***Bedford Farmers Club***

***Minutes from the Meeting of October 20, 2021***

***Hilltop Hanover Farm and Environmental Center, Yorktown Heights, NY***

President **Mary Farley** welcomed everyone to the meeting.

Acting Secretary **Sheila Crespi** presented the minutes of the June 9th meeting, which was held at Hilltop Hanover Farm and featured Shanyn Siegel, Director of the Farm and Environmental Center, who spoke about the history, activities and goals of Hilltop Hanover. Members unanimously adopted the minutes.

Treasurer **Roger Vincent** reported on the Club’s solvency and circulated a clipboard for attendance and collection of annual membership dues of $10 a person.

Historian **John Stockbridge** explored the founding of Bedford, which began with the purchase of more than 7,000 acres of land from Native American Chief Katonah and seven other chiefs. The land was attractive for its open space and wild hops, and the acquisition became known as The Hopp Purchase. Six other transactions resulted in a land area of 39 square miles that now comprise the Town of Bedford.

The BFC celebrated the 150th anniversary of the Bedford Courthouse at its meeting held there on August 25, 1937. Club President Hollingsworth Wood called attention to the town seal, which was designed by his father James Wood in 1898. The seal honors the significance of The Hopp Purchase by incorporating a ring of hop vines on the inside border of the seal.

European settlers to America considered beer a staple of life, almost as important as bread and water. Early pioneers evaluated potential homestead sites not only for their suitability for crops and cattle, but also for the availability of wild hops for beer brewing. The first cultivated crops were introduced in 1629, and hop cultivation spread with the towns that sprung up along the eastern seaboard. The importance of the crop was demonstrated by the Puritans, who created a system of small land grants for hop gardens; and in a report of the British Hop Association which noted that in the 17th century, one acre of good hops could be more profitable than 50 acres of arable land.

Barley, another important ingredient in beer, figured notably in BFC discussions on at least two occasions. In 1881, members debated its use as food for cattle. Mr. J.S. Holmes maintained that barley, given moderately to cattle as it came from the brewery, would be good feed, while Dr. Heximer countered that there was as much alcohol in the grain as in the beverage, and this weakened the constitution of the cows. At an 1884 meeting Mr. Charles Haines said he had seen cows drunk on barley grains.

**Ellen Best** followed with Timely Tips. Ellen is a member of the Bionutrient Food Association, whose mission is to improve the quality of nutrition in the food supply. Good nutrition in food starts with healthy soil. To improve soil health Ellen recommends covering it for the winter months with mulch, leaves or hay. Even better is to use perennials, which have roots in the ground year-round and can be incorporated into vegetable gardens. Your crops can support soil health too: instead of pulling your tomato plans from the ground, cut them at soil level and leave the roots intact, then use the plants as mulch to cover the soil.

Herbs are good perennials for a garden, and Ellen also promotes the use of comfrey. It adds calcium to the soil, grows rapidly, can be used for tea and poultices, and sports huge leaves that can be used as mulch. She urged people to think diversity in the garden: every plant adds something different to the soil, building the immune systems of plants to ward off insects and disease. Ellen recommended cover crops such as rye, buckwheat and oat, which can be planted under other crops as you’re harvesting them. Then, in the spring, you can cut the cover crops and use them as mulch.

Mary recognized guests at the meeting: Matt Curtin, brewer and principal of the Sing Sing Kill Brewery in Ossining; Jo and Gerrard Voege; Christopher Hudson; Jenn Balch, co-owner of Fat and Sassy Goats, a goat grazing business in Bedford; Janet Harckham and John Kornblum, both board members of Hilltop Hanover Farm; Patrick Cousins; Rick Parnell, Executive Director of Stone Barns Center for Food & Agriculture; and Kit Miller, Mary’s friend since college who “fortunately married this great guy who’s a hops expert” – today’s speaker. Sid Kress and Diane Lombardi, attending their second meeting, were voted in as new members of the BFC.

Mary also gave special acknowledgement and appreciation to Gene and Sylvia Finger, who for many dedicated years have provided signage for BFC meetings as well as coffee and tea refreshments. They are now stepping down from those roles, and received a heartfelt round of applause in gratitude from the audience.

Mary then introduced featured speaker **Steve Miller**, New York State expert on hops who works with the Cornell Cooperative Extension and the Northeast Hop Alliance. Mr. Miller passed around a bundle of hops for people to touch and smell as he gave an overview of the plant and a history of its cultivation. His presentation was accompanied by many fascinating photographs.

Hops are perennials that die back to the ground with the frost. They are normally picked in August and September when they bloom, because they are the flower of the plant. Crops were imported from Europe in the 1600s, but native species that grow here in the wild are similar to their European counterparts. Hops plants are male or female. Only female hops are cultivated because brewers want the flowers of female plants and not the male plants, which produce bitter seeds. However, male hops are needed for plant breeding and the development of new varieties.

Beer has been made for thousands of years but hops were only introduced to the process as a preservative around 1100 AD. Unlike wine, with an alcohol content of about 12% which acts as a natural preservative, the alcohol content of beer at 4% to 5% was not high enough to keep the beer from spoiling.

Hops were a very labor-intensive crop which grew up to 20 feet high on a system of poles or trellises. In the 19th and early 20th centuries harvesting was done manually by men, women and children. The plants are spiny, prickly and oily, so even in the heat of summer pickers wore gloves and long sleeves to protect themselves. Hops are also high in natural estrogen, so today we know that pregnant woman should not handle hops because of the amount of estrogen that can be absorbed through the skin.

Hops were important agriculturally and economically in New York State. The first commercial hop yard in New York was established in 1808 in Madison County. By the 1880s, 90% of the nation’s hops were grown in central New York. At its peak, there were 40,000 acres in cultivation, producing 20 million pounds of dried hops (from 100 million pounds of freshly picked hops) for U.S. consumption and export to Europe and elsewhere. Several factors contributed to central New York’s dominance of the market. It had the excellent soils required for hop cultivation as well as ample acreage, and it had access to transportation in the form of canals that were being built to move agricultural products.

New York hops cultivation started to come under disease and insect pressures that affected plant growth and their commercial viability. Much of the industry moved to Michigan and later to Washington, California and Oregon. The market for New York State hops collapsed almost completely with Prohibition. In contrast, the west coast industry continue to thrive as they could ship their product to meet demand in Japan and China. However, western crops require constant irrigation because annual rainfall is inadequate – even in New York with its steady rains, hops cultivation nonetheless required some irrigation.

Today, large commercial brewers are using hop oils and extracts taken from the plants, and not the hops themselves. There are about 400 brewers in New York State and most are using pellets instead of hops flowers, which are hard to work with and float to the top in the boiling process.

If you are looking to grow hops, you will need good well-drained soil with slight acidity; sandy soil is also acceptable if you have adequate water for irrigation. Hops are susceptible to diseases such as downy mildew and powdery mildew, so they require full sun; a hillside with air flow would be a good choice. However, setting up a hop farm is expensive, with minimum start-up costs of about $15,000 to $20,000 per acre, which is why there aren’t a lot of hop farms around the state. Pesticides are used sparingly for weed control. Sheep can be used to control growth, but not goats as they will eat the plants.

Mr. Miller discussed some of the modern equipment used today, such as large and small mechanical pickers – one of which he invented for use by producers with small acreage. They’re now being manufactured by a company in western New York called Hop Harvester. Mr. Miller also traveled to Poland to acquire pickers made in Germany with a capacity to handle 15 to 20 acres. The cost of purchasing and shipping a refurbished model to the U.S. is about $20,000. There are dryers with a louvered heating system to accommodate three tiers of hops simultaneously, in a relatively small footprint of 12 feet by 12 feet and a capacity to handle 10 to 20 acres of hops each season.

Mr. Miller closed his presentation with a lively Q & A that covered topics such as the process for producing hops pellets, malting barley for beer production, New York State’s 2013 Farm Brewery Law, and how hops factor into the brewing of non-alcoholic beer.

The afternoon was capped with snacks and beverages provided by Hospitality Chair **Julie Henken and her committee**. People were invited to stroll around Hilltop Hanover at their leisure.

*Respectfully submitted,*

*Sheila Crespi*