

# FOREST FESTIVAL AT BILTMORE ESTATE

BILTMORE FOREST SCHOOL, UNDER THE DIRECTION OF DR. C. A. SCHENCK, CELEBRATES ITS TWENTIETH ANNIVERSARY WITH A UNIQUE PROGRAM WHICH PROVES BOTH ENJOYABLE AND INSTRUCTIVE—PROMINENT LUMBERMEN AND OTHERS INTERESTED IN FORESTS SPENT THREE DAYS IN THE WOODS STUDYING PRACTICAL FORESTRY.

Biltmore, N. C., Nov. 30.—The "Forest Festival," which was held at Biltmore, N. C., on November 26, 27 and 28, was perhaps the most unique festival ever held in the United States. It was held in celebration of the twentieth anniversary of forestry on the Biltmore estate, the famous home of Mr. Geo. W. Vanderbilt, and under the auspices of the Biltmore Forest School.

The affair marks an epoch in American forestry, for everyone interested in the work being done at Biltmore was invited to attend and among the guests were many of the leading lumbermen, bankers and owners of forests in the United States and Canada. The "Festival" was carried out according to the very original ideas of Dr. C. A. Schenck, who has charge of the Forest Department on the Biltmore Estate, and Director of the Biltmore Forest School.

A detailed program was arranged for each day, and the events of each were carried through with a snap and vim which bespoke well the enthusiasm of the party.

So unique and original were Dr. Schenck's methods of carrying out the program that during the entire festival there was never one who lagged behind or lost interest, or who was not looking forward with eager anticipation to the next event.

## Start for the Woods.

Early on the morning of November 26, the guests assembled on the beautiful plaza before the Biltmore station, where they were assigned to carriages and placed under the care and protection of one of the forest students, whose duty it was to give full explanations about the various plantations, and to act as a sort of miniature information bureau.

The route was well laid out, passing through the thirty thousand or more acres of plantation in such a way as to show them to the best advantage. Numbered signboards were put up at intervals, the numbers corresponding in succession to the sixty-three "Tips" in the guide-book, which gave statistics and other information, including the cost of the plantations in question.

Dr. Schenck, having received his education in Germany, has conformed in many instances to German methods. The white pine plantation of Tip I was made on an abandoned field some ten years ago. At that time the hillside was badly eroded, cut by deep, red gullies making an ungainly sight. To-day the erosion is entirely stopped and a thick humus is being formed by needles of the pines. These were planted in the lower corner of spade holes (as two-year-old seedlings) and a stone placed in each hole, the idea being to equalize the temperature and atmospheric moisture in the immediate vicinity of the seedling. The pines were planted so densely that the visitors on this occasion had to get upon their hands and knees to force an entrance. Close planting of this character has two great advantages, namely, early self-pruning, and a consequent high quality of lumber.

Tip No. II is another example of reforestation on abandoned fields. The hillsides were cleared some sixty years ago, and abandoned thirty years ago.

Erosion set in badly and in order to check the disaster Dr. Schenck planted the field in chestnut, shagbark and bitternut hickory. The results were very unsatisfactory. Rabbits, a plague thereabouts, persistently clipped back the seedlings each year, killing the greater majority.

As a last resort, the plantation was "doctored up" with white and yellow pine, which are doing well to-day. The hardwoods are not at all evident, and one would hardly suppose by looking at the dense stand of pine that it was originally intended for a hardwood forest.

This experience, with many others on the estate, have driven Dr. Schenck to the conclusion that it is impossible to re-conquer abandoned fields even, though the original stand was one of hardwood species. The pines are the conquerors of the wornout lands and must precede all other species, if success is desired. In cases where rapid erosion endangers the seedlings when left planted, ball planting is resorted to. This method anchors the plants securely and establishes their success.

The party proceeded, Dr. Schenck drawing them about him now and then and "taking the stump" in a detailed explanation of the more important points in each plantation. In mixed plantations, as of yellow poplar, white ash, chestnut, oak, etc., gaily colored labels served to establish the identity of the different species, each having its own color.

Plantations of an experimental character were seen where white ash was planted along the banks of a small stream, but the most remarkable feature, to which attention was repeatedly drawn, was the excellent natural regeneration of yellow poplar, all through the forests wherever improvement, cuttings or clearings had been made formerly.

After a lunch in the woods, the afternoon's work was begun by a drive through astoundingly vigorous natural regeneration of hard pines, oaks and yellow

poplars, where absolutely nothing had been done except careful guarding against fires. Only fire and the plow prevent nature from re-establishing forests on open lands, and once given a chance she responds beautifully and does it better, far better, than man can ever hope to do.

At one point a "thinning" was in progress, and the visitors had an opportunity to see how the removal of badly suppressed or crippled trees and of "wolf" or large, spreading, branchy trees, improved the forest and gave the remaining specimens a better chance for growth and development.

## Another Object Lesson.

An object lesson in the proper rotation of species was given at Tip No. VIII. Beetles had killed the yellow pines once forming the main stand. On removal of these trees the hardwoods, then but tiny seedlings, took advantage of the added light, and to-day there stands as fine a regeneration of oaks and ashes as can be found.

The oldest white pine plantation on the estate was next in order. These, planted before Dr. Schenck's advent, were placed fifteen feet apart and as a result are branchy and are making poor lumber. The fact was emphasized that the growing space was and is too large. A sample acre was pruned artificially, but the expense is enormous, if done properly. As it is, there is no hope of the trees pruning themselves naturally for many years.

A strip of land along the macadamized roads is owned and ruled over by the landscape department, and from the last-mentioned point, for about two miles, the visitors leaned back comfortably, uttering exclamations of surprise and delight as they rode along, catching glimpses of the Biltmore House, beautiful landscapes or sweeping views of the distant mountains.

The afternoon's journey was ended by a trip through the extensive Browntown plantations, where recent experiments with hard and white pines, and chestnut-oak, in alternating rows, renews one's conviction that pines only can reconquer abandoned lands.

Dr. Schenck's final attempt at planting chestnut was also seen. For some unexplainable reason the planting of chestnut as seed and as seedlings of various ages and under various conditions has proven an utter failure, even here where chestnut is not only native, but forms a large and important part of the primeval woods.

An informal banquet was held at the Battery Park Hotel, which was a fitting close to such an enjoyable and strenuous a day.

## Second Day's Jaunt.

The second day dawned clear and the procession started in the direction of the French Broad River, which had to be forded, there being no bridge for a considerable distance.

The first point of interest was a walnut plantation, which had failed and been reinforced or "doctored" with yellow pines. A striking example of the soil requirements of walnut was shown here. On one side of the road there had been in former days a manure heap which was distributed as fertilized over a small farm. On this exact spot the walnuts seven years old were four inches in diameter and twenty-five feet high. Five feet away, across the road, the same stock, the same age and planted under the same conditions, had produced in seven years a stick as large as one's little finger and about five or six inches high.

About fifty feet up the hill, in the midst of the pines reinforcing the plantation, the work of reconquering had begun and was of such an effect that the walnuts were about six or eight feet high, the greater part being the last three years' shoots. Much interest was shown in this object lesson.

The second stop was made at the junction of a natural regeneration of oaks and a plantation of white pines. The hardwood plot had been ruined by a contract job and Dr. Schenck hoped to restore the appearance of the place by planting white pines. At the same time he reforested the adjacent abandoned field. Contrary to his expectations the regeneration of hardwoods was rapid and complete and the white pines planted in the tract were suppressed and to-day appear as tiny bunches of leaves not more than eight or ten inches high. The pines on the abandoned fields are about fifteen feet high, and are doing well. It is hard to believe, when one sees the plants, that the two sets can be of the same age. On the field mentioned the alternating rows were of black locust, black cherry and white pine. The cherry and locust are doing only moderately well.

In another portion of the plantation there were alternating rows of hickory, chestnut-oak and pine, but although the pines are ten feet high, one has to get close to the ground to determine the hardwood species, so slow and retarded has been their growth.

Dr. Schenck's favorite combination is white pine and sugar maple, and such a plantation was next traversed.

Here, again, the striking fact of soil requirements was brought out. On a former garden, a very fertile spot, the maples had grown very rapidly, and killed the pines by shading. Three steps down the hill, where the soil was relatively poorer, the maples and pines were equal, and the work of pruning had begun. Ten steps farther the pines were much in evidence, the maples being unable to thrive on the poorer soil.

White pine and sugar maple in admixture, act as powerful stimulants on each other, and a plantation fifteen years old was thirty odd feet high and clear of limbs with the exception of a small but dense crown at the top. Excellent timber production was evidenced here.

The party was driven from the point of exit from this plantation to Dr. Schenck's prize yellow poplar natural regeneration. This is carried on under the group system, a nucleus of seedlings being taken as a center and the area increased by rings from year to year, widening the areas of yellow poplar, eventually joining adjacent groups and forming a pure stand of yellow poplar.

## Visitors Plant Seedlings.

The guests underwent a novel experience at the next stop. Taking them unawares, Dr. Schenck lined them up along the hillside, each standing before a spade hole, with a white pine seedling in his hands. Then, at the word, they all knelt down and planted their seedling, according to directions.

The morning was drawing to its end and the guests were hurried along through natural second-growth of yellow pine, yellow poplar, oaks and other hardwoods; through woods where improvement cuttings were in progress and through woods which had sprung up spontaneously after a clean cut. The students here very ably aided Dr. Schenck in the details of explanation.

Lunch was served at a farm house and after a long rest the party, enthusiastic and interested, were eager to begin again. Three hours were spent in viewing plantations, similar to those seen during the morning, and at five the river was forded again. The dairy was the next point visited, and Mr. Vanderbilt's prize cattle were inspected with much interest, especially by the business men present.

## "The 'Possum Barbecue."

A long drive along the macadam roads was enjoyed and towards dark the procession drew near the event of the evening, a 'possum barbecue. Lighted by a row of roaring fires on elevated platforms covered with sand, the scene was very picturesque. Old plantation negroes furnished music and dances for the merry-making. A more enjoyable evening could not have been spent. The wind-up was heralded by the sound of hunters' horns and the baying of dogs. Under the leadership of several competent hunters, the party divided up and were off for a real "possum hunt."

## The Third Day.

The third day was even more eventful and enjoyable than the others.

At eight o'clock a special train conveyed the entire assembly to Pisgah Forest Station. From here they rode in carriages, or lumber wagons, or on mule back, some eight miles up Avery's Creek valley. The object of most interest was a project to be realized in the future, of a fifty-foot dam across Davidson's River, to furnish water power. This dam would cause a lake about three miles long to be formed.

As the mountainous country was reached, different scenes from those of the two days before, presented themselves. The party entered a primeval forest of a different aspect from those before seen. They passed through beautiful stands of chestnut, paralleled by no other in the country, tall, straight trees and free from limbs; through wonderful second-growth of yellow poplar, where in Dr. Schenck's own experience the poplars have developed wonderfully, and make a beautiful appearance. Slopes wooded with gigantic red oaks were in evidence, and the visitors saw Dr. Schenck's scientific lumbering operations in actual practice.

While they saw more-recent growths well protected from fire, they saw, too, the forest primeval marred by fires, in evidence of which great hollow-barked chestnuts and fine old poplars as hollow as a gun.

During this time the participants were climbing over a thousand-foot ridge and down again on the other side, by hazardous trails, gaining magnificent views of the mountain scenery. The social event of the day; was the pistol tournament after lunch.

This ended, the return to Pisgah Forest, about ten miles, was made, incidentally viewing the beautiful falls of Looking-glass Creek.

Despite the tedious climb of two miles over the mountain, the guests were of one accord in proclaiming the day and the festival a perfect success.

The true, deep meaning which this festival will have can only be left to the imagination. These lumbermen

forest owners and investors got thereby a chance to see the wonderful profession of forestry in actual application, and let us hope again that the impression received by them will be lasting and that this event will mark an epoch in American forestry.

#### Those Present.

C. A. Goodyear, Goodyear Lbr. Co., Tomah, Wis.  
 L. Rowland, Goodyear Lbr. Co., Tomah, Wis.  
 B. F. Keith, B. J. Keith Lbr. Co., Wilmington, N. C.  
 H. L. Eichelberger, H. L. E. Co. (Lbr.), Staunton, Va.  
 J. W. Allen, C. M. Betts & Co., Phila. (Lbr.), Sumter, S. C.  
 Chas. F. Whiting, Boston, Mass.  
 J. Elwood Cox, Pres. Com. Nat'l Bank, High Point, N. C.  
 Ellwood Wilson, Laurentide Paper Co., Grand Mere, P. Q.  
 Geo. Caboon, Laurentide Paper Co., Grand Mere, P. Q.  
 Mr. Small, Laurentide Paper Co., Grand Mere, P. Q.  
 H. H. Harrington, Agr. & Mech. College Tex., College Station, Texas.  
 Chas. L. Trabert, C. A. Smith Timber Co., Minneapolis, Minn.  
 Richard G. Wood, Wood Iron & Steel Co., Concochocken, Pa.  
 John W. Logan, Wood Iron & Steel Co., Concochocken, Pa.  
 Wade H. Harris, Ed. Evening Chronicle, Charlotte, N. C.  
 Fred N. Tate, Continental Furn. Co., High Point, N. C.  
 W. B. Townsend, Townsend, Tenn.  
 Chas. A. Keffe, Ex. Station Univ. Tenn., Knoxville, Tenn.  
 U. S. Senator J. H. Stout, Menominee, Wis.  
 Prof. John G. Jack, Arnold Arboretum Harvard, Cambridge, Mass.  
 Otto Armleder, O. Armleder Co. (Lbr.), Cincinnati, Ohio.  
 J. F. Hays, Southern Railway, Brevard, N. C.  
 A. K. Orr, D. F. A. Southern Railway, Asheville, N. C.  
 J. E. Defebaugh, Ed. American Lumberman, Chicago, Ill.  
 J. M. Marsh, Ed. American Lumberman, Chicago, Ill.  
 Judge J. W. Judd, Vanderbilt University, Nashville, Tenn.  
 Carl Jentz, Supt. Champion Fibre Co., Canton, N. C.  
 Robt. S. Conklin, Commr. Forestry for Pa., Harrisburg, Pa.  
 E. D. Broadhurst, Justice & Broadhurst, Greensboro, N. C.  
 E. M. Moffett, Moffett Lumber Co., Canton, N. C.  
 Wm. F. Decker, Supt. Brevard Tanning Co., Brevard, N. C.  
 C. R. Pettis, State Forester of New York.  
 Edward Secrist, Ohio Agr. Ex. Station, Wooster, Ohio.  
 W. F. Rane, State Forester for Mass., Boston, Mass.  
 C. A. Scott, Agr. Ex. Station, Ames, Iowa.  
 Crawford, (2 Repr.), Lidgerwood Mfg. Co., New York.  
 R. P. Hayes, West Asheville, N. C.  
 Owen Gudger, Gazette-News, Asheville, N. C.  
 W. B. McEwen, McEwen Lbr. Co., Asheville, N. C.  
 Gen. T. F. Davidson, Davidson, Bourne & Parker, Asheville, N. C.  
 W. N. Cooper, American Lbr. Co., Asheville, N. C.  
 Dr. H. D. House, Biltmore Forest School, Biltmore, N. C.  
 T. J. McDonald, Biltmore Forest School, Biltmore, N. C.  
 Mr. Burton, Biltmore Forest School, Biltmore, N. C.  
 C. T. Rankin, Biltmore Forest School, Biltmore, N. C.  
 S. C. Eaton, Biltmore Forest School, Biltmore, N. C.  
 Wm. H. Armstrong, Biltmore Forest School, Biltmore, N. C.  
 C. Jeff C. Richardson, Biltmore Forest School, Biltmore, N. C.  
 V. Rhodes, Biltmore Forest School, Biltmore, N. C.  
 C. H. Amadon, Biltmore Forest School, North Adams, Mass.  
 G. A. Schulte, Biltmore Forest School, La Crosse, Wis.  
 A. H. King, Biltmore Forest School, Montclair, N. J.  
 R. C. Nash, Biltmore Forest School, Buffalo, N. Y.  
 A. C. Silvius, Biltmore Forest School, Sunbury, Pa.  
 H. C. Johnson, Biltmore Forest School, Washington, D. C.  
 Louis Boldenweck, Biltmore Forest School, Chicago, Ill.  
 W. H. Dunn, Biltmore Forest School, Weston, Mass.  
 J. H. Voge, Jr., Biltmore Forest School, Oconomowoc, Fla.  
 Geo. W. Butz, Biltmore Forest School, Wilmington, Del.  
 L. F. Pratt, Biltmore Forest School, Buffalo, N. Y.  
 P. H. Gearheart, Biltmore Forest School, Buffalo, N. Y.  
 R. I. Mount, Biltmore Forest School, Halesite, N. L.  
 E. W. Meeker, Biltmore Forest School, East Orange, N. J.  
 W. H. Euchner, Biltmore Forest School, Lime Lake, N. Y.  
 E. B. Dunning, Biltmore Forest School, Buffalo, N. Y.  
 C. W. Dunning, Biltmore Forest School, Buffalo, N. Y.  
 J. H. Potts, Biltmore Forest School, Sheperdstown, W. Va.  
 Hughes Lindsey, Biltmore Forest School, Richmond, Va.  
 R. W. Orr, Biltmore Forest School, Michigan City, Ind.  
 T. J. Weatherbee, Biltmore Forest School, Painesville, O.  
 G. T. Withington, Biltmore Forest School, Painesville, O.  
 H. G. Black, Biltmore Forest School, Houston, Texas.  
 L. N. Palmer, Biltmore Forest School, Stonington, Conn.  
 L. L. Harris, Harris & Cole Bros., Metropolis, Ill.  
 W. M. Johnston, Jr., Asheville, N. C.  
 Clinton Crane, C. Crane & Sons, Cincinnati, Ohio.  
 S. P. Ravenel, Biltmore, N. C.  
 Chas. E. Waddell, Elec. Dept., Biltmore Est., Biltmore, N. C.  
 J. M. Burns, William Brownell Pl. Co., Biltmore, N. C.  
 Mr. Griswold, Biltmore, N. C.  
 Collier Cobb, University of N. C., Chapel Hill, N. C.  
 Dr. Swope, D.D.