

Whitesbog Preservation Trust

NEWSLETTER

Blueberry Festival 2010

www.whitesbog.org

Special Edition

Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

Spilled Wine, Cellophane, Whitman's Candy, and Blueberry Marketing

The Tru-Blu Blueberry Cooperative revolutionized the packaging of produce with the early use of cellophane

by
Mark Ehlenfeldt, Ph.D.
U.S. Dept. of Agriculture

Cellophane was a tremendous innovation when it first appeared. Never before was it possible to package products under transparent covers unless those covers were made of glass.

Cellophane was invented by Swiss chemist Jacques E. Brandenberger while employed by Blanchisserie et Teinturerie de Thaon (Bleaching and Dyeing of Thaon). It is said that in 1900, inspired by seeing a wine spill on a restaurant's tablecloth, he decided to create a cloth that could repel liquids rather than absorb them. His first step was to spray a waterproof coating onto fabric, and he opted to try viscose (a viscous cellulose solution made by treating cellulose with alkali and carbon disulfide). The resultant coated fabric was far too stiff, but the clear film easily separated from the backing cloth, and he abandoned his original idea as the possibilities of the new coating material itself became apparent.¹

It took ten years for Brandenberger to perfect his film; his chief improvement over earlier work with such films was the addition of glycerin to soften the material. By 1908, Brandenberger developed the first machine for the manufacture of transparent sheets of regenerated cellulose. Brandenberger was granted patents to cover the machinery and the essential ideas of his manufacturing process of the new film. Brandenberger named the new

film Cellophane, derived from the French words cellulose and diaphane (like diaphanous) (= transparent).²

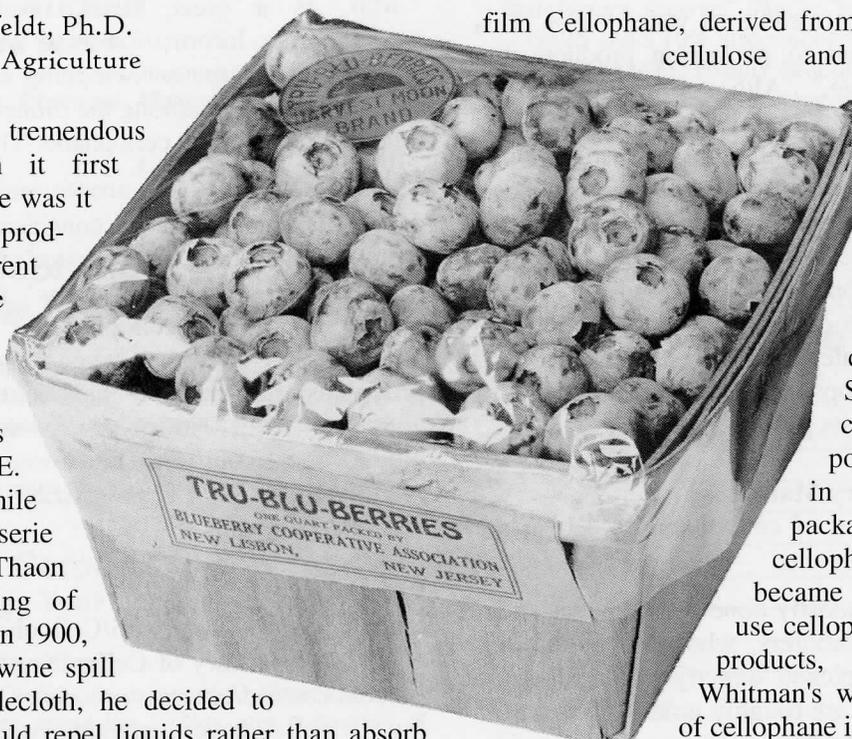
By 1912, cellophane was being sold for use in gas masks.^{1,2}

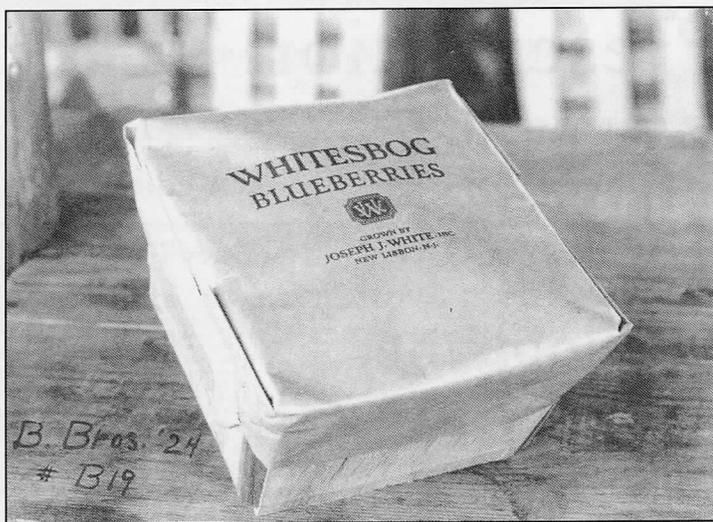
In the same year that Cellophane was patented, the Whitman's Candy Sampler was introduced to the public. The Sampler box included a collection of the most popular pieces of candy sold in the confectionery shop packaged under a covering of cellophane. Whitman's thus became the first in its industry to use cellophane to wrap its packaged products, and for many years, Whitman's was the largest single user of cellophane in America.³

In 1917, Brandenberger assigned his patents to La Cellophane Societe Anonyme (i.e. a public limited company) and joined that organization. Several years later, on December 26, 1923, an agreement was executed between the DuPont Cellophane Company and La Cellophane SA that licensed to DuPont the exclusive rights to its United States cellophane patents, and granted the DuPont Cellophane Company the exclusive rights to make and sell in North and Central America using La Cellophane's secret processes for cellophane manufacture. In exchange, the DuPont Cellophane Company granted to La Cellophane the exclusive rights for the rest of the world, the use of any cellophane patents or processes DuPont Cellophane Company might develop.²

Cellophane initially saw limited sales in the U.S., since although it was waterproof, it was not moisture-proof

(continued on page 2)





(continued from page 1)

- it held water, but was permeable to water vapor. This meant that it was unsuited to packaging products that required moisture-proofing.¹ Although considered a shortcoming, this permeability to moisture was a plus for a produce covering, since it meant that the film would foster condensation only under the most extreme circumstances. DuPont subsequently hired chemist William Hale Charch, who spent three years developing a nitrocellulose lacquer that, when applied to Cellophane, made it moisture-proof. Following the introduction of moisture-proof Cellophane in 1927, the material's sales tripled between 1928 and 1930, and by 1938, Cellophane accounted for 10% of DuPont's sales and 25% of its profits.¹

Blueberry Marketing

In 1920, prior to the use of cellophane by J.J. White Company, Elizabeth White wrote:

"The picking is mostly done by the wives and children of our Italian laborers, who are paid 6¢ a quart. The berries are picked directly into ordinary quart berry boxes which are roughly graded according to the size and color of the berries on top. Each box is covered with paper. For the poorer berries this is plain, but the covers of the better grade carry our name and brand. The boxes are packed in the ordinary 32 qt. crates.

We have not as yet picked at one time a whole crate of any one of the varieties of blueberries selected for commercial fruit production. The majority of the berries marketed have been from the seedling plants under trial. These, being from selected parents, are much above wild berries in average size and quality. The fruit from each bush, however, is different from that of every other bush, and much of it is very ordinary."⁴

A few years later, several important factors converged: 1) a considerably larger volume of uniform berries was

available, 2) the Tru-Blu Co-operative Association had been formed to market New Jersey blueberries, and 3) the marvelous new film was available for packaging. In *Cranberries Magazine* (1936), she summarized the early use of cellophane on blueberries:

"You may be interested in the development of our cellophane cover. The quarts of the first crates, of blueberries shipped in 1916 were covered with brown paper squares which I cut from large sheets and fastened over the boxes with gummed paper tape much as our covers are fastened now. In 1917, we had the manila covers cut for us and printed with a special design advertising Whitesbog blueberries.

A few years later (ed.: approx. 1920?) Sidney Hutton saw a candy box wrapped in cellophane. He wrote a letter of inquiry to the candy manufacturer who, as a great favor, furnished us, as non-competitors, information as to where this remarkable, imported, transparent wrapping could be secured. So blueberries were among the pioneers of the products to be marketed under cellophane. The rest of the story is Association history."⁵

This is a case of considerable modesty, since it seems clear (*no pun intended*) that the Tru-Blu Cooperative Association was the first agricultural organization to use cellophane to cover produce of any kind! It was said that when blueberries covered with cellophane first reached the market, they were received with great favor. Not only were they among the biggest, bluest, most uniform blueberries ever seen, THEY ACTUALLY COULD BE SEEN! And we all know that, seeing is believing. ■

References

- ¹ www.wikipedia.org/wiki/Cellophane.
- ² Bellis, M. History of Cellophane Films. www.inventors.about.com/od/cstartinventions/a/Cellophane.htm.
- ³ www.russellstover.com/jump.jsp?itemType=CATEGORY&itemID=206.
- ⁴ White, E.C. 1920. Development of the Cultivated Blueberry (text of an oral presentation). Whitesbog Preservation Trust archives.
- ⁵ White, E.C. 1936. Beginning of Blueberry Culture. *Cranberries Magazine* (4): 18-19.

The preceding article is typical of feature articles researched by the Whitesbog Preservation Trust (WPT) and published in the Whitesbog Preservation Trust Newsletter. These articles are designed to be educational, informative, and generally Whitesbog-related. They pertain broadly to New Jersey history, and more specifically to cranberry and blueberry history. An archive of WPT Newsletters can be found on the WPT website at: www.whitesbog.org/newsletters.

Calendar of Events

July

- 10 Whitesbog Village Tour** 1 p.m.
\$5 donation/person
- 11 Blueberry Tasting** 1 p.m.
\$5 donation/person, reservations required. Sample unique and hard to find blueberry varieties. Learn about Whitesbog's role in blueberry cultivation from **Mark Ehlenfeldt**, USDA Blueberry Geneticist.
- 24 Moonlight Walk** 7 p.m.
\$5 donation/person, reservations requested.

August

- 8 Quarterly Lecture Series** 1 p.m.
\$5 members, \$7 non-members, by reservation. "**The Last of the Pine Barren's Charcoal Makers**," presenter: Ted Gordon
- 28 Moonlight Walk** 7 p.m.
\$5 donation/person, reservations requested.

September

- 11 Whitesbog Village Tour** 1 p.m.
\$5 donation/person
- 19 Quarterly Lecture Series** 1 p.m.
\$5 members, \$7 non-members, by reservation. "**J.J. White: The Man and His Legacy**"; presenter Albertine Senske.
- 25 Moonlight Walk** 7 p.m.
\$5 donation/person, reservations requested.

October

- 2 Whitesbog Village Tour** 1 p.m.
\$5 donation/person
- 9 Cranberry Industry Tour** 10 a.m.
\$10 donation/person, reservations required. View a modern wet-harvest and learn about the history and cultivation of cranberries in NJ.
- 10 Pinelands Discovery Festival** 10 a.m. - 4 p.m.
Celebrate the history, ecology & unique culture of the Pinelands! Parking fee.
- 16 Cranberry Industry Tour** 10 a.m.
- 23 Cranberry Industry Tour** 10 a.m.
- 23 Moonlight Walk** 7 p.m.
\$5 donation/person, reservations requested.

November

- 6 Whitesbog Symposium** 9 a.m. - 3 p.m.
A special day-long event featuring Whitesbog-related topics. Space is limited, reservations are required. Lunch is provided. \$20 members; \$30 non-members.

We are continually adding new programs and events. Check with us often at (609) 893-4646 or on the web at www.whitesbog.org. ■

Become a member today!

Your membership is vital to the ongoing restoration and preservation of Historic Whitesbog Village and the interpretive programs offered by the Trust.

Levels and Benefits

Individual members receive: special member rates for programs, lectures & tours, voting privileges at the annual meeting and invitations to members-only events.

Family membership includes: Individual benefits for two named adults and all children under 12.

Supporters receive: Family member benefits and one free Moonlight Walk.

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Sponsors receive: Family benefits, four free Moonlight Walks and a 5% discount on General Store purchases.

Benefactors receive: Family benefits, four free Moonlight Walks and a 10% discount on General Store purchases.

Partners receive: Family benefits, four free Moonlight Walks and a 20% discount on General Store purchases.

Whitesbog Preservation Trust is a non-profit, tax exempt organization. Donations are tax deductible to the fullest extent of the law.

Join the Trust !

Membership Levels:

| | |
|--------------|------------|
| \$1,000 & up | Partner |
| \$ 500 | Benefactor |
| \$ 250 | Sponsor |
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| \$ 50 | Supporter |
| \$ 35 | Family |
| \$ 25 | Individual |

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120-34 Whitesbog Road
Browns Mills, NJ 08015

Make checks payable to the Whitesbog Preservation Trust. **Or for greater convenience you can now pay by credit card; just call the Trust at 609-893-4646 with your credit card information.** Thank you for joining the Whitesbog Preservation Trust.



Whitesbog Preservation Trust

NEWSLETTER

2nd Quarter

2009

Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

Blueberry Culture (abridged)

By Elizabeth C. White, presented December 16, 1916 at the meeting of the New Jersey Horticultural Society in Burlington, New Jersey

The full text of this document, approximately twice the length of this abridged version, can be found in the "online extra" of this edition of the Whitesbog Preservation Trust Newsletter.

Father and I often discussed the possibilities of cultivating the swamp huckleberries, but after spending an hour sampling the fruit on bush after bush, finding the berries on one too sour for our taste, on another rather flat and mealy, on a third too small to bother with, and so on for many plants, and finding only an occasional bush on which the good-sized berries had a most delicious flavor, peachy, father calls it, we always decided that unless we could have only these best plants, we did not want to cultivate any. We knew that to have a plantation of any size and of the quality we desired it would be necessary, in some way, to propagate in quantity from a few fine plants. We had a vague impression that it was considered impossible to start huckleberry plants from slips or cuttings and feeling unable to cope with this problem, for a long time we did nothing.

Early in 1911, in the Monthly List of Publications issued by the U. S. Dept. of Agriculture was announced the publication of a bulletin entitled "Experiments in Blueberry Culture" by Frederick V. Coville, which I immediately sent for. It proved to be a considerable book of 100 pages, discussing broadly the principles governing the growth of blueberries in common with cranberries and allied plants, which differ so widely from the principles governing the growth of most agricultural crops. To me it was most fascinating reading, for never before had I known that the soil of our bog was acid, as was the water of our streams, that it was this which made our bog water brown, as in acid-water the humus is held in solution, while in alkaline (not) waters it is deposited, and the water becomes white. Never before had I known that associated with the roots of blueberry, cranberry and most other plants which grow in acid soils is a symbiotic fungus, which in some still unexplained way assists these plants in obtaining the nitrogen necessary for their growth. "Experiments in Blueberry Culture" gave me an entirely new view of my old friends, the huckleberry bushes and cranberry vines,

and proved that there was a careful, scientific worker in the Department of Agriculture who had already made very considerable progress in propagating blueberry plants, the very man whose help we needed.

We wrote the Department offering to cooperate in their further experiments in blueberry culture. The offer was accepted. In March of 1911, Mr. Coville, sent me, from Washington, a few blueberry plants, seedlings of the best bush, the "Brooks", he had up to that time located in New Hampshire. He visited the plantation from time to time and in this way and by correspondence kept me advised as to the progress of his experimental work in Washington. When in 1914 it became desirable for the Department to try in the field a large number of hybrid seedling blueberry plants, the testing ground was rented at Whitesbog, and since then father and I have cooperated on an extended scale with the Department of Agriculture, as represented by Mr. Coville, in its experiments in blueberry culture.

When we started, back in 1911, it was very evident that the first thing necessary was to locate some superior plants to begin with. I realized at once that this could best be done with the aid of my friends who made a business of picking huckleberries. During the season they visited thousands of plants in the course of each day's work, and if I could get them interested it would be a simple matter for them to mark for me the occasional, exceptionally fine bush they found.

(Blueberry Culture continued on page 4)

Saturday June 27
10 a.m. - 4 p.m.

26th ANNUAL
BLUEBERRY
FESTIVAL

Celebrate at Whitesbog! At this old-time festival Great family fun - blueberry picking, historical presentations and tours, arts and country crafts classes. Food and side merris. Load up the car \$2 / carload



Whitesbog Preservation Trust

NEWSLETTER

3rd Quarter

2009

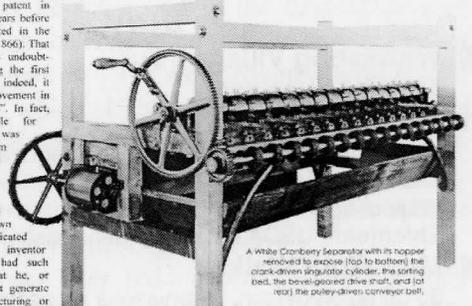
Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

The White Cranberry Separator - A "Machine for Assorting Fruit"

By Mark Ebenfeldt

The first patented cranberry separator

was issued a patent in 1854, at least 12 years before J.J. White got started in the cranberry business (1866). That 1854 separator was undoubtedly far from being the first cranberry separator, indeed, it was titled an "improvement in cranberry-winnowers". In fact, the basic principle for cranberry separators was well-known, firm berries bounced soft berries, not so well. Farmers, being inveterate tinkers, often designed machines for their own use, and a patent indicated mainly that the inventor believed his idea had such merit or value that he, or someone else, might generate income by manufacturing or selling his invention. As J.J. White advanced in the cranberry business, numerous cranberry separators or their improvements were patented. White had undoubtedly seen (and perhaps used) a number of these earlier separators. Indeed, at least one early photo shows a mature J.J. White in a suit and bowler hat supervising the sorting and packing of cranberries in front of a tarp-paper-sheathed barn with men using what looks much like the cranberry separator patented in 1902 by Alvin E. Nightingale of Plymouth, Massachusetts (but may also have been an unpainted or home-built machine). White himself, was trained as an engineer, and beginning in 1875, worked for Hezekiah Smith of the H.B. Smith Company. By 1898, J.J. White held 14 patents, at least 12 of which were many years and ultimately designed a cranberry separator unlike any other in existence. Unlike most previous separators that relied on sets of cascading, vertically-arrayed plates for sorting, White's machine



A White Cranberry Separator with its hopper removed to expose (top to bottom) the crank-driven singulator cylinder, the sorting bed, the bevel-gear drive shaft, and (at rear) the pulley-driven conveyor belt.

was in essence a horizontal device that relied on horizontal motions for sorting. On June 23, 1903, J.J. White was issued U.S. Patent No. 731,838 for his separator. Although the patent drawings are somewhat complex, the principles of the separator are fairly straight-forward. J.J. White referred to his device as "a machine for assorting fruit", which in its primary context designated it as a means to separate sound from unsound berries. In its more detailed sense, the separator was also a machine that allowed berries to be graded by size (a factor whose value was reflected by the numerous grade designations and labels applied to cranberries marketed under the East-mo Brand). In White's separator, berries entered the separator via a hopper that supplied a horizontal, rotating, singulator column (figure on page 2). This column used pairs of finger-like prongs to lift individual berries from the hopper and drop them into a V-shaped sorting channel that had a large horizontal screw drive across its open bottom. Once a berry fell into the channel, the screw-thread would carry the berry along the length of the groove toward the sifter plates. Each (continued on page 2)

A Newsletter Archive & more information is at: whitesbog.org.

For even more Whitesbog history visit:

whitesbog.blogspot.com and whitesbog2.blogspot.com.



Whitesbog Preservation Trust

NEWSLETTER

4th Quarter

2009

Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

Holly Haven Inc.

Elizabeth White's Refuge for the Conservation of the American Holly Tree
Tree
by Rick Prickett, President, Whitesbog Preservation Trust

"Many people celebrate Christmas as the season for peace on earth, but for the folks holly tree this has been a time of year where the great stands of wild hollies along the east coast have been vandalized and over-exploited for holiday decoration."

Not far from Whitesbog, along Route 70 and next to Upton Station was a unique nursery that specialized in growing special varieties of American Holly and other acid loving plants. Today only the white cinder block pump house and a row of "Griscom" holly trees remain. In 1954-55 however, the complex consisted of four heated sash houses, two greenhouses, several potting sheds, the pump house and a bath house, 1/4 of an acre in size. According to June Vaill, Holly Haven propagated up to 150,000 holly trees and other acid loving plants a year from cuttings which were sent by mail across the United States¹. The plants Holly Haven Inc. sold included yew, bearberry, Franklinia, heather, blueberry bushes and many varieties of American Holly. In her 80s, Elizabeth White provided the business with her reputation and experience in selecting, propagating and selling the nursery stock to the public. She relied on others, especially June M. Vaill who had been her trusted assistant to do the manual labor. Miss Vaill arrived for work in March of 1945 at Whitesbog from the Horticultural School for Women located in Ambler, Pennsylvania. Photographs dated June 1955 depict local people such as Jack Cadbury III and Mark Cuts laying cinder blocks for the greenhouse and pump house, and Ada Pittman, Olive Taylor and Joe Snow planting the "Griscom" holly trees still growing on the property today. Holly Haven Inc. must have been a dream comes true for Elizabeth White, and a



collaborative opportunity for those that had similar interests in the nursery trade.

This 6 1/2 acre property was acquired by Elizabeth C. White, June M. Vaill and Jacob Hornor of Grassmere, New York on July 28, 1950 from Abram and Bessie B. Brown, according to the deed book of the Burlington County Clerk's office. On May 24, 1951 the property was transferred by its owners to Holly Haven Inc., a New Jersey Corporation having its principal office at Whitesbog. Surviving mail addressed to Sunningive (Miss White's home with her office on the first floor) includes bills, orders and inquiries for Holly Haven Inc. The Holly Haven business card portrayed it as a conservation nursery with Elizabeth C. White President, J. Homer Vice-President and June Vaill Secretary.

During the fall of 1951 and the spring of 1952 a sales brochure called the "Description of Holly Varieties (continued on page 2)



Whitesbog Preservation Trust

NEWSLETTER

1st Quarter

2010

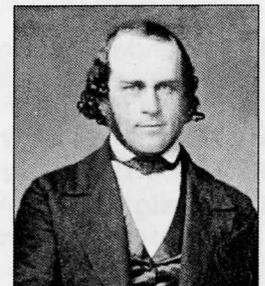
Birthplace of the Highbush Blueberry - Historic Center for Cranberry Innovation

Who Was James A. Fenwick?

For those primarily familiar with the 20th Century history of Whitesbog, Fenwick is recognized as the founder of the fine, but to most, his life story is still largely unknown

by Linda Reno
Southern Maryland Historian

The place we know as Whitesbog can trace its history back five generations to the person of James A. Fenwick. Fenwick was by all accounts the first person to successfully cultivate cranberries in southern New Jersey. Nonetheless, even to those familiar with the twentieth century history of Whitesbog, Fenwick is merely a name; a one dimensional character in Whitesbog's tale. Utilizing newly acquired information, we can begin to round out our picture of James Fenwick. In the coming year we will offer several articles that give a better picture of Fenwick, the man. The first of these is reprinted (with permission) from the June 4, 2009 edition of The County Times Newspaper of St. Mary's County, Md. and ran originally as "A Journey Through Time - The TIMES Chronicle".



On October 30, 1817, at the age of 37, Athanasius married Susanna "Susan" Howell in Philadelphia and brought her to his home "Cherry Fields" in St. Mary's County. The following year their first child, James Athanasius Fenwick (called Thane) was born (ed: This is the James A. Fenwick whom we recognize as the start of the Whitesbog line). The couple then had two daughters, Margaretta (born 1820) and Susanna Emeline (born 1822).

On August 7, 1824, Susan (Howell) Fenwick died in Philadelphia. Why she was in Philadelphia and why she died we will probably never know, it certainly begs the question as to the cause of death of Athanasius Fenwick in St. Mary's County just less than two months later on September 29.

The children, now aged 7, 4, and 2, were placed under the guardianship of (their uncle) Benjamin Jones' (husband of Susan's sister, Mary Howell) of Philadelphia where they went to live. Walter Moore Jones, son of this Benjamin Jones lived in St. Mary's County at least from (continued on page 2)

Lt. Col. Athanasius Fenwick, the only child of Capt. James Fenwick and Catherine Ford, was born in St. Mary's County, Md. in 1780. The family was wealthy, prominent and had good political connections. Athanasius was sent to Europe to be educated. Upon his return, he studied law, but it appears that he was more interested in agriculture, writing, and lecturing on such things as the effects of saltwater which prevent the operation of plaster of Paris on soil.
To Correspondents. The Address of Col. Athanasius Fenwick to the Agricultural Society of St. Mary's County, communicated by said society for publication in the "American Farmer", will receive early and respectful attention, as it highly deserves. We should have inserted it in this number, but that we wished to conclude the publication of the learned, philosophical, and, as it relates to the latter part of it, we may say, practical Address of Mr. Madison, (American Farmer, September 3, 1819).