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ORAL HISTORY INTERVIEW WITH
CLAUDE PHILLIPS
SCHOOL OF AGRICULTURE
JULY 13, 1976

Transcribed by:

R. Herman

April 13, 1978

Interview with: Claude Phillips

July 13, 1976

Interviewed by: Rebecca Eutton

B = Rebecca Eutton

P = Claude Phillips

B: This is an interview on July 13, 1976, with Claude Phillips who retired from the agriculture school faculty in 1965 after having been chairman of the department of agronomy and now in 1976 Claude Phillips describes a second career since his retirement. What has your second career been?

P: I suppose you could say nature study, primarily the wild flowers of the Delmarva Peninsula. I call it Delaware and Eastern Shore. In the last little over ten years I've found and identified over seven hundred different varieties and kinds on the Eastern Shore. In the meantime I've also found and identified the trees and shrubs and woody vines; produced a key for their identification in the summer by their leaves and a key for the identification of the trees in the winter by their buds and their twigs and I'm currently working on an identification key for the ferns of the peninsula. I've found fifty two so far different species and varieties.

B: And a book is now in preparation and what is the group that you belong to? Did you begin this nature education group?

P: No, the Nature Education Society was the Delaware Nature Education Center until last fall and they changed center to society. They've been operating the nature center in Brandywine Creek State Park for about eleven or twelve years. I've been working with them since 1967 as more or less their identification expert I guess.

B: How did that group begin?

P: A group of people got together and formed a nonprofit organization that people who were interested in promoting conservation of wild flowers in natural areas and things of that sort. We've just completed this spring a natural area survey of Kent and Sussex. The fall of 1974 and the winter of '75, we did a natural area survey of New Castle County and this past fall and winter we finished the state with a survey of Kent and Sussex. We're trying to locate the natural areas, old , primarily in New Castle, marshes and mature trees and other areas that seem worthwhile preserving in the other two counties; making recommendations; describing them; making recommendations as to what hopefully should be done with them in the future.

B: Is this entirely a volunteer group or do you have...is it funded by the state?

P: No, it's a volunteer group that's funded by membership fees and grants. They have seven or eight hundred members at the present time. The natural area surveys were done in New Castle County, was done under contract with the New Castle County Council. Kent and Sussex was done under contract with the state planning office. We visited all the areas; looked them over; described them and made recommendations.

B: Well how completely, for example, did you inspect the areas? How much time was involved?

P: Kent and Sussex for instance, we started I believe in early October or late September and didn't make our last visit until about the end of March. We had to go back and look at another area for the second time and I suppose for most of the fall and winter we

averaged anywhere from two to four days a week. I remember one week in particular; we made four round trips to Sussex County.

B: Well, who worked with you on this project?

P: Well, Norman Wilder is Executive Director of the Delaware Nature Education Society. He was in charge over all of the project. Mrs. Lorraine Flemming worked especially hard for the project; took charge of it and directed it.

B: And who was she? What was her training?

P: She's a graduate of the University of Delaware; has training in biological sciences. I was along simply as a volunteer because I like to keep busy and keep outdoors and in between looking at natural areas I was finding some new shrubs and new trees and new ferns that I hadn't seen before.

B: How is it possible to keep finding new varieties in such an old area? Are we developing new varieties?

P: No, most of the varieties of growing plants were listed in a publication about 1948 by Tatnall who titled it Flora of Delaware and the Eastern Shore and it contains the records of all the plant explorers, most of them or a lot of them not trained botanists but simply interested in the outdoors and plants. Going back a hundred and fifty years, most of the old timers as we might say collected specimens; pressed them and deposited them in herbariums; University of Pennsylvania, Penn State, National Herbarium and various other places and this publication not only included all the plants that some half a dozen people primarily around Wilmington had found but they also went through all the herbarium specimens to find species that had been collected, pressed, properly identified and deposited in a herbarium. So it's a pretty complete

list. It names all the growing plants. It doesn't contain fungi and mushrooms and things of that sort but everything from ferns on through the grasses and the sages and the wild orchids.

B: Well, have you found new varieties to add to this?

P: I've found at the present time about fifty things that Tatnall didn't report. For instance, this past Sunday down in Worcester County, Maryland, I found one that Tatnall didn't list. Most of them have been listed by various other people but the data is not readily available except for Tatnall as far as we're concerned.

B: Now, when you found that plant, do you have a special celebration every time you find a new variety?

P: Well, I do like it. I thought at the end of March when I finished my wild flower manuscript that it was about complete as far as I well, anyway, the immediate future but since the first of April I found twenty two new ones that I didn't have listed including the one last week up at the new nature center; one this past Sunday down in Worcester County.

B: Do people lead you to these? Do you ever get tips on where to find them?

P: Three or four friends photograph wild flowers and hunt wild flowers and when they find something that they don't think I've seen, they will call me and tell me where they found it and I do the same for them. But most of them I've found on my own. Now, this one Sunday I was going along a blacktop road through Pocomoke State Forest and southeast of Salisbury, Maryland, and I saw this white flower growing along the edge of a ditch at the roadside and why I decided it was something that I hadn't seen...of course most of the time when I stop it is something I've seen before but this one

was different and as soon as I got out looking at two or three characteristics, I knew it was different and then I got a sample to bring home to my reference books to identify and finally made a positive identification just this morning. One wild orchid that previously wasn't reported at least not by Tatnall; a friend of mine in Wilmington called me up one Monday night, he'd found it Sunday down below Cambridge in the Blackwater National Wildlife Refuge and he told me about it Monday night. Well, I was tied up Tuesday morning but I finally got away twenty minutes of two and drove a little over a hundred miles to take a picture of that wild orchid and back home before dinner.

B: And you found it?

P: I found it. And then laying out a new trail at the new nature center at Ashland a week ago, I found another one that I'd never seen before. It had been reported in the area but it was growing just a few feet off the trail.

B: You said the new nature center at Ashland and that is near Hockessin?

P: It's north of Hockessin and it's just about right at the covered bridge over Red Clay Creek.

B: And you said it was new.

P: They just had their first open...they moved in a week ago...sorry, two weeks ago yesterday. They moved, got straightened out a little bit and had their open house as part of the Corner Ketch, Hockessin, Yorklyn Bicentennial Celebration. They ran the railroad train from Hockessin up there and we were very pleased with the people we got, the amount of people. The train made trips about every half hour for the three days and we wound up with somewhere

between fifteen hundred and two thousand visitors for the three days which is stupendous we thought. We had various educational exhibits and the ones that were interested we took on a special nature trail that we marked and identified everything.

B: Now, how long...this will be open?

P: It will be open continuously and right now it's open without charge. After the dedication on September the twenty fifth there will be an admission charge to all except the members of the Delaware Nature Education Society.

B: And what will that charge be?

P: A dollar and a quarter but you can join the Delaware Nature Education Society and free admittance at any time as well as participate in all of their activities. We have quite a program, particularly for youngsters starting with the three and four year olds going on up to the teenagers.

B: Now, is this all done outside of the schools or do you send people into schools?

P: Yes, in Wilmington we've been sending people into schools. We have a youth director, a lot of volunteers and special assistants and sending people into the schools to put on programs and also at Brandywine Creek there was...well, in a typical year about four hundred different schools...groups of school children that visited the center for inside programs or for nature walks through the woods and the fields. And not only studying the plants but studying the life of the pond and reptiles and snails and anything else they can find, insects. They had trips to explore caves in West Virginia in the summertime for teenage groups; canoe trips down, for instance, the pine barrens; canoe trip down at Okeepenochee

Swamp and shell hunting and boating trips down in Florida and so on.

B: It grows, the society continues to grow.

F: Oh yes.

B: Is it growing faster? Do you think it's because of the growing interest in ecology perhaps?

F: I think that is part of it. The garden club people are very much interested in (unintelligible) and that kind of thing and I've talked to...I've slides projects where I go out to garden clubs and show slides of wild flowers and try to tie it to their area. For instance, about a month ago I was in Sussex County and I selected a group of wild flowers, a hundred, that they could find within a fifty mile range of where the meeting was which adds to the interest of the local people. Some of them are quite rare and others are quite common.

B: And where was this meeting?

F: In Seaford. It was the Sussex County chapter of the American Association for Retired Persons.

B: You are a Sussex County native.

F: Right.

B: Where were you born?

F: About six miles west of Delmar almost directly in the corner, about a mile from the boundaries set in the Mason-Dixon Line, that corner of Delaware.

B: Did you grow up on a farm?

F: Yes.

B: And that's how you got your early interest in plants probably.

F: Yes. I was interested in...I came up here and enrolled in 1917 to

take agriculture and then worked for the university in what they call their rehabilitation division after World War I for a little over two years; came back in '27 and taught and did research in extension with flowers and roots until June of '65.

B: Well, did you do most of your work with extension or were you teaching agronomy?

P: I was teaching agronomy and doing research and extension work a little.

B: What was the post World War I rehabilitation center?

P: The veterans of World War I, particularly the ones who were wounded or shell shocked and various other things that can happen to you in the service, would set up an educational program much like the G.I. Bill except not near as liberal and they had a set up here at the university; it was Delaware College then, in which they sent these students down here and they took courses. The education of the veterans coming in varied from about fifth grade on up to through high school so we had to organize courses in reading, writing and arithmetic to teach them basic skills and then we taught them agriculture. It went on for well, about three years I guess.

B: And the government paid for that?

P: The government paid the students and they paid the university or Delaware College at that time for setting up the courses and...

B: Well, did you find that a very successful program as you watched students go through?

P: For some of them, yes. Unfortunately at least in our opinion, the staff, and we operated out of the...or the students, veterans, were out of the Philadelphia office and we firmly believed that if a

veteran went to the Philadelphia office and wanted training in tin smithing, they'd send him down here to study farming. If he went in there and wanted training in farming and education, they'd probably train him to be a plumber or a railroad engineer or something like that which was about typical government operation when you get into the bureaucracy and so on.

B: Did that person who wanted to be a plumber resist being sent to be a tinsmith?

P: Well, let's say he didn't make a very good student of agriculture. But there was some of them who really got what they wanted and there was one graduate that went on and was with the university in (inintelligible) for fifteen or twenty years.

B: About how many people were involved in this?

P: We had a staff of I guess there was twenty five at least. The students total I don't have too much idea, several hundred (the rest is unintelligible.)

B: When you started your teaching on the faculty, how was your staff? And you said you were chairman of the department of agronomy before your retirement. About how large was the agronomy department then? Of course the student body changed some.

P: Yes. There was six or seven people on the staff. That included the people that were purely on extension work working with the farmers and home owners and people doing research and the people doing teaching.

B: So, that was a two year program for each student?

P: Roughly yes. But I got interested in the wild flowers as in a way as part of the effort I was making to teach students. I was trying to teach students as well as starting to identify grasses and

pastures and lawns. And a botanist must have flowers and roots mostly as well as stems and leaves to identify plants. But in the average lawn, in the average pasture, the plants never produce flowers and seeds because the lawnmower cuts them off or the cattle graze on them so you must identify them by the leaves and I was trying to teach my students how to identify the grasses by their leaves. The only problem was I didn't have...I didn't know myself to start with when I started and I didn't have adequate information on which to base a key, an identification key. Finally got provoked and when I collected my own grass and identified them and wrote descriptions and made my own key but in... while I was doing that weed control chemicals came along in which the farmer could spray a field if he was growing crops; kill the weeds without killing the crops. But many of these chemicals...the chemicals react with different plants in different ways and before we could recommend a chemical and these chemicals incidently the thing that made them so popular because they were very reasonable. You could spray an acre of ground for two or three dollars and not counting labor. But to kill them, you had to spray them long before they bloomed and set seed so you had to be able to identify them to know which chemical to use and I got what was seemed like a crazy idea at the time which you could identify weeds by their leaves and finally went out and covered the entire northeastern United States; collected weed specimens; identified them; made leaf drawings and eventually put together a key to identify the weeds of the northeast by their leaves.

B: Was that your major research?

B: Yes, that and the grass key although I was doing work in lawn

fertilization and various other things; soybeans, wheat, hay, pasture, but I guess I got fascinated with identification and it was probably at the time one of the largest sales of publications at least the school of agriculture had. It was published in '54 and we printed ten thousand copies which is a lot of copies for a school this size as we were. Well, since then it's been reprinted once and revised; published in 1954 and there's still constant demand for it. It's used all over the eastern United States and even I know as far south as Mississippi and...

B: Do you get any royalties?

P: No, not when you work with the university and well, when I retired I collected these specimens and you had to have blooms in order to identify them, blooms, seeds some kind. I couldn't help but notice that a lot of the weeds had beautiful flowers so I guess when I retired the weeds became wild flowers and I'm still fascinated by identification keys and that's where I spend most of my time; hunting plants, identifying and writing keys.

B: If you found as many as twenty two new varieties, I think you said since April, you're already having to revise your book.

P: Well, fortunately that's being typed and with a pair of scissors and a little tape I can insert them in the proper places. I have a little bit perhaps different approach to identification. Most people, wild flower people, separate their flowers out by color. I've done that because you find the same flower and maybe sometimes it's blue, sometimes it's white or maybe pink. I was just looking at one this morning with blooms on it which was a beautiful shade of deep green which makes it...unless you're going to duplicate a lot of things...makes it difficult. Well, I've divided them into

groups according to...well, one group passed with no green color. They can't manufacture their own food because they have no green color. The barley plants, twine around things are defined by tendrils. Plants growing in the water. Plants that look like daisies and there you can divide them by their color and size. So, I've used everything I could think of to try and make the identification of these plants something that you didn't have to have a Ph.D. in botany to do and since the only botanical training I ever had was back about 1917-'18, under a Dr. Houghton who was teaching biology and botany at that time. I had one semester of botany sixty years ago. It doesn't give you much background in using botanical keys.

B: Did you ever know Jeanette Groustein?

P: Oh yes.

B: She's now in a nursing home in Massachusetts. She was a very fine botanist was she not?

P: Yes, she was.

B: Did she ever lecture around here?

P: She probably did but it wasn't until I got interested in identification which was in the early fifties, late forties-early fifties, that I worked that much with identification, probably none. Now, that's practically all I do. But being retired and living by myself, I work as I tell them up at the nature center, I work cheap, for nothing and furnish my own transportation. But I do it as a hobby. It keeps me outdoors; it's something I'm very much interested in.

B: Well, and also you're leaving a record. You're doing something that's worthwhile and it's going to be here.

P: I hope so.

B: What about endangered species? It seems to me that we've always heard, the general public has always heard that our beautus is about to go.

P: Well, there quite a number of species that are endangered because of well, new development, drainage, road projects and various other things that take land. I remember when I first started hunting wild flowers I could ride out at the edge of Newark and show you wood geraniums and then some three or four years later I wanted to get another picture of the wood geranium and I went back and it was a housing complex built on top of it. That's one thing that made me particularly enthusiastic about the natural area survey.

B: Will something be done under Governor Carvel?

P: No, it's comparatively recent although the county people have gotten interested in as a part of their planning of new roads and where new developments should go in. They're beginning I think in the city and county governments, more and more people are realizing that if some effort is not made to preserve these things our great grandchildren are not going to be able to see it if they ever get back to Delaware.

B: What about (unintelligible) then and the new parks; they are helping this.

P: Oh yes, (unintelligible). I personally identified over three hundred different species of wild flowers in Brandywine Creek State Park and between twenty and twenty five different ferns and which is for a lone, small area; I found the identification last August and we could find twenty two different ferns in an hour and a half expedition around down through the woods and down along the

Brandywine. But if somebody doesn't do something pretty quick in preserving some of these areas, for instance, most of the old Brandywine forest that used to cover everything along the banks of the Brandywine on both sides; there's still quite a bit of it left but much of it is in private estates and the owners...

B: Would that be up around Route 100?

P: Yes.

B: Up on the L Trail?

P: Yes, anywhere from well from Thompson's Bridge on up and even down below Thompson's Bridge down towards Hagley. A lot of this and the large areas of it and some of it runs up to seventy five to a hundred acres, is protected because it's been privately owned and the people...

B: The duPonts mostly.

P: Yes, the duPonts mostly and that group of people. But unfortunately some of the old timers are passing away like myself, I don't expect to celebrate the tricentenary and the youngsters, the younger people who inherit the property are...some of them are not interested and some of them frankly need the money so a developer comes along and offers five, ten thousand dollars an acre and there's a temptation to sell it and out with the big tulip trees and so on that are growing there and as those areas are wiped out, destroyed, you wipe out all of your wild flowers and then you have quite a number of species of orchids, wild orchids that grow in swamps and bogs and this can happen anywhere up and down the state, somebody's got some land next to the swamp that he'd like to cultivate into a crop site particularly the

way the price of farm crops is today so he wants the swamp dredged for better drainage. You dredge the swamp, you destroy the habitat of your wild orchid and that's it. How many things we've lost in the last hundred years well, it would take an expedition. I don't know how many people it would take because these flowers, a lot of them bloom over a short period of time. One of them, like the one I saw this morning; it sends up leaves early in the spring and then along about the early June, the leaves die and completely disappear. Then it sends up a flower stalk. It's oh about nine inches to twelve inches high and produces a white bloom, cluster of blooms on the top of that and then along about the middle of August that bloom will disappear so there's no trace of that flower. So, to make a survey you'd almost have to cover every square foot of woods and fields and everything else and not only that but repeatedly because these flowers will bloom from late March right on through early October. So if you miss two weeks, there's a lot of violets, yellow violet that grows up White Clay Creek. One year I walked that stretch of White Clay Creek, the old creek road, every week for ten or six weeks. I found the violet last week and could recognize it by its leaf. The next week it was in bloom and the following week it was gone. So missing just one week and I would never have seen the violet in bloom. Now most flowers are not that fickle. They bloom over longer periods of time. Some of them will bloom from late in April on into late September but many of them have a quite short blooming period and if you don't catch them then you have a job of identifying them.

B: Mr. Phillips, when you're talking about finding fewer places to

find the wild flowers that you first discovered when you were living in Newark before when you remember your life in Sussex as a boy and your work with farmers in this area, what do you foresee about the dangers of protecting what we have for future generations?

P: Well, farming has gone from a one or two man operation to a big business almost like your manufacturer. Well, for instance, just going back to 1925 without any money, I could go out and rent a farm and with a few hundred dollars I could buy a little equipment, pair of mules and farm and hopefully you could make enough to pay your taxes but to feed yourself and your family for a year. Today, you can't start farming with a pair of mules, the plow and the cultivator. Everything is big machinery, a lot of land. In the same area where I rented a farm in '25 with a few hundred dollars worth of equipment, today if I was farming that same land, I'm farming about five hundred acres of land. I was farming between fifty and sixty and of course to farm five hundred acres you've got big tractors, big equipment that can cultivate and plant more land in thirty minutes than I could in two days. That equipment runs into terrific prices. You think new automobiles are high, wait till you go buy a big farm tractor or combine or something like that, thirty five, forty or fifty thousand dollars. Some of equipment could be smaller but with the price of land, it used to be, thirty, forty or fifty years ago that a hundred dollars an acre was a high price for land. With a hundred dollars an acre, you could borrow money at six percent; your interest didn't amount to much and if you made a few dollars your could rest or retire. Today that same land...they sell for a thousand or fifteen hundred dollars or two thousand dollars an acre and interest on it much

more than six percent. So you've got to make more money just to break even. Labor is...farm labor in particular is unpredictable and high priced. So the farmer tries to do as much of the work himself as he can. That means instead of having two tractors and two small plows; a plow that takes two men; he's got a tractor three times as big, equipment three times as big and costs four times as much and he has to have more equipment. Back fifty, sixty, seventy years ago, we had **very** few problems with corn for instance. We didn't grow much corn, but we didn't have to spray it to control insects and diseases and everything else. But as we improved our varieties and strains of corn, we made that corn wasn't near as hearty and that's true with a lot of crops as our old strains. They are subject to more diseases and more insects which meant we had to have more spraying equipment and put some sprays on the crops for them to produce. So we had to cultivate more land. I don't know exactly what's going to happen. I do know that well wheat for instance, the scientists who are breeding wheat are trying to stay ahead of one particular disease. Every-time the scientists produce a strain of wheat that's resistant to this disease, the disease produces a new strain that will attack the new variety. Things like that complicate the whole business and of course the farmer is no longer content to wind up on Christmas morning and find well, maybe he's got a hundred dollars more than he had the year before and he'll have to spend most of that for food between then and the next harvest time. He wants an automobile. He wants to be able to take a vacation. Which means again that he's got to cultivate more land and more money coming in. Sometimes I think it's a rat race but I don't know what to do

about it and what the future...I think farms can only...well, only get so big but how big is that. I was on a farm up in Sussex County this past winter (unintelligible). This outfit owns between nine and ten thousand acres and one farm had two thousand acres in it.

B: Which is that corporation?

P: That's the Townsend Corporation.

B: Is that Senator Townsend's descendents?

P: Yes and of course they do everything there but primarily chickens. They grow the feed, soybeans and grain and so on and that goes to their own feeding mill; they extract the oil out of the soybeans which is sold separately. The soybean meal and the other ingredients are mixed into poultry feed in their own feed mill. They have breeding flocks scattered in various locations.

B: He's not growing for Perdue is he?

P: Oh no, he grows better chickens than Perdue's. Perdue might give him an argument about that but I don't tell Pres Townsend or his son in law that his chickens are not as good as Perdue's. But what I'm trying to get at...he not only produces chickens but he goes a way back to the hatching eggs, to his own hatcheries and right on to producing the whole business and of course if there's any profit in any of the operations, he winds up with all of it so he can operate on a much closer margin than the man that's just hatching the chicks or the man that's just growing the chickens and so on. So it has to get into a big operation to do that. Now, how far you can go and what's going to happen to all the little people that are displaced; they'll have to...I suppose go into town and get a job or something.

B: That's been the movement since 1900.

P: Yes. Sometimes I think it's sad that so much of our population today that the only contact they have with nature is what they see on each side of the car as they go down a dual highway at fifty miles an hour. Which, is not much and unless government or interested people do something to preserve some of these natural areas where the wild flowers grow and the ferns and so on that our great grandchildren will not...will have to read about them in a book which is not a very satisfactory substitute.

B: On the other hand nature is pretty strong and comes back wherever there is a chance.

P: That's right. It's surprising and I would guess that in wild flowers say, there's more than a hundred that's growing on the Delmarva Peninsula that I haven't seen and I'm sure I won't see all of them.

B: Well, you just saw twenty two new ones.

P: I've seen twenty two new ones since the first of April and I thought when last...when cold weather came last fall that...I didn't think I'd find ten the whole year of 1976 but I have. Some of them I found just riding along the road and catch a glimpse of them out of the corner of my eye; something looked a little bit different. Most of the time it wasn't when I stopped and looked at it but like the one last Sunday, riding along the road and it looked a little bit different and I stopped and checked on it and it was different. Something that I hadn't seen before so anyway. Incidentally this morning up in the woods near Ashtland, I found one and I still don't know what it is but two or three hours spent in my books trying to find out what that is.

B: Is that what you do when cold weather starts?

P: I spent all last winter...well, I worked as a natural area survey... for November, December, January and February, two to four days a week riding all over Delaware. One week...

B: Did you find any surprises in that survey?

P: Yes I did, particularly in Sussex County and I'm related with Sussex County. Within less than ten miles of where I was born and raised, there's one of the most beautiful creeks that I've ever seen anywhere running from Bethel, Broad Creek running from Bethel up to Laurel and if somebody had described that creek, I don't care who it was; I would tell him it wasn't so. You couldn't have that kind of creek in Sussex County. Most...particularly as you get down state, most of your little streams and few big ones are marshy, swampy on each side. But this is not. It comes down, abruptly down banks right down to water's edge and there's trees lining both banks, big old oaks and gums and poplars and so on.

B: What is our most populous tree in the state of Delaware? When you said gum, someone told me that it was.

P: Well, there's probably more black gum than any other tree if you look at the whole state. Now, the most familiar tree you can probably find would be the oak, but there's fourteen different kinds of oaks that grow in this state so you might find an oak tree but it may be any one of fourteen different kinds. Of course as you get down, particularly below Dover you get a lot of pine trees and we have about five or six different kinds of pines that grow. To the average person it's pine tree just like oak tree. There's also a lot of red maples that grow up around the state.

It's...well, I have one at the corner of the property next to the driveway and it's a beautiful shade tree. When I built a house here in 1935, it was a clump of little switches growing wild; cutting all of them down but two...but one and I have a good size healthy looking tree there now. The red maple you'll find all over northern Delaware from one end to the other. You'll find well draining land and you'll find a little wet land so as to which tree you'll find the most of is...I would probably answer the red oak, there are loblolly pines particularly from Dover on south (unintelligible.) Holly, there's a lot of holly down in the lowland in Sussex County. There's black gum...

B: What cedar do we have?

P: We have two cedars. One is the eastern red cedar and then white cedar which is mostly in Sussex County. At one time it grew as far north as southern New Castle County but mostly now you'll have to go into at least lower Kent or Sussex for that.

B: We have boxwood of course.

P: Yes, boxwood is an introduced plant.

B: Oh!

P: Yeah, it doesn't occur here wild.

B: Where was it brought from?

P: I don't know just where the boxwood plant comes from but you'll find a lot of introduced plants that...

B: Azaleas?

P: Well, most of our Azaleas are native. The ones that grow in the woods we have four different kinds.

B: What about hydrangeas? Are they native?

P: There's one and it's interesting that you mentioned that because

I found the second plant I've ever seen in the state this morning near Ashland. It's a white azalea and grows wild. The other one around southern New Castle County in...

B: Yeah, I know. The hydrangea I said. You just said azalea.

P: I mean hydrangea, yeah, hydrangea.

B: The native one is white then.

P: Yea, it's white.

B: Does that turn pink later on after it...

P: It turns sort of greenish.

B: Oh yeah.

P: Because part of the flowers on the plant I saw this morning were greenish and I'd seen one well, down in southern New Castle County over towards the river just off Route Nine couple of years ago. Occasionally you'll find a cultivated hydrangea where somebody's hauled out a root and dumped it by the roadside or something. It'll grow and bloom and persist for quite a while. But we find...

B: But it used to be all over Wilmington.

P: Um hum.

B: Don't seem to see it as much.

P: No.

B: Around homes.

P: Well, your azalea I mean your hydrangea requires fair care to keep it blooming. It's not too long alive and probably a lot of people have gone to evergreens. Now we have some four or five different species of wild holly, although we don't call them holly except the one that's the one with the red berries on it. Holly belongs to the h family and they do have about four species of holly and incidently there's only one of those four

that keeps its leaves like an American holly but we have two that have beautiful red berries on them in the fall, the early fall in particular.

B: You must be very encouraged by the amateur group, the new growth, the new park areas.

P: Yes. The state parks and the county parks people I think are making remarkable progress in these few years in providing a margin of parks, providing recreation for the people, nature trails and a great many of them are putting on programs with naturalists or somebody that can answer questions about the wild flowers and trees and the shrubery and of course from the goal who try to get into the parks on weekends. Admittedly a lot of people go to the park because there's swimming, boating or there's picnic grills but anything that gets people outdoors away from the living room or the television set or something certainly is helping, at least getting them outdoors where they can bring fresh air unless they're down in the Getty and certain things like that.

B: Oh, that's a problem.

P: Yes, it really is.

B: That disturbed wetlands didn't it?

P: Um hum, yeah and that's one thing that this natural area survey... I know some people would say well, what are you looking at the marshes for? And the natural area survey of Kent and Sussex County we looked at every salt marsh and the New Castle-Kent County line all the way down to Fenwick Island and some of them we walked across the marsh on a dike or embankment admittedly because you don't walk very far in a lot of them.

B: Can you take your boats through our marshes?

P: Oh yes, in fact we covered I expect down to Bombay Hook Wildlife Refuge in eastern Kent County; we explored the whole salt marsh down there and I guess we covered twenty five miles in a boat. We did the same thing down at Lewes and all the way down the canal and up the little side streams looking at the salt marsh and perhaps the salt marsh is more important and the marshes along the river and the bay is more important to our future than some of the inland areas because it's the beginning of a food chain that feeds the fish and the other marine creatures, crabs and so forth and if we destroy all that we're going to upset the whole balance of nature.

B: Maybe we can eat some sort of product from Getty.

P: Well, I wouldn't be surprised that we're not eating some kind of product from Getty because they can take...seems like some of these products with oil and do a lot of things with them and turn them into something that you'd never associate oil with. I don't know how much good it does us.

B: How would you like to finish the interview in terms of your experience at the University of Delaware? Did you find the agricultural school always progressing?

P: I think the school of agriculture of Delaware has made as much or more progress as any other school probably in the entire United States. Well, I think the administration and the staff has done a good job. We've had some very excellent research people and extension workers and teachers on the staff. They've diversified the program enough in agriculture so that we're not just training people to go back to the farm and grow corn, wheat and soybeans,

tomatoes, potatoes. We're training people to work as naturalists in parks, to work for large estates, to maintain environmental plannings, to do greenhouse work, to work with the golf course people in growing grass so that Saturday afternoon and Sunday the golfer won't kick up a cloud of dust everytime he swings at the ball. So we've diversified enough to attract a whole new group of people and not just as it was when I was going to school, just the people who had hopes of going into farming. That's why I came to the University of Delaware in 1917. I was going back to Sussex County and become a vegetable farmer. But when I graduated prices weren't too good and a job even at a hundred and fifty dollars a month looked a whole lot better than trying to make a living on the farm. Wait till prices get better. Well, in the last fifty five years since I've graduated I've farmed two years and the last year I farmed prices weren't any better when I graduated and besides by that time I was interested in perhaps more in something else so certainly the last thirty five or forty years I wouldn't change what I was doing. I thoroughly enjoyed working in agriculture particularly, well, all through teaching, research and extension. In teaching I tried to teach, well, like the grass identification. I couldn't make myself satisfied with telling a student now this is orchard grass; now this is bluegrass. Look at it closely so you memorize the difference. I tried to develop a key so that if you forgot what you were looking at, ~~look-~~ing at that plant, you could take a magnifying glass and the key and identify it. Or you could identify a grass that he actually hadn't seen. In the research you're trying to find out something new. I was one of the first ones well, only one state was working

with 2-4D weed killer. This was Delaware. We could take a field of corn, plant it, spray it with 2-4D particularly up in New Castle County and not cultivate it. Which ever weeds we put it on right, had good luck, killed the weeds, went ahead with cultivation which is a big jump. In working with farmers and home owners in trying to solve some of their problems. I remember one farmer in Kent County trying to produce milk on a so-called dairy farm. The first time they went up there it was the poorest looking site that you can imagine. He obviously wasn't making any money. All you had to do was look at his buildings, and look at his cattle and as we helped him in doing a better job in growing grass for pasture, a better job of feeding, you could almost see his shoulders straighten up and begin to take some pride in himself and I hope he's still farming today. The last time I knew anything about him he was a successful farmer. And I got more satisfaction out of that than a lot of things. And homeowners, we went up there in North Star and we had a...years ago..a b moth was eating up their lawn and I could tell them what to do about it and maybe their lawn was no big deal but they took a lot of pride in that lawn and they were very unhappy when something started to eat it up. Or I could tell them a new kind of grass. I can remember establishing grass on a sand hill in Sussex County around a home that had been the children's job every Saturday morning to brush up the lawn or the gravel around the house with what they called a yard broom and the yard broom was made of blueberry bushes stripped of leaves and tied in a bundle around a broom handle and you swept the lawn. There was no grass. It was just sand and it was growing under...they had red maples for shade trees but

by trying out some fifteen or twenty grasses because I didn't know what to grow on that kind of place I found out, put that lawn in and helped put it in in 1930 and about three years ago I helped reseed it and on that sand hill under the maple shade trees...

The Phillips tape runs out at this point. It is the end of the interview.