

Whitesbog Preservation Trust

NEWSLETTER

4th Quarter

www.whitesbog.org

2017

Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

One Hundred Years Ago, Cutting-Edge Cranberry and Blueberry Research Commenced at Whitesbog in a Little Sears Cottage Known as the 'Sunburst'

by Richard Prickett, Educator

The cottage was advertised in a Sears mail order catalog as a sectional kit and was most likely sent in a boxcar to Hanover Station, where the sections were transported by truck or horse-drawn wagon to Whitesbog, and there fitted together on a concrete foundation that was previously prepared by workers. The cottage has a screen porch, a large front room and two smaller rooms in the back with no heat or electricity. The walls of the building are made up of inch thick vertical boards that act as 2x4s, that are sandwiched between horizontal boards on the exterior and interior. It is amazing that the structure called the Cranberry Substation has survived for one hundred years. This building is a small "Sunburst" shining on the invaluable research that started with Charles S. Beckwith at Whitesbog in 1918 and continues today at the Phillip E. Marucci Center in Chatsworth, New Jersey.



The Cranberry Research Substation at Whitesbog, New Jersey, as it appeared in 1922.

The following history of the Cranberry Substation is based largely on the Annual Reports of the New Jersey Agriculture Experiment Station (NJAES) and the Minutes of The American Cranberry Growers' Association (ACGA) from 1913-30. It is just a glimpse of the events and human interactions that led up to the establishment of an experimental cranberry research station at Whitesbog, N.J.; a station at which agricultural research continued even after 1929 when its staff moved their office to a carriage house in the Borough of Pemberton, New Jersey.

The proposal that the State of New Jersey sponsor dedicated systematic study of cranberry cultivation was advocated for many years and perhaps was initiated by the State Entomologist, John B. Smith who wrote in 1890,

"Rational methods of culture are slowly gaining ground, but New Jersey is still far behind Cape Cod in its knowledge of how to raise cranberries."

Almost twenty years later, at the 1909 ACGA Convention, after a poor cranberry harvest, President Rev. E.H. Durrell asserted that successful cranberry culture required "organized research" and called for it to be established.

Five years later the State Entomologist T.J. Headlee in his 1913 report wrote, "The cranberry growers of New Jersey have been compelled to call on the U.S. Department of

Agriculture for the study of insects injurious to their business because the funds at the disposal of the New Jersey State have not permitted it to take up this needed work."

Later that year A.J. Rider, Secretary of the ACGA, reported at their Convention that, "Cranberry growers are accustomed to disappointment. Another season, which opened with great promise, especially in New Jersey, is coming to an end with even greater loss of expectations than the two previous seasons." He further said, "It is to be regretted that New Jersey has not followed the lead of Massachusetts and Wisconsin in the establishment of an Experimental Plant for the study of this important industry, not only as a matter of State pride, but because of possibilities of adding largely to the revenues of the State." T.J. Headlee urged the members to lobby their Legislators and Senators to appropriate funds for a Cranberry Substation. "On motion, the meeting approved of the recommendation of Dr. Headlee." ACGA President Rev. E.H. Durrell appointed J.J. White, to chair the committee, and appointed A. J. Rider, Dr. J. G. Lipman and others "to devise ways and means for the establishment by the State

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Charles S. Beckwith (r) and Byrley F. Driggers (l). As Beckwith's assistant at the Cranberry Substation, Driggers researched blueberry insect life histories while at Whitesbog. The men were most likely photographed at the Entomologist's Building in New Brunswick, New Jersey.

of an experimental bog or station such as are in other States.”

At the 45th Annual Meeting of the ACGA, held on January 24, 1914, J.J. White, Chairman of the Committee reported that they had “met in Trenton, and decided that the best course was to request the Director of the New Jersey State Experimental Station to make a request for \$3,000 for cranberry experimental purposes, to be expended under his direction.” He also reported that “The Director, Dr. J.G. Lipman, agreed to make requisition for that amount, and we recommend growers to arrange for a hearing before the appropriations committee, to insure favorable action on its part.” The Legislature however, declined to appropriate the \$3,000 in 1914 for the experimental cranberry station. At the ACGA January 1915 meeting, Director Lipman said that the same item was again included in their budget “and an organized effort on the part of the members of this Association would be very helpful in securing this appropriation.”

Apparently, the subsequent work of members exceeded expectations. ‘Fitzpatrick’s Legislative Manual’ for 1916 shows that \$1,500 had been appropriated by the Legislature for cranberry investigations, \$25,000 to buy land, buildings and equipment for the establishment of a branch Experiment Station in South Jersey, and \$3,000 “for maintenance of the same.”

Mysteriously, the 1917 NJAES Treasurer’s Report indicated that the \$3,500 for the maintenance of a Branch Experiment Station was appropriated, but “the land for the branch Experiment Station was not purchased, there were no charges against this account, the entire appropriation reverting to the State Treasury.” But in the ‘State Entomologist’s 1918-19 Report’, he wrote, “Charles S. Beckwith has been in immediate charge of these (cranberry) investigations and a laboratory has been equipped at

Whitesbog for his use.” Apparently, J.J. White Inc. purchased and assembled the Cranberry Substation cottage at Whitesbog and allowed free use of it until 1922, when the NJAES Treasurer’s Report showed that a \$150 bill was submitted under Cranberry appropriations “for the rental of building for research laboratory.”

In the ‘1918 Entomologist’s Report’, T.J. Headlee elaborated on what had been discussed at the 1914 Annual Convention which had been held in the packing house at Whitesbog, writing, “The following plan resulted from a conference at Whitesbog, N.J. called for the purpose of outlining the problems in cranberry culture which are most in need of investigation. This conference was participated in by various largely interested Cranberry Growers, a representative of the United States Department of Agriculture, the Director of the New Jersey Agriculture Experiment Station, Mr. Charles S. Beckwith and the Entomologist. It was decided that the purpose of these investigations is to make a search for general principals upon which successful Cranberry growing depends.” “It is believed that the general principals are concerned with the plant itself, plant-food, soil acidity, soil water and such limiting factors as weather, insects and fungi.”

During the August 24, 1918 ACGA Convention, “At the suggestion of Dr. Headlee it was moved and carried that a Research Committee be appointed by the President to cooperate with Experiment Station officials on matters pertaining to cranberry investigations.” Following the Convention, President Durrell named Messrs. F.S. Chambers, A.E. Freeman and himself as members of the Research Committee. Five years later, in 1923, the committee consisted of those three plus C.S. Beckwith, H.B. Scammell, and T.J. Headlee.

Charles Stewart Beckwith was 27 in 1918, when he was assigned to be in “immediate charge of cranberry investigations”. Beckwith majored in Horticulture at Rutgers and graduated in 1914 with a B.Sc. degree. From 1914-16 Beckwith was Field Assistant, and then in 1917, Assistant to Entomologist, for Mosquito Investigations and Control.

In Dr. Headlee’s 1917-18 ‘Agricultural Experiment Station Report’, he wrote: “Mr. Charles S. Beckwith continued his work in connection with mosquito control. On November 6, 1917 while riding his motorcycle he was struck by an automobile and sustained a compound fracture of the right leg, which prevented him from doing any active work for a period of about five months. With the opening of the season, his attention was devoted to the habits, life history and control of the sprinkling sewerage fly.” “When this work was completed his attention was turned to cranberry investigations.”

January 25, 1919, during the ACGA Annual Meeting, C.S. Beckwith reported ‘On Cranberry Investigations for the Season of 1918’. “As outlined at the summer meeting of 1918 these investigations have been concerned with plant food problems, soil acidity questions, soil moisture and

insect enemies.” More specifically he wrote that he had reviewed the 1913-1917 Plant Food and Soil Acidity studies, proposed a height of water table study, and did a general survey of insect enemies with special attention to the Cranberry Tip Worm. The meeting minutes do not reflect that Beckwith had initiated his study of the effect of fertilizers on blueberries at White’s bog.

In 1920, Beckwith published his research in a paper titled: ‘The Effect of Fertilizers on Blueberries’ and in 1921 Frederick V. Coville recognized Beckwith in ‘Directions for Blueberry Culture’ by writing, “*In 1919 and 1920 Mr. Charles S. Beckwith, of the New Jersey Experiment Station conducted a series of fertilizer experiments with blueberries at Whitesbog. The most successful results were obtained with a fertilizer applied in the spring of 1919, made up as follows: Nitrate of soda 170 lbs., Dried blood 230 lbs., Steamed bone 340 lbs., Phosphate rock 340 lbs. and Potash 170 lbs.*”

It appears from the records available, that the only other research on blueberries was conducted by Beckwith’s brother-in-law, B.F. Driggers who was identified in his 1926 report as “*the junior writer*” who “*has been carrying on life-history’s studies on different insects found on the cultivated blueberry.*” Since this work was outside the “general principals” for cranberry research established in 1914, perhaps Beckwith was rationalizing the research by writing: “*Few of these have become of economic as yet. However, as the blueberry plantings are becoming more extensive from year to year, it is expected that the insects native to the Blueberry, and also some of the cranberry insects, will increase.*” The work must have continued because in 1929, Elizabeth White referred to the Cranberry and Blueberry Substation in her paper ‘Discoveries’ that was presented at the ACGA Convention.

In the ‘Cranberry Substation 1926 Report’, Charles S. Beckwith was identified as a Cranberry Specialist, Byrley F. Driggers, as assistant Cranberry Specialist, and Carl D. Jones, as biochemist.

The previous year, 1925, Driggers had published his paper on the cranberry principal of “soil moisture” titled, ‘The Effect of the Water Table Upon Cranberry Production’. He concluded that a “*high water during and after the time berries are set increases considerably the amount of rot*” and “*that a high water table in the early part of the growing season does not materially increase the amount of rot ... providing the water table is lowered by the time the vines are in bloom.*” At the 1930 Convention, Beckwith reported that the study, started in 1923 had been “brought to a close”, and that in cranberry production, the study showed there was a “*distinct advantage in holding the water at least 6 inches below the surface and further indicates that it should not be 12 inches below.*”

The Minutes from the 1921 ACGA Meeting reveal that there were also seasonal workers at the Substation, who taught at Rutgers in New Brunswick at other times during

the year. For example, Mr. Steich Wakabayashi, working under the direction of Dr. J.W. Shive, Professor of Plant Physiology, University of the State of New Jersey, carried out experiments “*to learn the effect of flooding on cranberry plants and berries.*” Mr. Elba E. Watson, Professor of Botany, spent several months on the study of cranberry weeds, and Mr. Stewart Danforth, Professor of Zoology, acting as Beckwith’s “*chief assistant, was with him throughout the summer*” of 1921.

Later that year, it was reported that at the ACGA Annual Convention “*Mr. Elba E. Watson, formally employed in the New Jersey Cranberry Sub-station, in special investigation of weeds, and now engaged in the propagation of blueberries for Joseph J. White, Inc.*” would read his paper on the ‘Weeds of the Cranberry Bog’. Beckwith in his report for the NJAES wrote regarding the leaves studied and preserved by Elba Watson, “*A short account of the habitat of each plant is included with its description, and a specimen of each species is preserved in the herbarium of the cranberry substation.*” Four years later, in 1925, Beckwith & Jesse G. Fiske published a booklet to aid cranberry growers titled: ‘Weeds of Cranberry Bogs’.

The 1921 ACGA Convention minutes also contained Beckwith’s presentation, which according to the program notice, was accompanied by “lantern slides.” He said, “*Mr. President and Members of the American Cranberry Growers’ Association: You have had talks on the problem of spraying many times in the past years, but at no time have you considered the machinery to be used in the work. The theory of spraying and its value is firmly established and nothing further need be said on the spraying devices that may be used with advantage on the cranberry bogs.*” Substation reports up to 1923 describe work being done at Whitesbog, but in 1923, Beckwith reported about work done in Hammonton, N.J., “*a spraying experiment was planned to show the value of spraying on a bog which was just recovering from an attack of cranberry girdler.*”

The Cranberry Girdler was given special attention by the substation according to reports from 1919 until 1928, when Beckwith reported to ACGA members: “*It was with some hesitation that I have put myself on the program for today, for the custom has been for me to give the Report of the cranberry substation at the winter meeting. However, the false blossom situation is becoming so serious that it is important for growers to keep in close touch with the latest developments in order to fight it successfully.*”

In 1929, the year the Cranberry Substation Office relocated to the Borough of Pemberton, Elizabeth C. White, President of the ACGA, presided over a Convention that passed a resolution “respectfully” requesting the USDA to “*not less than double the amount*” allocated to the Bureau of Plant Industry for cranberry diseases, such as Cranberry False Blossom. The resolution supported the request by pointing out that “*the growers are finding great assistance is*
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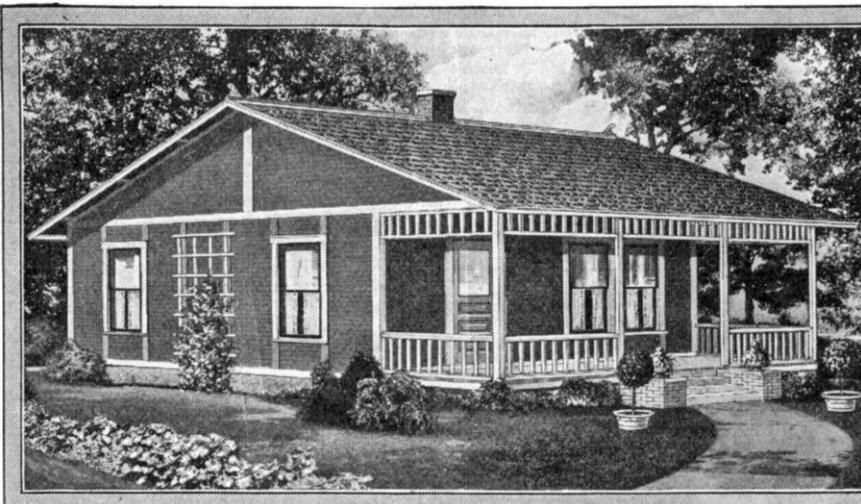
Charles A. Doehlert posing in front of blueberry insectaria where he continued B.F. Driggers work after he left the Substation in 1930. Doehlert also succeeded C.S. Beckwith as Station Director in 1944.

being rendered to their efforts to control or eradicate such diseases by the Bureau of Plant Industry of the U.S. Department of Agriculture, working in co-operation with the State Cranberry Substations”, which continues to this very day at the Phillip E. Marucci Center. Coincidentally, Frederick V. Coville worked at the Bureau for many years and is probably best known for his work domesticating the highbush blueberry.

E.C. White’s Address to the Convention titled ‘Discoveries’, was about one of the general principles that members agreed to at White’s bog in 1914, a principle mentioned by Dr. Headlee in 1918, but not researched by the Cranberry Substation for another eleven years, which was the “Plant Itself”. She described a “voyage” where variations in the “Plant Itself” were discovered. Elizabeth White and Frederick V. Coville had been on that voyage over a decade before, searching through the blueberry bushes they were cultivating behind the Cranberry Substation for variations that were beneficial to the grower and consumer. She encouraged her audience to do the same thing by asking: “Won’t you all be on the look-out for promising berries? A double handful will make a good start. If you feel that your equipment is not fitted for a longer voyage, ... I will be glad to care for the vines at Whitesbog.” Most likely she was responding to the warning about False Blossom, Beckwith made at the 1928 Convention.

Elizabeth White concluded her talk addressing the topic on which our current article started by saying, “We are urgently in need, however, of a State-owned bog where varieties can be tested under the care of our Sub-station, without being subject and secondary to the demands of commercial culture on a privately-owned bog.”

The Cranberry Research Substation would relocate its office to three different locations in the Pemberton area before it moved to the State-owned land near Chatsworth, New Jersey, where bogs, fields, and buildings were established, and where the “Sunburst” of light starting at Whitesbog continues to this day. ■



The Sunburst

THE SUNBURST **\$48700**
55MH106 Price, \$48700

Three-Room Simplex Sectional House with large porch. Size, 18 feet 3 inches by 21 feet 3 inches outside. Floor plan shows size and arrangement of rooms. Comes in ready made sections, as illustrated and described on page 110. Strictly No. 1 yellow pine lumber, bright, clean new stock throughout. Good grade hardware and galvanized chimney included.

Roofing — Fire-Chief Shingle Roll Sea Green Slate Surfaced, 90-pound rolls. Guaranteed for seventeen years. (See inside back cover of this book.)

Brick, stone and cement not furnished.

Shipping weight, about 10,000 pounds.



The Sunburst Floor Plan.

WHITESBOG EVENT SCHEDULE

For more information call (609) 893-4646,
e-mail us at WhitesbogPreservationTrust@gmail.com
or visit us on the web at www.whitesbog.org.

February

- 18 Blueberry Music Jam** 11 a.m. - 2 p.m.
All welcome to join in with an instrument or just listen, these indoor winter music events are casual and fun for the family. Free.

March

- 3 Volunteer Workday** 10 a.m. - 3 p.m.
Join our volunteers in outdoor or indoor projects in the village. You can choose from helping to clear trails and garden paths, lending a hand in the General Store or helping to organize our office cottage supplies for events! Everyone shares lunch in the General Store.

- 3 Whitesbog Village Tour** 1 p.m.
Stroll the Historic Village, learn about Whitesbog's role in history and visit Suningive, the worker's cottage and other museums & buildings that speak to Whitesbog's heritage. \$5 donation/per person.

- 3 Moonlight Walk** 6 p.m.
Listen to the night sounds of the Pines, learn about Whitesbog and experience the seasonal changes of the Pinelands. All walks are 3 - 5 miles in length, weather permitting and led by experienced leaders. \$5 per person donation, reservations requested.

- 4 Blueberry Music Jam** 11 a.m. - 2 p.m.
In the General Store, all welcome to join in! (See Feb. 18)

- 9 Makers Day at the Library** 12 noon - 5 p.m.
Whitesbog will be at the Pemberton Community Library with Makers Day activities from the historic farm! Try out some building, invention, crafting, science and more farm fun! Free.

- 10 Pinelands Short Course at Stockton University** 9 a.m. - 4 p.m.
We will be sharing our hiking trails, ecology and botany programs and Pinelands garden and history highlights! Stop by our table and learn about membership or grab a blueberry or cranberry snack.

- 11 Lines on the Pines at Stockton University** 11 a.m. - 4 p.m.
We will be sharing our historic and cultural programs, haunted tours, and Pinelands highlights! Stop by our table and learn about membership and grab a guide book.

- 18 Blueberry Music Jam** 11 a.m. - 2 p.m.
(See March 4 for details).

- 24 Drop offs due for Bounties of Nature Exhibit**
At the General Store or Gallery 10 a.m. - 2 p.m.
31 Moonlight Walk 6 p.m.
(See March 3 for details).

April

- 7 Superhero 5K TAG Pemberton Recreation Run & Walk** (Call for details, 609-893-5034). 6 a.m. - 2 p.m.

- 7 Volunteer Workday** 10 a.m. - 3 p.m.
(See March 3 for details).

- 7 Whitesbog Village Tour** 1 p.m.
(See March 3 for details).

- 7 Bounties of Nature - Gallery Opening** 12 noon - 4 p.m.

A Gallery exhibit that portrays the beauty of gardens, bounties of nature, and the rewards of working farm life. The perfect time to highlight the beginning of the growing season, and the warming of the earth. Through May 27.

- 14 Whitesbog Landscape and Historic Village Photography Workshop** 6 a.m. - 2 p.m.

Whitesbog Unlimited, A special photographic Workshop. Photograph 'The Landscape and Closed Building Interiors of Whitesbog' - \$175.00. 50% of this fee will be donated to the Whitesbog Preservation Trust.

- 28 Moonlight Walk** 7 p.m.
(See March 3 for details).

May

- 5 Volunteer Workday** 10 a.m. - 3 p.m.
(See March 3 for details).

- 5 Whitesbog Village Tour** 1 p.m.
(See March 3 for details).

- 12 History Weekend South Jersey** 10 a.m. - 4 p.m.
Explore historic sites throughout the region on this History of South Jersey celebration day!

- 13 Mother's Day High Tea at Suningive**
Enjoy tea and a garden tour at Suningive, Elizabeth Coleman White's historic home. Check our website or Facebook for more information.

- 26 Flower Moonlight Walk** 7 p.m.
(See March 3 for details).

June

- 2 Volunteer Workday** 10 a.m. - 3 p.m.
(See March 3 for details).

- 2 Whitesbog Village Tour** 1 p.m.
(See March 3 for details).

- 2 National Trails Day!** 10 a.m.
Come join us for a family fun day with a family friendly hike through the Nature Trail, a scavenger hunt, geocaching mini-workshop and geocaching and more! More details will be coming soon!!

2018 Whitesbog Board of Trustees

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Board Meetings, Mondays at 6:30 p.m.,
 General Store (GS) or Suningive (SN)
 Feb. 26 (GS), March 26 (GS),
 April 28, 3:30 p.m. Membership Mtg., Barrel Factory
 May 21 (GS), June 11 (GS), July 23 (GS)

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Whitesbog is administered by the State of New Jersey, Department of Environmental Protection, Division of Parks and Forestry as part of the Brendan T. Byrne State Forest.



The Whitesbog Preservation Trust has received a General Operating Support Grant for the fiscal year 2017 from the New Jersey Historical Commission, a division of the Department of State.



Funding is made possible in part by the New Jersey State Council on the Arts/Department of State, a Partner Agency of the National Endowment for the Arts through a grant to the Burlington County Board of Chosen Freeholders.



The Whitesbog Preservation Trust has received a New Jersey Council for the Humanities Grant for FY 2018 for "Harvesting Stories" and oral history video interview project.



The 1772 Foundation, in cooperation with the New Jersey Historic Trust, has provided Whitesbog Preservation Trust with a Capital Preservation Grant for the repair and restoration of a worker's cottage.

The Mission of the Trust is to restore, protect and enhance historic Whitesbog Village, in order to preserve the White family legacy and to inspire audiences of all ages to experience:
 - the origins and innovations of cranberry and blueberry cultivation
 - the rich culture and unique ecology of the New Jersey Pine Barrens.



Visit our website: WWW.WHITESBOG.ORG or call: 609.893.4646



The General Store
is Open Year - Round!
Weekends 10 - 4
 A great place to pick up jams, jellies, apple butter, chocolates, kids toys, candles, holiday stocking-stuffers, ornaments, t-shirts, stickers, buttons, books, local guides, posters, handmade pottery, embroidery, knitwear, walking sticks and more!
 Voted Best Way to Show Your Love of the Pine Barrens by South Jersey Magazine 2017

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