

CORNELL
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STATION NEWS

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BRIEFS

WHALE OF A GOOD TIME HAD
AT STATION EXHIBIT

No real whales showed themselves at the north end of Seneca Lake this past weekend, and even if they had there's a good chance no one would have noticed with all there was to see, do, eat, drink and otherwise enjoy at Geneva's second annual Whale Watch.

The Station participated again this year with informational displays, the ever-popular "Bubble Machine," an "All you ever wanted to know about insects" exhibit, and tomato and sweet corn "taste tests." Ten varieties of tomatoes were sampled by 600 people during the two-day event and 1200 ears of corn (Zenith) were roasted over an open fire fueled by a combination of charcoal briquettes and apple wood. According to Steve Reinert, Horticultural Sciences, the sweet corn ran out about 3:30 pm Sunday and the tomatoes shortly thereafter. All the butter for the sweet corn was used up by mid-day Saturday, which gave many the opportunity to discover how good it tastes without it. (Must be because the corn was grown right here at the Station).

"The Station must be a fun place to work" was one of the many comments overheard by workers in the various areas. Thanks again to all who participated, both those who manned the exhibits and those who helped out behind the scenes.

SAGES SPONSORS BREWING
SEMINAR

- "In recorded history, brewing goes back at least 5,000 years; records have been found in such things as pottery shards and Egyptian hieroglyphics."
- "The real science of brewing began in the 1800s and involved a number notable personalities, one of whom was Louis Pasteur who worked on "diseases (microbial infections) of beer."
- "Brewing research started out and grew up pretty much ahead of the rest of food science."

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Karl Siebert comments on one of the beers during the tasting portion of the seminar.

COFFEE RESEARCH SYMPOSIUM



Participants in the Coffee Biotech Symposium: Standing (L to R): Alvaro Gaitan (Plant Path), German Moreno (Colombia), Rocky Broadway (Ent), Herb Aldwinckle (Plant Path), Gabriel and Consuelo Cadena (Colombia), Marcela Yepes (Plant Path). Kneeling (L to R): Myriam La Pena and Ricardo Acuna (Purdue), Alex Bustillo (Colombia), Carmenza Gongora (Ent), Pilar Moncada (Plant Breeding, Ithaca).

A group of scientists from Cenicafe, the research arm of the Colombian Coffee Growers Federation, visited the Station August 19-23 to discuss research progress and plans with Station scientists. The visit was in conjunction with the large grant for research and training in biotechnology that Herb Aldwinckle and Marcela Yepes, Plant Pathology, and Rocky Broadway, Entomology, were awarded by the Federation. The Cenicafe scientists – three from Colombia and two from Purdue University – were led by Dr. Gabriel Cadena, Director of Cenicafe. Besides Herb, Marcela, and Rocky, also participating in the symposium were three grad students supported by the grant – Alvaro Gaitan, Plant Pathology, Carmenza Gongora, Entomology, and Pilar Moncada, Plant Breeding, Ithaca. The visitors also had meetings in Ithaca to discuss genetic mapping, biosafety of transgenic plants, and intellectual property rights.

Aldwinckle indicated that the coffee biotechnology program at Geneva is mutually beneficial to the small coffee growers in Colombia, who are members of the Federation, as well as to Cornell, which benefits from substantial indirect cost payments, contributions toward jointly used equipment and biotech supplies, and synergy with research on our local crops. An example is the genes that Carmenza is now cloning from *Streptomyces* to induce resistance to the coffee berry borer ("Broca") in coffee, that Aldwinckle's group now plans to transfer to apple to induce resistance to fungal diseases and perhaps insect pests.



...from the ARCHIVES

Glass Looks Back, Part 1

Why an Experiment Station?

If you were an average farmer in 1880, hard-working, independent and making a living for yourself and your large family and were asked: "Should the State of New York establish an agricultural experiment station in the state?", what would have been your answer? Think about this for a minute before reading further. From your perspective, why would you want such a station if at all? What would it do for you except raise taxes?

Actually, we know what the general farmer reaction was at that time: "No! I do not need anyone to tell me how to grow and harvest my crops. And, furthermore, I do not want my sons going off to college for book learning. I need them here to help me on the farm."

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Under this Seneca Council tree, in Geneva, NY, the Seneca Indian chiefs held their councils. The tree was located northeast of what later became Jordan Hall, near the northwest corner of the pond on the Loomis Farm. [PHOTO COURTESY OF JOHN WELLINGTON]

(ARCHIVES, cont.)

SPECIAL EMPLOYEE MEETING SCHEDULE

A special meeting of employees is scheduled for Thursday, September 21, beginning at 1:00 pm. The purpose of the meeting is to inform employees about the Master Plan that has been developed for the Station. Presenting the information will be Pat Krauss, Administration, and representatives from The Saratoga Associates, the architectural firm that was hired by SUNY Construction Fund to work with Station officials in developing the master plan. Pat has served as chairman of the Station's Master Plan Committee, which has been working on the project for more than four years.

"This has been a very rewarding assignment," commented Pat. "The members of the committee and I have enjoyed developing a master plan that we think will carry the Station well into the 21st century." The Saratoga Associates has been assisting in development of the final plan for the past 10 months. Members of the Station's Master Plan Committee in addition to Pat are: Herb Aldwinckle, Wendell Roelofs, Hugh Price, Mark McLellan, John Barnard, Dave Lasher, Peter McDonald, Linda McCandless, and Tom DeYulio.

"We have reached the stage with this plan where we want employees to see what has evolved," said Pat. "A lot of employees at the Station have been directly or indirectly involved in the development of this plan, and we hope they will be interested to see the results. It will give the Station a whole new look that is exciting and very suitable for an institute having the kind of outstanding reputation that we do throughout the world," commented Pat. The presentation will last a little more than an hour plus whatever time is needed to answer questions of employees.

Reminder



Saturday, September 23,
is the date set for
John Minns'
and
Mike Dunham's
retirement party.
See last week's Station News for
sign-up information.

CLASSIFIED

YARD SALE: Saturday, September 2. 8:00 am-4:00 pm. 602 West North Street (Adjacent to Jordan Hall Softball Field).

GARAGE SALE: Friday and Saturday, September 1 and 2. 9:00 am-3:00 pm. 4436 Rte. 14A (4 miles south of Geneva). Household items, toys, and lots of good quality children's clothes (sizes Infant to 10).

FOUND: Set of GM vehicle keys found in Sturtevant Hall basement men's room. Please claim from Gail Knapton, Sturtevant Hall.

HOUSING NEEDED: Two bedroom (or more) apartment needed for visiting scientist from Korea, preferably furnished and close to the Station, September 4 to December 3, 1995. If you know of a suitable apartment, please contact Dick Robinson at x237 or 789-9304.

Such an attitude seems surprising to us today but we must recall that there was little evidence that colleges and science could be of practical help. Emphasis was on the classics with little relevance to farming. And, further, there were no organized agricultural research institutions in the United States at that time.

Instead of being asked about an experiment station, what if you had been asked: "Is there any information you do not have that would be helpful to you?" You probably would have answered: "I need a reliable source of fertilizer that I can depend on and know when and how much to use. And, oh, yes, I also would like a reliable source of seed with good germination, true to type and free of weed seed." History suggests that these were problems farmers were most concerned with in the mid-1800s. A factor not generally recognized as impinging on the need for science in agriculture in the Northeast was the depletion of the shallow soils in the region and the need for reliable fertilizers and other methods of compensation for lack of nutrients and organic matter.

A review of the founding of the first agricultural experiment station in the United States in Connecticut may be instructive at this point. Dr. James G. Horsfall, who was a plant pathologist here at the Station from 1929 to 1939 before moving to the Connecticut Station, has written a short history of that institution published in 1992. He gives a fascinating account of the background and actions which led to its creation in 1875. Surprisingly, Yale University, which was the Land Grant College of Connecticut at that time, played a major role in its establishment.

Samuel William Johnson, the founder of the Connecticut Station, was a precocious child who studied science as well as the classics, especially chemistry, and established his own laboratory on his father's farm. At the age of 17 he published the following in the *Albany Cultivator*:

"When the spirit of inquiry and trust pervades the agricultural community, dissipating prejudice and ignorance, then it may be expected that science will do her perfect work ... and what perfection we may now anticipate from enlightened practice under her auspices."

In 1951, as a Yale University sophomore, he published again in the *Albany Cultivator* the following proposal:

"farmers set up an agricultural institute ... to afford greater facilities for experimental agriculture ... and to provide men and means for striking out into the path of discovery, for the increasing as well as the diffusing knowledge ... The Institute should possess a legal incorporation ... located near an academy ..."

Johnson, like so many young scientists at that time, went to Europe for further studies. By chance he went to a new research institute in the suburb of Moechern in Germany and was excited to find that in most respects it was a model of what he had proposed a year earlier. The founder, Adolph Stockhardt, an agricultural chemist, had organized the local farmers, persuaded a wealthy landowner to donate the land and convinced the local government to charter and support a research institution. According to Horsfall, it was the first agricultural experiment station in the world. Johnson returned to Yale as a member of the staff in 1955. From this base, he continued his efforts to establish an experiment station in the United States.

He had little or no success in achieving his goal for a number of years until he began using the argument of using science to prevent fertilizer fraud. As suggested above, this was a concern of farmers and others who could relate to the problem and recognize the potential benefits of agricultural research. Wilbur O. Atwater, a Johnson student, was sent to Germany for further study before returning to Yale. In 1873, Johnson persuaded the State Board on Agriculture to ask Atwater to tell about his European experiences. He must have been very persuasive. The subject was referred to the Committee on Agriculture which turned it down. By 1875, Atwater was a professor of chemistry at Wesleyan College. That year, the Legislature passed and the governor signed a bill to establish a state agricultural experiment station at Wesleyan University. Atwater became the first director.

According to Horsfall, Johnson was dismayed because the new station did not conform to his criteria for success and worked industriously and successfully to get the Legislature to pass a new bill in 1877 transferring the Station to New Haven, and giving it the charter as per Johnson's specifications. Its Board of Control was made up of politicians, academics and farmers. Samuel W. Johnson was named Director.

Was Director Johnson completely happy with his final success? And what does all this have to do with the New York State Agricultural Experiment Station? Please be patient and wait for the next installment.

Ed Glass

Ed Glass is continuing work on the history of the first 100 years of the Experiment Station—a project that was started by Paul Chapman. Periodically throughout the year, a historical column written by Ed will appear in Station News.

(BRIEFS, cont.)

These were just a few of the historical facts that Karl Siebert pointed out in his introduction to last week's seminar entitled "The Art and Science of Brewing." Speaking first on the "Science" of brewing, he said that "A tremendous number of transformations take place during brewing, and that you find very few things you put in there in the same form in the end product." As the presentation went on, it became clear that the making of beer is indeed a very complex, multi-stepped, tightly controlled process. Karl concluded the "Science" aspect of his talk by emphasizing the importance of consumer concerns—flavor, foam, haze and color.

The "Art" component of brewing according to Dr. Siebert is "twofold." He said that, first there is the art that commercial brewers practice where they try to come up with a consistent product with raw materials that may vary from year to year. Secondly there is the art of coming up with a new product. Here the brewer has more free rein to vary raw materials, as well as their proportions and nature. It is not a straightforward process. Various operations are manipulated, results are unpredictable, and trial and error plays a big role."

Several beers were tasted and evaluated following Karl's talk.