East Demerara Conservancy.

West Indies Sugar Technologists Conference – Trinidad 2001

The 27th West Indies Sugar Technologists Conference was held at the Hilton Hotel Port of Spain, Trinidad from April 23rd to 27th 2001. Thirteen delegates representing agriculture and factory scientists and technologists represented GuySuCo.

Thirteen papers were presented from Guyana including nine from members of the Department. The best paper award went to: "Genetic gain in the Guyana Sugar Industry 1901-2000" by M.J. Mangal, S.R. Dookun and J. Sugrim.

Other papers from members of the Department that earned commendation or stimulated special interest were:

"Developments in field mechanization for the Guyana Sugar Industry" by H.B. Davis, N.W. Friday, Y. Persaud and S. Parris

"The influence of pH on the development of colourant macromolecules in sugarcane" by F.A. Homer, H.B. Davis and L. Shivraj

"Preliminary Investigations of Biological Control of *Castniomera licus* (Drury) Lepidoptera: Castniidae by Entomopathogenic Nematodes" by L. Dasrat



Agriculture Research
Annual Report Summary Highlights - 2001 (cont'd)

"Adaptability of commercial varieties and Stage IV selections to very acid soil conditions in Guyana" by A.D. Dey, M.J. Mangal, H.B Davis & C. Victorine.

"Evaluation of a two-nozzle knapsack rear boom spray unit for broadcast application" by D. Bishundial, D. Kumar and K.N. Ganesh.

Organic Sugar

A 124 ha organic sugarcane farm was established in the southern sections of Uitvlugt Estate. The department provided guidance for the conceptual design of the project as well as technical advice and support on all aspects of agricultural management including soil management, nutrition, weed management and cultivation practices.

The project was developed at the outset for the optimum use of machinery for cultivation practices. Synthetic agrochemicals and mineral fertilisers are not permitted in this form of agriculture. Techniques such as recycling factory waste product and animal manures are part of the fertility maintenance plan. Fallow and intercropping with identified legumes also feature in the management plan. In its early stages promising cane growth has been observed.

An inspection visit was paid by a representative from the Soil Association, an organisation that advises on and certifies organic production projects. The report was very complementary on the conceptual thought that had gone into its development as well as the excellent record keeping. The project has subsequently received a licence for producing organic sugar *in transition* in 2002. Under the standard conditions, the time lapse between an application and certification is not expected to be less than three years.







Flag & Crest

The GUYSUCCO flag is green and gold.

The green on the flag represents the agricultural lands of Guyana while the gold symbolises Sugar and the Corporation's involvement in cultivation and research in sugar cane.

The Crest of the Corporation shows gears, a machete, a wheel, the stalk of the sugar cane and cane arrow.

The gears speak of the Corporation's machinery and the co-operative effort of the Industry which includes every category of worker.

The machete symbolises the manpower needed in order to build the country's economy while the wheel is for industrial efficiency and progress.

The stalk and cane arrow stand for the source of sugar and represent progress through breeding of new varieties of cane.



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