

SUGAR CHEMISTS  
TECH. OFFICERS  
AND TALK SHOP

Special Committee Will Study  
Walker's New Method of De-  
termining Sucrose

FIRE-ROOM EFFICIENCY  
LOWER THAN ON MAINLAND

Sugar Men Blame New Canes  
and New Fertilizers For Many  
of Their Troubles

The Sugar Chemists in convention at the library of Hawaii yesterday morning, elected Professor H. S. Walker president for the ensuing year; W. F. Duker, vice-president, and S. S. Peck, secretary-treasurer. The new executive committee will be Horace Johnson, A. Fried, H. W. Robbins, A. Kraft, C. C. James and W. McAllep. G. Giacometti was chairman at the morning session.

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The difficulty of finding methods that will give in the laboratory, results applicable to field practice has led to the founding of a number of "schools" of workers more or less at variance with one another. The Davy school taught that chemical analysis in an absolute guide to crop and soil requirements while Liebig and the graduates who follow him denied this. Gradually other schools were developed under the leadership of Johnson of Yale, Hilgard, Hopkins, Hall, Whitney, Russell and others, and a tremendous amount of investigation has been carried on. The result seems to be that the modern soil chemist has elaborated a system which draws something from each of those which preceded, and much work of great practical advantage has resulted.

He placed much weight on the function of the element sulfur in the maintenance of soil fertility and the advantage of using superphosphates instead of raw rock. This point was taken up by the mill chemists in the discussion which followed.

Mr. Giacometti asked the chemists why the volume of sulphuric acid in cane juices is greater than formerly. H. P. Agnew and Mr. Burgess said they did not know. That led to a debate on methods of sulphur determination and it developed that where the sulphur is in organic form there is no easy method of estimating it quantitatively. The chairman brought the chemists back to the topic first mentioned, saying that the plantation men were to know why sulphate scale is more abundant now than formerly. He suggested that the change in fertilizer practice may have something to do with it, and that the experiment station men ought to look into it.

To Determine Sucrose  
H. S. Walker briefly summarized a new process for determining sucrose by double polarization which he has thoroughly tested and which seems to be a better clarification than the Herzfeld-Clerk method. After discussion, the chemists voted to have a committee investigate this subject and report next year.

G. H. Halden's report on the field distribution of yields developed the fact that no uniform system of sampling has been devised. Where the plantations depend on many small planters and contractors it is impossible to estimate the amount of sucrose and other factors in each man's cane, especially where the mill is receiving cane from twenty to fifty different small areas through one frame.

Mr. Giacometti thought that under such circumstances averages for a definite time period must be used as a basis for calculation of values. Mr. Allison favored using the quality ratio as a basis. Each plantation would have to use methods applicable to its own immediate problem.

Chemists Overlap Engineering  
Horace Johnson read Alonzo Gartley's paper on fire room efficiency in which he emphasized the point that unless the fire room is well provided with instruments of precision there is a lack of incentive for better work. The best feature of this report was a letter from J. A. Gibb explaining in detail how Honolulu Plantation has improved its efficiency through scientific rearrangement of all fire-room units.

This led to a discussion of comparative fuel values of bagasse and oil. One pound of oil evaporates fourteen pounds of water if the right amount of air is used while one pound of bagasse evaporates 2.5 pounds. It developed that oil freedness at least fifty per cent excess of air over the theoretical amount required for complete combustion. Many furnaces here are not built for oil burning, and it developed that oil cannot be used with perfect efficiency unless they are.

Fire-room Efficiency  
H. Ennis Savage reverted to mainland practice and said that the average fire-room efficiency is higher in the big factories and manufacturing establishments than here. R. S. Norris brought up the subject of where to put the carbon dioxide gauges. He thought the

Failure of these gauges due to the engineers having tried to operate a chemical test, and advised the chemists to study up on gauges. He also thought the gauges should be placed in the fire room. "This is the chemist's job" he said.

On this subject H. P. Agnew thought one man ought to be put on the carbon dioxide work and looking after the gauges, as the fuel saved would more than offset the wages paid. Mr. Norris agreed, but was doubtful whether the plantation managers could be made to see the point.

Alfred Kraft's report on milling evoked much debate on whether the purity of the juice is the same from all the mills in a train.

At Paia's twenty-one-roller mill there is no drop in purity between the third and the seventh mill. Mr. Savage told tests he had made in the laboratory using pressures up to thirty-six tons per square inch. Mr. Walker suggested refilling the entire blanket and Mr. Norris said that at Ewa and Paia this is done.

Is There Extraction Limit?

Chairman Giacometti summarized the subject, stating that in practice the juice samples should be a mixture of juices from all the mills. Mr. Norris doubted the logic of Mr. Kraft's report and said it would pay to get 100 per cent extraction if that were possible.

Mr. Alston said the limit cannot be exceeded and Mr. Norris added that the plantations are run to make money for their owners. "It is our business to put more sugar in the bags irrespective of whether chemical difficulties are created by higher extractions. Chemists are not to be blamed for the fact that the yield of six dry crusher tests made at Ewa during the grinding of the 1916 crop."

Mr. Ebeling disagreed with Mr. Norris and referred to the alarming increase in the volume of molasses since high extraction has become the rule. Under the old 92 to 96 extraction maximum there was an average of twenty-five gallons of molasses per ton of sugar, while at 98-extraction levels the average is forty gallons of molasses per ton of sugar.

"Where does that fourteen gallons of molasses come from," he asked, "out of the maceration 'water'?" Chairman Giacometti relieved a rather tense situation arising between Mr. Norris and Mr. Ebeling by suggesting that both were wrong. "The whole trouble is that they have taken our good old Lahaia cane away from us and have given us a lot of new fancy canes and fancy fertilizers," he said. Mr. Ebeling said "97-extraction" is the limit above which, for adequate commercial revenues the mills should not go.

Clarification Again

Horace Johnson's report on the clarification of cane juices in the manufacture of raw sugar occupied the entire afternoon session. He said that no new methods have been developed during the 1916. Nevertheless, clarification is an extremely important problem and "demands earnest consideration at the hands of all those interested in increasing the quality and quantity of sugar produced."

"By improved mechanical means and careful operation the engineers are now able to extract over ninety-eight per cent of the total sucrose in the cane. The sucrose is turned over to the sugar boiler and chemists in the form of raw cane juice, having ten to twenty per cent of impurities with it. With the present method of treatment the recovery of sucrose in the form of raw sugar is respectively ninety-two to eighty-four per cent of the sucrose in cane. In other words, we lose from six to fourteen per cent of the sucrose in cane due to the impurities in solution."

Limbs In Standby  
"The impurities in the juice entering the boiling house consist of insoluble matter as lime cane trash, clay, dirt, etc., which under present conditions of milling amount to as much as three-tenths per cent of the weight of mixed juice. The majority of these impurities settle out with the precipitated soluble impurities and are separated from the clear juice in the mud presses."

"Each year sees its quota of new material and methods proposed whereby a better clarification is obtained. The clarifiers gradually fade away, leaving milk of lime as the apparently only economical material for the defecation of cane juice in the manufacture of raw sugar."

It Depends On the Cane  
Clarification by means of sodium carbonate and soda ash and its effect on "scale" formation was debated pro and contra. It developed that there is wide variation in the composition of the lime scale which forms in the evaporators. The scale may consist of silicates, sulphates, carbonates and phosphates of lime in combination with iron and aluminum.

The addition of soda compounds sometimes gives good results and sometimes not. Mr. Duker summed it up by saying that "it all depends on the cane." Replying to Mr. Johnson's inquiry as to how much caustic soda should be used, Mr. Ebeling gave the formula, "one 800-pound drum in three weeks in a quadruple effect." Mr. Duker said one drum per cell per week.

Kieselguhr and Phosphorus  
W. K. Orth thought phosphoric acid of very little value for raw juices. It produces better clarification but has no effect on scale formation which is really the big problem in the treatment of juices. The high cost of the acid is one factor.

Kieselguhr reduces the purity and increases the cost of producing sugar twenty-four cents per ton. Mr. Pratt said that it takes the gums out of the raw juices but they all come back into it in washing the mud presses. In answer to a question by Mr. Walker on what to do with the press filter juices Mr. Ebeling said they ought to go back into the raw juice.

Filter Cloth, or Screen?  
The advantages of using screen instead of filter cloth to remove the floating fiber were threshed out at much length. It developed that the finer the screen is, the better work it does. The 200-mesh per inch filters faster and better than the 100-mesh. A steam nozzle is the best cleaning tool to use. The 200-mesh screen does

SCHOOL PAPER NOW  
ISSUED AT HOOKENA

First Number of 'Mite' Makes Its  
Appearance In News-  
paper Field

"The Hookena Mite" is the name of a little one-page double column publication just turned out from the printing press of the government School at Hookena, South Kohala, Hawaii. The first issue is dated October 6.

Because of the interest the schools in Hawaii are now taking in the art preservative, the entire contents of the Mite's initial issue are given here in full, as follows:

TEACHERS.  
Principal, Thomas N. Haas.  
Assistants, George K. Apela, Katy M. Kana.

Pupils 127.

LOCAL NEWS.

BY ROOM I.

Kona is having plenty of rain. "Mr. John and family of Kona, left for Honolulu yesterday, October 5. Mr. Sam Yu passed our way" on Sunday, October 1.

Our Supervising Principal, Miss B. B. Taylor, passed here from Kau on Tuesday, October 3.

BY ROOM II.

Our trustee officer, Mr. Joseph Manu, visited our school on October 4. Mrs. John R. Smith, Jr. left Kona for Honolulu on October 4. She will be away for a month.

The children of the Hookena Japanese School are now learning how to play the flute and the drum. After ten weeks vacation, we are now at school again. The number of pupils in our school have increased to 127.

Mr. Higashi gave birth to her fifth baby on September 29. The mother and child are well. Mr. Fujiwara, our barber, is the proud father of a baby boy to which his wife gave birth on September 17.

The steamer Kilauea is now running on the Kona and Kona route. She takes the place of the Mauna Loa for two months.

After being away for about three or four months, Mr. Elijah Kaiiwhiwa and Mr. Akem Alani returned from Molokai on Saturday, September 30.

On September 28, Mr. and Mrs. Thomas Andrews had a party in honor of Mrs. Andrews' twentieth birthday. The relatives and friends were invited.

BY ROOM III.

Our teachers are always out on the premises to supervise the sports of the children.

In order to attend the Japanese School of Hookena, all the Japanese children of Hookena have entered our school.

Our workshop had iron roof put on during the last month. We are expecting to get our new supply of type this month.

The new children in the printing class have been practicing setting type. One of our sports is playing croquet. The principal is in charge teaching the players.

Our shop has two more new cases made by Mr. Kunbarn. He did a fine job.

Willie Lazar, the son of our deputy sheriff, who has been in Japan for three years, returned to Hookena last month.

Owing to the large number of attendance in our school, the old double seats have been made into single seats.

On September 30, there was a political meeting held at Kealia. All the candidates for the primary election made addresses to the people.

Mr. Y. K. Aiona's machine which was in Mr. Week's hospital for nearly three months, was returned on Monday, September 25.

League with Miss Bell visited our school on Monday, October 2. They spoke to the children about the evils of liquor.

not have to be cleared as often, and can be set horizontal whereas the coarser mesh screen must be set at an angle of ten degrees. Screens do not do good work in filtering syrups.

Why Kopke Clarifier Failed.  
Mr. Orth explained at considerable length the reasons why the Kopke Centrifugal Clarifier had failed at Kona. It does the work, he said, but the system lacks flexibility.

The factory would require a very large battery of centrifugals and a larger force of more intelligent laborers, men whose experience and judgment could be relied on. The quality of the juice is constantly varying and with the Kopke system there would be no chance to rectify errors.

Comparing the centrifugal work with that done by settling tanks he said there is no way of recovering the sucrose held in the mud. A complete extra battery of mud presses would have to be installed to do nothing else. "The work done is good but it would greatly increase the machinery requirements of the mill as there is no place to store the juices."

At Kona there was no saving in fuel consumption for reasons stated. The system might be advantageous in mills where it was desirable to completely clear the house each day, for instance in centrals working on cane belonging to different tributaries, but for Hawaiian plantations it has not proved a satisfactory system. Kona has therefore discarded it and is now installing settling tanks to handle the 1917 crop.

Waiole Lunches Then Banquet  
Many other points in Mr. Johnson's report were warmly debated especially the new Bowkross system of clarification.

The remaining reports will be discussed this morning. After the papers have been read the chemists will adjourn to Waipio for lunch and the afternoon will be devoted to inspection of the field experiments there.

The annual banquet at Heine's to night will close the labors of the sugar chemists.

RED SOX VICTORS  
OVER DODGERS IN  
BIG WORLD SERIES

Shore, Gitter Hurler From North  
Carolina, Hero of the Final  
Contest

(Continued From Page 1)

ning and went to third on two infield outs, scoring a moment later on Shore's wild pitch, they arose and cheered, certain that the Dodgers were on the way to victory. But their glories were short-lived for Lewis secured a triple in the last half of the second inning, which tied the score.

The hopes of the Flatbush fans fell farther, when, in the third inning Cady secured a single. Shore went out and Hooper walked. Then Janvrin hit to Olson. The latter fumbled and Cady scored. Then Shorten singled and Hooper crossed the plate with the second run of that inning. Brooklyn never had a change after that. Shore put all of his 190 pounds into his curves, and the Dodgers were unable to see the ball.

In the last inning, Stengel singled, and the Brooklyn fans began to cheer, anticipating another rally. But Wheat struck out and neither Cutchaw nor Mowrey were able to hit, and the game was over.

Crowd Cheers Leaders  
At the end of the contest the crowd cheered, first for the winning pitcher and then for the manager of the victors. It was a case of the best team winning. Boston had the Brooklyn team plainly outclassed in all departments of the game, especially hitting.

The 1916 world's series now is a matter of history, but Carrigan and the Boston team will go down in the annals of baseball as being by far the most finely perfected combination of players in the history of the sport.

The weather was clear and cool and the attendance was 42,620.

The game by innings was:  
First Inning  
Brooklyn—Meyers fanned. Cady threw out Daubert. Stengel made first on Scott's wild throw. Wheat fouled to Hoblitzel. No runs.

Second Inning  
Boston—Cutchaw threw out Hooper. Mowrey threw out Janvrin. Shorten flied to Wheat. No runs.

Third Inning  
Brooklyn—Cutchaw walked. Mowrey singled. Gardner threw out Olson. Cutchaw going to third, Meyers on. Cutchaw scored on passed balls by Cady. Scott threw out Meyers. One run.

Fourth Inning  
Brooklyn—Pfeffer fanned. Gardner threw out Myers on grounder. Shore threw out Daubert. Shore pitching great ball. No runs.

Fifth Inning  
Brooklyn—Gardner threw out Mowrey. Olson flied to Shorten. Meyers singled, but Gardner threw out Pfeffer on a slow hit infield grounder. No runs.

Sixth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Seventh Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Eighth Inning  
Brooklyn—Wheat flied to Hooper. Shore tossed out Cutchaw. Mowrey singled. Scott fumbled Olson's grounder, and then threw wildly over Hoblitzel. Mowrey making third and Olson second. Brooklyn had a grand chance to score, but Meyers capped a grounder which Scott picked up cleanly and shot to Hoblitzel. No runs.

Ninth Inning  
Boston—Cady fouled out to Mowrey. Shore fanned. Cutchaw threw out Hooper. No runs.

Tenth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Eleventh Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Twelfth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Thirteenth Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Fourteenth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Fifteenth Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Sixteenth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Seventeenth Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Eighteenth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Nineteenth Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Twentieth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Twenty-first Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Twenty-second Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Twenty-third Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

Twenty-fourth Inning  
Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Twenty-fifth Inning  
Brooklyn—Hoblitzel went out at first. Lewis singled. Gardner forced Lewis and went to second on a wild pitch. Mowrey threw out Scott. No runs.

SHORE FANNED. Cutchaw threw out Hooper. No runs.

Brooklyn—Meyers flied to Shorten. Gardner threw out Daubert. Stengel fouled Scott. Quick work. No runs.

Boston—Dell now pitching for Brooklyn. Janvrin singled. Shorten sacrificed him to second. Hoblitzel flied to Wheat. Lewis flied to Wheat. No runs.

Box score shows:  
Brooklyn AB R B H O A E  
Meyers, c. f. 4 0 0 0 0 0  
Daubert, 1b. 4 0 0 12 0 0  
Stengel, r. f. 4 0 1 0 0 0  
Wheat, i. f. 4 0 0 4 0 0  
Cutchaw, 2b. 3 1 0 1 4 0  
Mowrey, 3b. 3 0 1 1 4 0  
Olson, ss. 3 0 0 2 4 2  
Janvrin, p. 3 1 0 0 0 0  
Pfeffer, c. 2 0 0 2 0 0  
Dell, p. 0 0 0 0 0 0  
Merkel, p. 1 0 0 0 0 0  
Totals 31 1 3 24 14 3

Boston AB R B H O A E  
Hooper, r. f. 3 1 1 0 0 0  
Janvrin, 2b. 3 0 2 0 0 0  
Shorten, c. f. 3 0 1 3 0 0  
Hoblitzel, 1b. 3 0 0 15 0 0  
Lewis, i. f. 3 1 2 1 0 0  
Gardner, 3b. 3 0 0 6 0 0  
Scott, ss. 3 0 0 2 2 2  
Cady, p. 3 1 1 4 1 0  
Shore, p. 3 0 1 1 4 0  
Totals 28 4 7 27 13 2

Score by Innings  
Brooklyn 0 1 0 0 0 0 0 1  
Boston 0 1 2 0 1 0 0 0 4

Summary: Four runs and six hits for Pfeffer in seven innings. Two-base hits, Janvrin. Sacrifice hits, Mowrey, Lewis, Shorten. Bases on balls, off Shore 1, off Pfeffer 2. Struck out by Shore 4, by Pfeffer 2. Wild pitches, Pfeffer 2. Passed ball, Cady.

HARRISON APPOINTS  
NEW FILIPINO SOLONS

First Congress Under Jones Act  
Will Convene Monday

(Associated Press by Federal Wireless.)  
MANILA, October 13.—Governor Harrison yesterday confirmed the appointment of representatives named by the Moros and other tribes who do not profess Christianity, as well as those Christian tribes entitled to representation in both house and senate under the new organic act, which was passed by the last congress of the United States.

That act provided that representatives of the tribes who are unable to vote, shall be appointed to both houses of the Philippine legislature, by the consent of the Governor. This gives the Philippine the control of the senate.

They already had control of the house. The first congress under the new law will convene Monday.

LEE AXWORTHY MAKES  
NEW RECORD TO WAGON

(Associated Press by Federal Wireless.)  
LEXINGTON, October 13.—Lee Axworthy, the famous trotting stallion, records this season, trotted a mile to wagon here today, in 2:02 3/4. This is a new world's record for stallions.

SOLD BOOZE TO THE  
WRONG PARTIES

Selling illicit booze to the liquor license inspector and his assistant is bad business.

This was proven to Private F. Zimmerman, Company E and A. Johnson, Company B. First Infantry, last night, when they were arrested after selling Liquor License Inspector W. P. Fennell and his agent beer and gin near Pier 16 on the Wharf road. Fitch was charged with illicit traffic and will appear for trial in the police court this morning.

According to the inspector the rum employed by the men to solicit trade was to ask a passer-by for a match and while securing the flintmaker, the next step was to ask him to be wanted to buy booze. Fennell and his agent were accented with the gag. The first delivery of beer and tonic, as its delivery flashed the star and took the men to the police station.

KANSAS EDITOR PROMISES  
TO BOOST PINEAPPLE DAY

H. R. Anthony Jr., member of congress from Kansas and editor of the Leavenworth Times, of Leavenworth, Kansas, who visited Hawaii with the congressional delegation from Washington, has written the promotion committee that he regrets congress will not be in session on November 16, so that a proper celebration of Hawaiian Pineapple Day could be made in the national capital. He announces, however, that he will instruct the editorial department of his paper to run a good article on Hawaii on that day, asking the people of Leavenworth to pay their respects to the royal fruit of Hawaii on that occasion.

EXTRA DIVIDEND BY  
BREWER & CO. ANNOUNCED

The directors of C. Brewer & Company yesterday voted an extra dividend of three and one-half per cent in addition to the regular monthly dividend of one and one-half per cent. The total disbursement for October, payable on the last day of the month, will be \$150,000.

MARINE INTELLIGENCE  
By Merchants' Exchange

Page 10. Sailed Oct. 10, str. Ventura for Honolulu. Sailed Oct. 10, 1:40 p. m. str. Franconia for Honolulu.

Page 11. Arrived Oct. 10, 12:30 p. m. str. Franconia from Honolulu. Sailed Oct. 11, 5 p. m. str. Franconia for Honolulu.

Page 12. Arrived Oct. 12, str. Ilya from Honolulu. Sailed Oct. 12, str. Ilya for Honolulu.

PORT OF HONOLULU.

ARRIVED  
St. Helena from Hawaii, 1:25 a. m.  
Str. Mauna Kea from Hilo, 7 a. m.  
Str. Kilauea from Hilo, 7:45 a. m.

DEPARTED  
Gas. schr. Ila May for Molokai, 11:20 p. m. Monday  
Gas. schr. J. A. Cummins for Koolau ports, 10:20 a. m.  
Str. Kilauea for Kona and Kau, 12:15 p. m.

ARRIVED  
Manoa from San Francisco, 12:40 p. m.  
Str. Hamakua for Honolulu, 2:40 p. m.  
Str. Columbia for Seattle, 3:20 p. m.

DEPARTED  
Str. Mauna Kea for Hilo, 10 a. m.  
Str. Atlas for Kahului, 7 p. m.  
Str. Eurythmics for Manila, 12:15 p. m.

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