

SUGARSLETTER

Issue No. 3

March 1995

10th Year Celebrated by Move

Ten years of operation were celebrated by Sugars International in November of 1994 when the company moved to a new expanded office at 5403 S. Florence Ct., Englewood, Colorado USA. Telephone and telefax numbers remain the same as before the move. The company started operations in November 1984 to develop the SUGARS™ Computer Program for personal computers. Initially, the program was called PC-SUGARS, but the name was simplified to SUGARS in 1988.

SIT Paper

A paper entitled "Refinery Simulation Using SUGARS" was presented at the Sugar Industry Technologists meeting in Honolulu, Hawaii on May 8th, 1994. The attendees of the conference were given a live demonstration of the examples in the paper by using a laptop computer and color video projector to show each change made to the refinery.

Version 2.72 released

Version 2.72 of SUGARS was released at the beginning of March, 1995. New features in version 2.72 include: calculation of net process revenues (see diagram below), full color calculations of all flow streams, water/vapor and sucrose phase change calculations for more SUGARS stations, heater station revisions to do both heating and cooling, max. number of flow streams increased for larger models, and other enhancements.

For example, flow quantities can now be entered in either weight, or volume units, internal loops are detected for excessive quantity buildup, external flows are automatically deleted that go to stations with an internal flow (i.e., priority is given to internal flows when a conflict occurs between internal and external input flows), more help messages are given for centrifugal evaluations, and other improvements were made for faster iterations and smoother operation (close to 90 changes were made for version 2.72).

Station	Name	Flow (lbs/hr)	Value	Revenue/hr
920	SUGAR OUTPUT	77,422.2	0.25000 =	19,356
1010	MOLASSES OUTPUT	29,266.4	0.03250 =	951
610	1ST EFFECT	237,701.0	0.00000 =	0
Other Output Flows:				0
Total Process Revenues per hour =				20,307

Goes To	Description	Flow (lbs/hr)	Cost	Cost/hr
610	THIN JUICE	705,479.8	0.02500 =	17,637
610	EXHAUST STEAM	237,701.0	0.00350 =	832
Other Input Flows:				=
Total Process Costs per hour =				18,469

Net Revenues From Process: 1,838 per hour, 44,106 per day

Press [Alt-H]=help, or any key to continue.

All flows leaving model are listed with their expected revenues/hour and all flows into model (external flows) are listed with their costs. Difference is net revenues.

Net Process Revenues

Calculation of net process revenues can now be done from within SUGARS by simply displaying the new revenues screen. All flows leaving a model (e.g., sugar, molasses, etc.) can be assigned a value and all external flows into the model (e.g., beets, or cane, steam, etc.) can be assigned a cost. A summary of the revenues from flows leaving and expenses from flows into the model are shown on the Process Net Revenues screen (see previous page). From this screen, the economics of changes made to a model can be quickly evaluated for increasing, or decreasing net revenues without having to review each input and output flow stream for increasing, or decreasing quantity.

Color Calculations

Complete color calculations are now provided in SUGARS for all flow streams in a model. A color value is assigned to pure sucrose and to non-sucrose no. 2 (in some models non-sucrose no. 2 is identified as ash - see figure on this page); non-sucrose component no. 1 contains all other color components. External flows into the model are given a color value from laboratory measurement, and color

Esc-Exit F1=Help F2=Model F3=Output F4=Del F8=GoTo F9=Print F10=Data

Enter color value to be used for dissolved sucrose in water with both sucrose and water at 100% purity (normal value is less than 10 ICMSA units), and color value for pure H.S. #2 dissolved in water (normally, H.S. #2 is used for ash with value of 8 ICMSA units).		Upper UNIT RECEIVER 2 444.2 lbs/hr 7psia 135.2°C
Steam EXHAUST STEAM 237,701.9 lb 60.4psia 145	Color of pure sucrose in pure water = 3 Color of pure H.S. #2 in pure water = 8	Condensate Flow (lb/hr) 7,701.9 lbs/hr Quality 145.0°C 0 TDM 0.0DFu
Input Flow THIN JUICE 705,400.0 lb 12.90/Sug 129 14.15/TDM 91.17Pa	<input type="button" value="OK"/> <input type="button" value="Cancel"/>	Output Flow 3,035.8 lbs/hr 1/Sug 135.7°C 20.66/TDM 91.17Pa
Control: DISCUSE ONLY Station: 1ST EFFECT States: BALANCED 02/18/95 BEET SUGAR END WITH EVAPORATION US units		

Enter value to be used for color of pure sugar in pure water.

Color values are entered for pure sucrose and for pure non-sucrose #2 (usually ash) in water. SUGARS calcs. color of other non-sucroses.

changes are entered for stations such as pans, evaporators, crystallizers, reactors and separators that can affect the color of a flow stream. SUGARS will then calculate the color of every flow stream in a model during a simulation. For example, the color of sugar and molasses from a centrifugal station is automatically calculated by SUGARS using results from the performance evaluation that determines mother liquor and wash purge and sucrose crystal loss for the centrifugal.

C.I.T.S. Meeting

Sugars International will be demonstrating the latest version of SUGARS at the upcoming C.I.T.S. meeting in Munich, Germany from June 26th to 30th. Current users of SUGARS that

would like to discuss a model, or applications of SUGARS, are invited to visit the demonstration room during their attendance at the C.I.T.S.

New Users

Several new companies purchased licenses to begin using SUGARS during the last year. These companies are located in Australia, Canada, El Salvador, Germany and the United States. SUGARS is now used for modeling beet and cane sugar factories and refineries in 14 countries.



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