

**REPORT OF THE
DEPARTMENTS OF FORESTRY,
AGRICULTURE AND CONSUMER SERVICES, AND THE
VIRGINIA COOPERATIVE EXTENSION SERVICE ON**

The Effect of Anthracnose on the American Flowering Dogwood

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



HOUSE DOCUMENT NO. 9

**COMMONWEALTH OF VIRGINIA
RICHMOND
1992**

Dogwood Anthracnose-- The Virginia Situation

**A look at the current Virginia status
of dogwood anthracnose in the woods, nursery, and ornamental arenas.**

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TABLE OF CONTENTS

Table of Contents *i*

Executive Summary *ii*

Introduction *v*

Situation and Background *vi*

Chapter 1 -- Dogwood Anthracnose--Woods Situation *1*

Chapter 2 -- Dogwood Anthracnose--Nursery Situation *4*

Chapter 3 -- Dogwood Anthracnose--Shade and Ornamental Situation *6*

Appendix A - House Joint Resolution Number 324 *A-I*

EXECUTIVE SUMMARY

The 1991 Virginia General Assembly passed House Joint Resolution Number 324 to direct the Virginia Department of Forestry (DOF), Virginia Department of Agriculture and Consumer Services (VDACS), and Virginia Polytechnic Institute and State University (VPI & SU) to jointly study effects of dogwood anthracnose (DA) on dogwoods of the Commonwealth.

Within the forest, the disease has been identified from all Virginia mountain counties. Disease occurrence and mortality of dogwoods are greatest at high elevation where conditions conducive to fungal success are generally present. With several notable exceptions, the disease is not currently severe in Piedmont and Coastal Plain forests. Semi-permanent survey and impact plots have been established by the DOF in cooperation with a southwide effort to learn more about this disease complex.

The nursery situation within the Commonwealth involves media-generated concern more than infected nursery stock. Media attention has caused tremendous citizen apprehension resulting in reduced sales. With some exceptions, the VDACS believes the current inspection program is adequate to address nursery concerns.

Currently, there is probably the greatest opportunity for control strategies within the shade and ornamental dogwood area. For Virginia, such research would be centered at VPI & SU. Current funding and staffing problems have not permitted the resource allocation necessary to address questions involving fungal biology, environmental conditions conducive to disease success and control strategies.

WOODS

Finding #1: The fungus-caused disease, DA, is well established in Virginia and probably was active before the initial find in 1988.

Recommendation: The DOF should continue to look for the disease in areas where it has not been located. Geographical/area limits on the fungus may assist in development of control techniques should some limit(s) be manageable.

Finding #2: Even with extensive media coverage and attempts to keep DOF personnel up-to-date, there remains considerable confusion regarding disease identification.

Recommendation: Increase the training available to DOF personnel pertaining to disease identification. This should be of major assistance in, not only better enabling personnel to answer questions from the public, but also support efforts directed toward the preceding recommendation.

Finding #3: There remain far more questions than answers regarding 1) disease origin, 2) disease variability, and 3) control strategies.

Recommendation: Answers, when available, will come from concerted survey efforts covering wide geographical areas. The DOF should continue cooperation with the southwide survey plot program. If funds become available, the number of Virginia plots should be increased to include many of the new counties where infection has been found since the effort began.

Finding #4: Present control tactics being considered for nursery and ornamental tree application, have little applicability to forest-grown dogwood. There is simply no way that mulching, fertilization, pruning, fungicide application and the like will ever be feasible in the forest. It would seem the only hopes for forest-based control strategies rest with genetic resistance or manipulation of a natural control agent.

Recommendation: DOF personnel should look for healthy dogwoods in areas where the disease has caused serious mortality. Such trees may possess genetic resistance that could be used in a breeding

program. Similarly, DOF personnel should look for areas where the disease would be expected to be severe, but is not. Biological control agents may be present in such areas that could reduce virulence of the DA organism. If such an agent could be manipulated, dogwoods in other areas may benefit.

Finding #5: Numerous agencies, both state and federal, as well as several universities are involved with survey and research statewide. It is difficult to stay current regarding the various efforts underway. Within the South, a DA working group has been formed. Participation in these meetings remains the best way of keeping abreast of current efforts so as to better inform other investigators.

Recommendation: Currently, DOF is represented on the working group and, if funding is available, attendance at the meetings, held once or twice yearly, should continue.

Finding #6: The disease has been present in the Northeast longer than the South. At a recent meeting, an investigator from New York indicated the disease seems to have stabilized in his area. Certainly, there are areas in the Northeast where the dogwood has been eradicated, but where dogwoods remain, they seem to be holding their own.

Recommendation: Support work in the Northeast aimed at defining how and why stabilization occurred. The reason may help determine what might be expected regarding Virginia's dogwoods.

NURSERY

Finding #1: The flowering dogwood, Virginia's state tree and flower, is susceptible to a fungus disease that is threatening its survival. This ominous scenario translates into consumer fears; homeowners, nurserymen, and nursery dealers are avoiding this valued and valuable species.

Recommendation: Consumers need to be informed and reassured that growing dogwoods in the landscape is not a futile effort. VDACS should continue to work cooperatively with nurserymen and nursery dealers to insure that flowering dogwoods in the channels of commerce are at a very low risk of being infected. Also, current information and technology on disease management should be funnelled through VDACS to the nursery industry so that homeowners can properly care for and maintain healthy dogwoods.

Finding #2: VDACS Agricultural Inspectors are knowledgeable front-line troops in the battle to detect and prevent this disease.

Recommendation: VDACS needs additional support for laboratory services to diagnose accurately this and other devastating diseases of flowering dogwoods. Because of unfilled vacancies due to budget reductions within VDACS, the State Plant Pathologist now is assigned to duties unrelated to plant pathology. Therefore, he is unable to adequately address the dogwood anthracnose epidemic for the nursery industry. Adequate staffing and monies are necessary to administer this objective.

Finding #3: No one organization or institution has a monopoly on the latest technology and information regarding dogwood anthracnose.

Recommendation: All interested parties must interact cohesively on state, regional and national levels, so that current information on regulation, policy, and the biology of dogwood anthracnose is available to appropriate individuals. If adequate funding is available, VDACS personnel

should be encouraged and allowed to attend state, regional, and national meetings were DA is discussed.

SHADE AND ORNAMENTAL

Finding #1: Dogwood anthracnose has been abundantly and positively identified in the home/city/highway/cemetery/historic shrine/gardens/parks situation in the Commonwealth. It has been identified for the first time on many of these sites, and the numbers of cases are rising greatly.

Recommendation: The Department of Plant Pathology, Physiology and Weed Science at VPI & SU has and will continue to monitor disease incidence, via the Plant Disease Clinic primarily. Additional funding is crucially needed to expand surveys.

Finding #2: Many facets of the biology of the disease are unknown at this time. A partial listing of fungicides is available for recommendation, but these compounds are in urgent need of testing at several sites.

Recommendation: Studies are needed to evaluate environmental conditions conducive to disease development under various Virginia conditions. There needs to be a search for strains that are adaptable in the warmer areas. Fungicidal options need to be tested in Virginia.

Finding #3: Specialists and related workers need to meet, exchange information, become informed, and develop teams to attack this problem.

Recommendation: Support is required to sponsor such meetings. A forthcoming regional workshop, chaired by R. J. Stipes, will be held at Pipestem, WV in April, 1992.

Finding #4: Publicity and public education on the identification, incidence and severity of the disease is lacking.

Recommendation: Support needs to be increased to provide information on this problem. This can be accomplished by public lectures/programs, purchase and distribution of literature (already printed), and additional TV/radio coverage.

Finding #5: Because of the dearth and decline of overall support at the university level for research and study of this and other plant diseases, more than ever before, help is needed in developing student research projects, in obtaining technical support and related assistance to attack this problem.

Recommendation: The Department of Plant Pathology etc., could use graduate research assistantships, even partial ones, to underwrite student research projects. It is well known that graduate students provide more and better research data, since they are working on graduate degrees. A budget line item specifically for DA would ensure that this research area is addressed.

INTRODUCTION

The 1991 Session of the Virginia General Assembly passed House Joint Resolution (HJR) No. 324 and directed the Virginia Department of Forestry (DOF), Virginia Polytechnic Institute and State University (VPI & SU), and the Virginia Department of Agriculture and Consumer Services (VDACS) to study the effects of dogwood anthracnose (DA) on flowering dogwood, *Cornus florida*, and to report findings and recommendations to the Governor and the 1992 Session of the General Assembly.

The text of HJR 324 reads as follows:

WHEREAS, the fungal disease anthracnose has destroyed dogwood trees in New York and New Jersey since its discovery in the 1970's; and

WHEREAS, the disease has spread to other regions of the United States; and

WHEREAS, experiments done by the National Arboretum suggest that the American dogwood does not have resistance to the disease; and

WHEREAS, the General Assembly of Virginia has declared the American dogwood to be the floral emblem of the Commonwealth, thereby recognizing the dogwood's importance to the citizens of Virginia; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the DOF, the VDACS, and the Virginia Cooperative Extension Service are requested to jointly study the effects of the fungal disease anthracnose on the American dogwood.

All other agencies of the Commonwealth shall render assistance upon the request of either Department or the Virginia Cooperative Extension Service.

The DOF, the VDACS, and the Virginia Cooperative Extension Service shall jointly submit their findings and recommendations to the Governor and the 1992 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

In response to this request, the DOF enlisted the assistance of a specialist from VPI & SU and another from VDACS. It was agreed that the DOF would address the occurrence of the disease in forest situations; VPI & SU would address the urban/suburban arena, and VDACS would concentrate on the nursery implications. The findings and recommendations in this report are the result of this cooperative effort.

SITUATION AND BACKGROUND

There is still considerable controversy as to whether the organism responsible for causing DA is an imported or native pest. Lending support to those who believe an imported organism is involved, the disease was first discovered in the late 1970s at port cities on both East and West Coasts. Initial reports indicate a widespread and rapid deterioration of flowering dogwoods in New York and Connecticut. In 1983, the same organism was confirmed in New Jersey and Pennsylvania. By 1987, the disease had been reported in over 60 counties in nine states including Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Virginia, and West Virginia. About the same time, the organism was found in North Carolina and Georgia. Soon, South Carolina and Tennessee had confirmed infections as well. Hopes that the cool weather fungus would not be successful in the south vanished along with dogwoods in some affected areas.

In Virginia where the flowering dogwood is both state tree and state flower, considerable interest was generated by the media as news of new finds seemed, at least at first, to increase almost daily. Within the Commonwealth, there are three separate arenas where DA can have an impact: forest, urban/suburban, and nursery. Each of those three is discussed in separate chapters of this report.

CHAPTER 1

Dogwood Anthracnose--Forest Situation

Forest surveys in Virginia have confirmed flowering dogwood to be a forest component in every county of the Commonwealth. Being tolerant to shade, dogwood is often found in the understory beneath taller species having reduced abilities to tolerate shade. Unfortunately, this often gives rise to conditions that favor fungal development. The shaded condition, higher humidity, and cooler temperatures are conclusive to fungal success.

In 1989, the DOF began cooperating in a south-wide effort to learn where the disease was currently active and to establish study plots in counties from which infected dogwood had been identified. Plot establishment began in 1990; Virginia had documented infections in eighteen counties at that time. A total of thirty-seven plots were established in the original eighteen infected counties. Thirty-one of those plots are on private land; another six are located on federal land. Plots were established on a semi-permanent basis; yearly readings will yield some information on disease impact in the Commonwealth. In addition, Virginia data will be used to supplement the south-wide database where, to date, a total of 210 plots have been established.

The eighteen original counties where infections were first identified in forest situations were Amherst, Augusta, Bath, Bedford, Botetourt, Carroll, Clarke, Craig, Floyd, Franklin, Giles, Grayson, Loudoun, Nelson, Patrick, Roanoke, Rockbridge, and Washington Counties. As plots were being established and shortly thereafter, the fungus was identified from Albemarle, Greene, Montgomery, Rockingham, and Warren Counties.

During the summer of 1991, all plots established in 1990 were reevaluated. During establishment and reevaluation, 225 of the 390 dogwoods in the plots were sampled for DA culture. Fifty-one percent of the sampled trees were positive for the causal fungus. Making comparisons of disease severity based on only two years of data is risky, but some generalizations are possible.

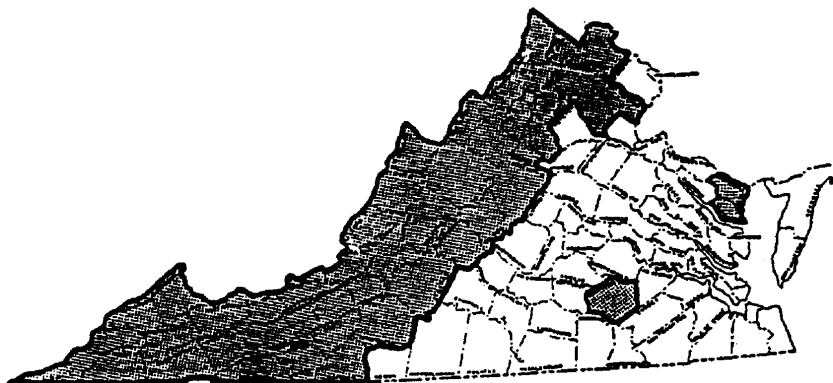
There can be little doubt that the disease has progressed during the interim between the 1990 and 1991 readings. It does not appear that tree mortality within the plots is great, but trees showing infection in 1990 show more severe damage in 1991 and some trees showing no infection in 1990 are now infected to varying degrees. Few trees appear to be more healthy in 1991 than in 1990. In addition, original thoughts regarding the disease being worse where temperature is cool and moisture abundant seems to hold true. High elevation, with cooler temperatures and frequent fog, seems to be optimal for disease development. Even at higher elevations, however, trees on north slopes seem more affected than those on south slopes due, presumably, to the drier conditions generally found on

southern exposures. While there is no set elevation above which the disease is present and below which it is absent, incidence and severity are both more apparent above 2000'.

Based on observation and data, there is little question that dogwood may be lost as a forest component in parts of the Commonwealth. Still, it will not be lost statewide nor, will the species be totally lost from areas where the disease is presently causing concern. While we have little difficulty in locating the disease in areas where it might be expected, there are many other areas, primarily in the piedmont and coastal plain where it has not been found.

During the summer of 1991, DOF personnel made a concerted effort to locate the disease in many different parts of Virginia. All mountain counties are now included as having some infection. In addition, infected trees have been found in Lancaster, Northumberland, and Dinwiddie Counties. This apparent dramatic increase in the number of "infected" counties is not due to a surge in disease severity, but rather is simply an artifact of more people looking for the problem. It is important to realize that there remain areas of healthy dogwood in all of those counties where infected dogwoods have been found. Shaded areas within Figure 1 show those counties from which the DA fungus has been confirmed by laboratory culture.

Figure 1



Forest Findings and Recommendations

Finding: The fungus-caused disease, DA, is well established in Virginia and probably was active before the initial find in 1988.

Recommendation: The DOF should continue to look for the disease in areas where it has not been located. Geographical/area limits on the fungus may assist in development of control techniques should some limit(s) be manageable.

Finding: Even with extensive media coverage and attempts to keep DOF personnel up-to-date, there remains considerable confusion regarding disease identification.

Recommendation: Increase the training available to DOF personnel pertaining to disease identification. This should be of major assistance in, not only better enabling personnel to answer questions from the public, but also support efforts directed toward the preceding recommendation.

Finding: There remain far more questions than answers regarding 1) disease origin, 2) disease variability, and 3) control strategies.

Recommendation: Answers, when available, will come from concerted survey efforts covering wide geographical areas. The DOF should continue cooperation with the southwide survey plot program. If funds become available, the number of Virginia plots should be increased to include many of the new counties where infection has been found since the effort began.

Finding: Present control tactics being considered for nursery and ornamental tree application, have little applicability to woods-grown dogwood. There is simply no way that mulching, fertilization, pruning, fungicide application and the like will ever be feasible in the forest. It would seem the only hopes for forest-based control strategies rest with genetic resistance or manipulation of a natural control agent.

Recommendation: DOF personnel should look for healthy dogwoods in areas where the disease has caused serious mortality. Such trees may possess genetic resistance that could be used in a breeding program. Similarly, DOF personnel should look for areas where the disease would be expected to be severe, but is not. Biological control agents may be present in such areas that could reduce virulence of the DA organism. If such an agent could be manipulated, dogwoods in other areas may benefit.

Finding: Numerous agencies, both state and federal, as well as several universities are involved with survey and research southwide. It is difficult to stay current regarding the various efforts that are underway. Within the South, a DA working group has been formed. Participation in these meetings remains the best way of keeping abreast of current efforts so as to better inform other investigators.

Recommendation: Currently, DOF is represented on the working group and, if funding is available, attendance at the meetings, held once or twice yearly, should continue.

Finding: The disease has been present in the Northeast longer than the South. At a recent meeting, an investigator from New York indicated the disease seems to have stabilized in his area. Certainly, there are areas in the Northeast where the dogwood has been eradicated, but where dogwoods remain, they seem to be holding their own.

Recommendation: Support work in the Northeast aimed at defining how and why stabilization occurred. The reason may help determine what might be expected regarding Virginia's dogwoods.

CHAPTER 2

Dogwood Anthracnose--Nursery Situation

Native dogwoods, *Cornus florida*, are valuable and enduring assets to any homeowner's property. They grow widely on most sites throughout Virginia. Since dogwood is a popular landscaping tree, nursery growers and dealers are very concerned about any disease that would threaten Virginia's state tree and flower. As most nurserymen know, it is in their best interest to sell only healthy plants since their reputation and sales can be adversely affected if poor quality plant material is sold.

VDACS, Office of Plant Protection inspectors, who are responsible for the enforcement of plant health laws, conduct inspections of all plant nurseries within the Commonwealth. During the inspection of dogwoods, inspectors are especially watchful for symptoms of the disease known as DA caused by a fungus of the genus *Discula*. However, since positive diagnosis for field inspectors is difficult, laboratory confirmation is required. Virginia, as well as other states, has taken a strong position to prohibit diseased dogwoods from entering the channels of trade. Suspect dogwoods are not allowed to be sold.

The nursery industry is concerned about the "dogwood doomsday" publicity that accompanied many articles during the past year. This has adversely affected sales of dogwood, as reported to VDACS inspectors from Virginia nurserymen. In talks with nurserymen, eight of 21 inspectors indicated that dogwood sales have decreased because of the public's concern about DA. Four inspectors reported that 12 nurseries have curtailed growing dogwoods because of the publicity surrounding this disease.

Approximately 50% of Virginia's 475 nurseries grow dogwoods. However, **growing** dogwoods in Virginia nurseries has **not** been a problem because of DA. As mentioned earlier, sales have been affected in some Virginia nurseries due to the risk, real or perceived, of obtaining a diseased tree.

While the percentage of dogwoods obtained from out of state varies with each nursery, approximately two-thirds of the dogwoods purchased for retail sales as well as lining-out stock are obtained from other states, primarily Tennessee and North Carolina. This emphasizes the need for all states to have a regulatory program in place to prevent diseased dogwoods from entering the channels of trade.

Nursery Findings and Recommendations

Finding: The flowering dogwood, Virginia's state tree and flower, is susceptible to a fungus disease that is threatening its survival. This ominous scenario translates into consumer fears; homeowners, nurserymen, and nursery dealers are avoiding this valued and valuable species.

Recommendation: Consumers need to be informed and reassured that growing dogwoods in the landscape is not a futile effort. VDACS should continue to work cooperatively with nurserymen and nursery dealers to insure that flowering dogwoods in the channels of commerce are at a very low risk of being infected. Also, current information and technology on disease management should be funnelled through VDACS to the nursery industry so that homeowners can properly care for and maintain healthy dogwoods.

Finding: VDACS Agricultural Inspectors are knowledgeable front-line troops in the battle to detect and prevent this disease.

Recommendation: VDACS needs additional support for laboratory services to diagnose accurately this and other devastating diseases of flowering dogwoods. Because of unfilled vacancies due to budget reductions within VDACS, the State Plant Pathologist now is assigned to duties unrelated to plant pathology. Therefore, he is unable to adequately address the DA epidemic for the nursery industry. Adequate staffing and monies are necessary to administer this objective.

Finding: No one organization or institution has a monopoly on the latest technology and information regarding DA.

Recommendation: All interested parties must interact cohesively on state, regional and national levels, so that current information on regulation, policy, and the biology of DA is available to appropriate individuals. If adequate funding is available, VDACS personnel should be encouraged and allowed to attend state, regional, and national meetings where DA is discussed.

CHAPTER 3

Dogwood Anthracnose--Shade and Ornamental Tree Situation

The value of landscape trees in cities, parks, cemeteries, along highways, on golf courses and historic shrines, and around industrial complexes and homes in Virginia has never been accurately estimated, but it approaches \$0.5 billion. Maintenance costs alone are estimated to be \$50 million. A most conservative estimate of losses due to all diseases is \$20 million annually. Soil compaction and mechanical damage to roots and bole, resulting from vehicular and pedestrian traffic and building construction, respectively, are major destructive agencies to shade and ornamental trees. Tree selection and use of off-site conditions further complicates successful tree culture.

Among the most valuable trees in Virginia is our state flower and tree, the flowering dogwood, *Cornus florida*, recently smitten with a lethal fungus disease, caused by what is suspected of being an imported fungus such as was the case with the fungi causing Dutch elm disease and chestnut blight. This disease, primarily found at higher elevations where low temperatures and high moistures exist, can most certainly spread to and thrive at lower elevations and areas where disease-conducive conditions might prevail, even if temporarily. Also, it is thought that strains of the fungus might be selected naturally that might fare well in, say, the tidewater Virginia areas where temperatures are much higher than in the highlands. Therefore, the Commonwealth is faced with a tremendous challenge to successfully manage this disease. And, should adequate monies be available for surveys and research, researchers are optimistic regarding possibilities. It seems imperative beyond any question that Virginians will not sit idly by and allow this problem to go unaddressed! Management procedures for the urban dogwood are well within our grasp, should modest funding be forthcoming. Research is a most expensive activity, but its fruit in this case would be more than worthwhile and all citizens in the state would reap the reward of findings.

In addition to research activities, publication is needed regarding identification of the disease, and how best to manage it with current technologies that have been developed at VPI & SU and elsewhere. Now, only fragmentary information exists. Parameters are in deep need of exploring and monitoring so that the disease biology (how the disease operates in nature) can be understood better.

Researchers are in need of survey information in the landscape situation; surveys are needed in towns/cities, cemeteries, along highways, and in other sites where dogwood is cultured. This will compliment the forest situation survey being done by the DOF and the nursery situation being monitored by VDACS.

Information compiled by the VPI & SU Plant Disease Clinic documents the disease in several counties, and it is suspected that it is in many, if not most others. Additional accession of specimens continues to expand the range of the disease.

Because of the epidemic and lethal nature of this disease on our state tree and flower, it is crucial that **budgets be established now** to address the problem. Delay in this respect would permit unbelievable destruction of dogwood; Pennsylvania already has indicated they have a 50% or more loss statewide.

Shade and Ornamental Tree Findings and Recommendations

Finding: DA has been abundantly and positively identified in the home/ city/ highway/cemetery/historic shrine/gardens/parks situation in the Commonwealth. It has been identified for the first time on many of these sites, and the numbers of cases are rising greatly.

Recommendation: The Department of Plant Pathology, Physiology and Weed Science at VPI & SU has and will continue to monitor disease incidence, via the Plant Disease Clinic primarily. Additional funding is crucially needed to expand the surveys.

Finding: Many facets of the biology of the disease are unknown at this time. A partial listing of fungicides is available for recommendation, but these compounds are in urgent need of testing at several sites.

Recommendation: Studies are needed to evaluate environmental conditions conducive to disease development under various Virginia conditions. There needs to be a search for strains that are adaptable in the warmer areas. Fungicidal options need to be tested in Virginia.

Finding: Specialists and related workers need to meet, exchange information, become informed, and develop teams to attack this problem.

Recommendation: Support is required to sponsor such meetings. A forthcoming regional workshop, chaired by R. J. Stipes, will be held at Pipestem, WV in April, 1992.

Finding: Publicity and public education on the identification, incidence and severity of the disease is lacking.

Recommendation: Support needs to be increased to provide information on this problem. This can be accomplished by public lectures/programs, purchase and distribution of literature (already printed), and additional TV/radio coverage.

Finding: Because of the dearth and decline of overall support at the university level for research and study of this and other plant diseases, more than ever before we are in

need of any kind of help in developing student research projects, in obtaining technical support and related assistance to attack this problem.

Recommendation: The Department of Plant Pathology etc., could use graduate research assistantships, even partial ones, to underwrite student research projects. It is well known that graduate students provide more and better research data, since they are working on graduate degrees. A budget line item specifically for DA would ensure that this research area is addressed.

APPENDIX A - HOUSE JOINT RESOLUTION NUMBER 324

The following is a copy of the House Joint Resolution Number 324 as agreed to by the Senate and the House of Delegates of the Virginia General Assembly.

**GENERAL ASSEMBLY OF VIRGINIA -- 1991 SESSION
HOUSE JOINT RESOLUTION NO. 324**

*Requesting the Virginia Department of Forestry, the Virginia Department of Agriculture and Consumer Services, and the Virginia Cooperative Extension Service to jointly study the effect of anthracnose on the American flowering dogwood, *Cornus florida*.*

Agreed to by the House of Delegates, January 29, 1991

Agreed to by the Senate, February 12, 1991

WHEREAS, the fungal disease anthracnose has destroyed dogwood trees in New York and New Jersey since its discovery in the 1970's; and

WHEREAS, the disease has spread to other regions of the United States; and

WHEREAS, experiments done by the National Arboretum suggest that the American dogwood does not have resistance to the disease; and

WHEREAS, the General Assembly of Virginia has declared the American dogwood to be the floral emblem of the Commonwealth, thereby recognizing the dogwood's importance to the citizens of Virginia; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, that the Virginia Department of Forestry, the Virginia Department of Agriculture and Consumer Services, and the Virginia Cooperative Extension Service are requested to jointly study the effects of the fungal disease anthracnose on the American dogwood.

All other agencies of the Commonwealth shall render assistance upon the request of either Department or the Virginia Cooperative Extension Service.

The Department of Forestry, the Department of Agriculture and Consumer Services, and the Virginia Cooperative Extension Service shall jointly submit their findings and recommendations to the Governor and the 1992 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents.