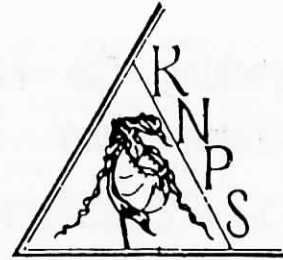


Kentucky Native Plant Society *NEWSLETTER*



Volume 5. Number 4. November 1990.

1990-91 Winter Activities

SATURDAY, DEC 15: WINTER WORKSHOP AT ECU HERBARIUM
(Memorial Science 170--enter through Moore Building off University Drive--Please call ahead of time--606-622-6257, or 623-6494, to register.

9:00 am. Board meeting (important topics--planning for field trips; second symposium on native plant landscaping in 1991; incorporation, bylaws, tax-exemption and bulk-mailing; roadside wildflower survey; posters, slide collection, texts, etc.)

11:00 am. Workshops on (1) roadside wildflower survey (see article below); (2) making educational posters, slide collections and texts (see last newsletter). If you have any interest in KNPS beyond just field trips, please bring your input to these budding projects.

12:00 am. Lunch break with continued discussion (at a local restaurant).

1:00 pm. Introduction to Herbarium. For all members and guests--presentation by Ron Jones (Curator at ECU) and Julian Campbell on university herbaria in Kentucky and their public service potential. We invite subsequent discussion on how KNPS can interact with herbarium functions, and possible linkage with introductory botany courses, seed-collections, botanical gardens, natural history museums, etc...

2:00 pm. Workshop on Plant Identification and Campus Hike (Weather permitting). Ron Jones and Julian Campbell will demonstrate methods of plant identification for the beginner, with a display of useful books, specimens and other materials. Bring questions specimens, photographs and stories. Campus hike will involve keying and identification of evergreen trees.

5:00 pm. Adjourn.

SATURDAY, JAN 26: WINTER WORKSHOP AT UK HERBARIUM

This meeting will be a sequel to the ECU meeting, with the same schedule of events, with presentations by Willem Meijer and Julian Campbell. There will be a special focus on the UK herbarium as the largest in the state, with its special mission of mapping the state's flora. We will also explore interaction with plans for a Kentucky Natural History Museum in Kentucky and the prospective botanical gardens or arboretums in the region. Call 606-257-3240 to register for workshop.

9:00 am. Meet in Room 216, Funkhauser Building (central part of campus at University of Kentucky, turn off Rose Street). Important board business will be taken care of first, but the general membership is invited to attend.

11:00 am. to 5:00 pm. Workshops, presentations and open-house, as described above for ECU meeting.

Launching the KNPS Roadside Wildflower Survey

By Julian Campbell, President

Millions of dollars are spent in Kentucky each year on managing roadside vegetation. However, this management takes virtually no account of the wildflower potential on roadsides, or of alternatives to the increasingly costly mowing at frequent intervals. After consultation with KNPS members and various experts around the state, I have decided to commit KNPS to a survey of the most interesting wildflower sites on Kentucky roadsides. The primary goal is to determine where the best sites are in each county. It is my intent that this survey become the society's first real, completed project, beyond our regular field trips and meetings. This project will fill a void in popular botanical knowledge that no other organization is currently addressing. The results will have great importance for wildflower conservation as well as scientific interest.

The immediate practical result of the project will be simply to accumulate information on roadsides of special interest for aesthetic or scientific reasons. This combination of interests means that amateur botanists can participate as much as professionals. I expect all KNPS member to do their duty in nominating and describing sites! As a direct incentive to each contributor, I pledge to return immediately any available information that I have about important roadsides in their region. Please, at least, let me know of favorite spots in your town, county or region; also, try to revisit neglected spots and explore new avenues. Procedures for supplying information are given below. The data that we accumulate

will grow from year to year, and we will provide an annual summary report. We will accumulate, file, review and evaluate the importance of individual site reports, and we will mark locations in a county road atlas. If time permits, information will be entered into a computer database format. This information will be kept in my office and also deposited at the Kentucky State Nature Preserves Commission office.

Ultimately, this information will be used to select sites for special action. We will be able to advertize the best sites for guidebooks, tourist information, photography, field trips, etc.. We will work for their conservation, especially by developing management plans with state or local government and other organizations. In addition to being of intrinsic interest, the best sites that we come up with will be relevant to the wildflower planting program that has recently begun at the Kentucky Dept. of Transportation on an experimental level. Our sites will suggest species, and offer seed sources, for nursery propagation that is geared to roadside establishment. Moreover, differences in native roadside vegetation between regions and soil types will suggest how to tailor species selections for local conditions. Mr. Carl Wells and other staff at the Dept. of Transportation have told me that they are currently seeking this kind of information. He has already consulted with University of Kentucky personnel and the Kentucky Native Plant Society, with Mary Wells (Horticulture Dept.) being the main contact person. After our society's initial stimulus of the fledgling DOT program, it is important not to let our support lag.

Because no other group is attempting such a survey, we will be able to link this special effort with our society's name and reputation. This should develop nicely when we advertize the results of this survey

in a few years' time, and begin to provide advice on management plans (perhaps involving no herbicides, mowing only once or twice a year in the winter, experimenting with fire).

WHAT KIND OF SITE IS IMPORTANT?

The kinds of sites we are interested in should have one or more of the following features.

(1) A showy display of native wildflowers. Anyone can help judge this. Each KNPS member can determine where the best sites in their county are, simply by driving around in different seasons. Take a friend to alternate driving with looking--let's not start a new wave of accidents, just when drunk driving is getting under control. Pullover to take photographs and make collections (send me dried pieces for identification anytime).

(2) A rare native species, especially one that seems to occur mostly along roads or other rights-of-way. We don't have to be narrow in our definition of "rare". A species may be widely scattered and frequent in some parts of the state, but much rarer in other parts. We are trying to find the most interesting roadsides within each county, so such local rarities are just as important in this project. However, there are some particularly rare species on roadsides that deserve more thorough attention. Fortunately, the Kentucky State Nature Preserves Commission has already accumulated available information on most of these rarer species, e.g., the red "wood-lily" (*Lilium philadelphicum*) and "royal catchfly" (*Silene regia*).

(3) A remnant of naturally open vegetation, which was free from dense forest cover before settlement. This may be more difficult to judge without professional experience, and we may never know how certain sites

derived their existing vegetation. Nevertheless, indications of natural origins are: (a) absence of "exotic" (non-native species); (b) presence of rare native species; (c) occurrence in an area with known historical openings (rocky glades, burnt barrens, grazed prairies or upland canebreaks). These types of vegetation are among the rarest, most disturbed and most endangered types of natural vegetation in the state. Until now, the few good remnants have generally been neglected by government agencies and conservation groups.

What can members do know? Photocopy the enclosed form (on reverse of membership form) and send me information! Come to the winter workshops (see above) for further information. We should begin planning now for the upcoming season.

The Principles of Seed Collecting

by Dennis Feedback, Frankfort

Many people are interested in collecting seed for a variety of reasons but are hesitant, thinking the process is complicated and time consuming. With just a few basic principles anyone can successfully collect seeds and grow them. Not on a commercial basis perhaps, but certainly well enough to propagate desired plants for personal use.

With the present interest in wildflowers, native woody plants, and their use in gardening and landscaping, many people would have occasion to collect from wild stands. While seed collecting is certainly preferable to digging the plants there are considerations to keep in mind. Never collect all the seeds from a plant or stand of plants of any species. Some of our natives are endangered and should not be disturbed in any way. Others, while not presently endangered, would

become so if exploited. Which brings us to the first principle of seed collecting: know the species you are collecting and take the time to find out if it is a rare species, its distribution and frequency. You will certainly need to know its habitat requirements if you intend to grow out the seeds. There are two books that I would recommend to anyone interested in Kentucky native plants. Both are by Mary E. Wharton and Roger W. Barbour and published by The University Press of Kentucky: *Trees and Shrubs of Kentucky*, and *Guide To The Wildflowers And Ferns Of Kentucky*.

There are other principles that should be kept in mind when collecting seeds. Remember that seeds are living things and as such have certain requirements that must be met to maintain that life. Again, take the time to know the species you are collecting, and their specific requirements. Also, never adulterate a collection of seeds with any material, i.e., other seeds, etc., that can be prevented. It can only cause problems and confusion later, particularly in regard to questions of species, variety, etc. However, complete removal of extraneous material from the seeds in preparation for storage and planting is usually impossible.

With these three principles in mind the actual collection, cleaning and storage of seeds is a simple, straight-forward undertaking. The first step in the process would be the selections of plants from which to make the collection. Choose the plants while they are still in bloom to assure that they are the kind that you want; try to find ones that are vigorous and typical of the species. Once the plants are chosen, a simple way to mark the plants is to obtain a roll of plastic surveyors ribbon at an engineering supply store and tie a piece near the top of the plant or near the seed head desired. It will be much easier to locate after the

bloom has fallen and the plant has faded or withered.

Having selected the desired plants the next question is when to collect. There are numerous clues as to when seeds are ripe. These clues, as well as the basic collection, cleaning and storage techniques, can be addressed in future articles.

Woodford County's Sinking Creeks Unveiled

by Van Shipp, Versailles

When you go into the field, you must be free to let your mind wander. Otherwise you will miss some previously unobserved phenomenon which you may have passed many times unaware of on previous excursions.

I am writing of the discoveries today in a casual stroll I had through the Big Sink Spring Creek in Woodford County; that upper part of Lee's Branch which passes through our personal family property, which we are retaining, at the expense of selling off the best land and leaving the rough, for its diversity and variety in wild plants and nature. I hate to see the good level fields sold to satisfy the cash requirements of some in the family, but I firmly believe that the other three of us, the three older brothers are retaining the best of an inheritance.

This is not to say that farming on it will not continue. It will. We have enough tillable, level land and the facilities to sustain a cow-calf operation in concert with the "home place", which has never been out of the family, and we are also crossed by a part of the "Sinking Creeks" karst complex.

These diverse group of wetlands, seemingly random and isolated segments, are all connected by

underground drainage. They provide much of what is left of wild nature in northern Woodford County. Their vegetation has little in common, as each spring surfaces only to disappear in a different pattern. In my walk I made two observations about herons. One is that the Giant Blue Heron and the Little Green can live side by side. I also observed the extreme patience of the Little Green Heron, standing motionless for seemingly endless periods of time in knee-deep water until an unwary meal passes by. I have read about this ancient trait, but was made keenly aware of it today, as I watched with amazement from the bank of a pond.

Another discovery, in a small wetlands created by a small creek leading into Lee's Branch, was the presence of the northern catalpa. There are also a number of these trees, reaching high into the canopy, in the Big Sink Springs swamp. I am convinced that they are native and disjunct from sites in western Kentucky. At these same sites I also found the duck potato, snapdragon, monkey flower, cardinal flower, and an unknown running mint. I noticed legions of yellow senecio blooming in the swamp. This entire area is annually covered by a huge lake which forms of about 20 acres, and gradually recedes in the summer.

Each area of the Sinking Creeks--Lee's Branch, Gays Spring, Alexander's Spring with its Beals Run tributary, has its own particular array of plants. Some, such as mandrake and toothwort, are common in all, others are more restricted to certain sites of distinctive geology. These different species may be discussed in later articles. I am interested in trying to elucidate the diversity of these little known and unappreciated series of natural enclaves in north-central Woodford County. This wetland system has barely been touched scientifically, and could involve a lifetime of unraveling.

E.H. Richards: A Dedicated Naturalist

Personal reflections by John Tierney,
Naturalist, Carter Caves State Resort
Park

E.H. Richards died as a result of an extended illness on September 23, 1990 in Lancaster, PA. I learned about it a few weeks later. Since I felt that I was pretty close to Mr. Richards, it may seem a little strange that I didn't know sooner. But the fact is, that's the way he operated.

I first noticed Mr. Richards in the early 1970's as a frequent visitor to Carter Caves. He was more likely to visit the park in the Spring and Fall and he showed an intense curiosity about the flora of the Park. He never attended any conducted walks, preferring to roam the back country of the Park on his own. On occasion, I would slip off with him and we would spend 2 or 3 hours scouring the hills of the Park for anything that was unusual. His diminutive stature and frail appearance, at first concerned me, but after a few trips with him, I discovered that he could climb hills and even walk along cliff edges far more expertly than most people half his age. He certainly led me on many a merry chase. On an early excursion, we came to a creek that was running swiftly from spring storms, we were looking for a way across, and before I knew what was happening, Mr. Richards found a fallen tree spanning the creek and swiftly, like a gazelle, he skipped across the log. I mustered the courage to follow, but I did so, behaving more like a sloth.

Mr. Richards had worked 40 years for the government. He was a chemist by vocation. Having grown up in Bath County, Kentucky, he maintained a lifelong interest in the land where he grew up. His visits to Carter Caves would include stops,

coming and going, to his favorite places. I am convinced that in his lifetime, he traipsed over the hills of eastern Kentucky enough to become thoroughly familiar with the vegetation in these places. He likely knew the locations of certain rare or unusual plants that only he knew. He regularly checked on them as if they were children.

His interest in ferns was such that he was recognized by various people as an authority on Kentucky ferns. Several years ago, he found a Scott's Spleenwort at Carter Caves. As was his custom, he wanted to take me to see it. It was in the middle of a picnic area and was vulnerable. He made me promise to check on it and protect it from harm. I tried my best to do it, but sure enough, it disappeared before his next visit. We spent the better part of the day looking for other specimens. We finally found some, and believe me, I was very relieved to have done so. Not because he was angry, but because I knew that he was really concerned about it.

Sometimes, Mr. Richards would make his usual unannounced visit to the Park and I would not be there. When I returned and was told that he had been there, I knew what to expect. I walked the trails looking for his "monuments." When he found something that he thought I should know about, he would place a marker on the trail to indicate that something important was close by. a piece of yellow cloth on a tree branch, a forked stick stuck in the ground...these were things that I would look for. When I saw them, sure enough, close at hand there would be an orchid, pachysandra, spleenwort, or something else that was worthy of note. Carter Caves was not the only place that he did this, because I have been to other parks where I found his markers. He told me it helped him remember where he had found them.

Later, when Mrs. Richards died, and his daughters had left home, he began to spend Thanksgiving with us at Carter Caves. He would wait patiently for me in the dining room of the Lodge in the mornings. We would talk about ferns, orchids, and other things which could be out there waiting to be discovered, and then he would be off, to roam the hills, checking on his little "children."

I last saw him during a Native Plant Society outing at Carter Caves. We spent the day looking at ferns: he, walking up the trail finding them, and me, trying to get the group to keep up with him.

He left that day, headed for Lockegee Rock to check on his ferns. I listened to him scrape through the gears of his standard transmission and I watched him take the green Mercury around the corner and he was gone. I kept expecting him to turn up in the dining room some morning, but he never did.

I miss him, but he left a legacy of friendship that I will remember through my life, and I'll continue to look for his markers in the woods.

FOOTNOTE TO ARTICLE ON MR. RICHARDS, by Julian Campbell

In memory of Mr. E. H. Richards, the Fern Society of Greater Cincinnati donated \$60.00 to KNPS. We thank Marcia H. Winborne, Treasurer of that society, and the other Fern Society members for this support. Marcia's address is 3510 Arnold St., Cincinnati, OH 45208-4474. We will certainly remember E.H.R.'s enthusiasm as we apply these funds. Perhaps a good idea would be to make a traveling poster exhibit featuring Kentucky ferns.

On a personal note, I can't help but remember E.H.R. on an exceptionally hot August day two years ago when I asked him to relocate the purple fringed orchid (*Platanthera psycodes?*) he recalled seeing above the waterfall at Torrent

in the 1970s. First I succeeded in virtually hanging him up in brambles and grapevines as we took a look at the nearby may-star (Trientalis). Then, despite his frailty, we gradually clambered up the disused, eroded trail at Torrent and found one orchid leaf, alas not flowering. We rested on the crest of the falls and talked about nuclear power. We also looked along the Chimney Top Rock road where he had seen wood-lily. He reminisced about former U.K. professors. This peaceful man gave KNPS a much needed link with past Kentucky botany, and we all miss him dearly. In his last letter, he expressed how much he had enjoyed his association with us.

Using Topsoils as Sources of Native Plants

Gary L. Wade, USDA Forest Service,
Berea

Introduction

Many attempts at creation or restoration of communities composed of native species are centered around the use of collected seed, rhizomes, cuttings or cultivated specimens of individual plants and species. This often leads to establishment of communities with characteristics of the desired dominants, but species richness often does not approach that of the natural community. Seeds of most native species are not commercially available, or they are difficult to obtain and are therefore very expensive. Also, many plant species require specific symbiotic soil microorganisms which are not available from seed companies.

However, entire communities of native species can be started using seed, other propagules, and microbes present in topsoil seed banks under many different plant community types

including forests, grasslands, and wetlands.

Many native plant species produce seeds or spores which become buried in surface soils and then remain viable for long periods of time. Seed banks provide plant species with a method of avoiding unfavorable growing conditions which may be seasons to decades in duration. These seeds will germinate when proper conditions occur—light intensity or color, day length, temperature or its daily fluctuations, moisture, soil nutrients, elapsed time, or some combination of these. After a change of seasons or a disturbance they provide a suite of species adapted to the community, climate, and soil conditions. Topsoil seed banks can be used for establishing these species in another location via collection and redistribution of these topsoils.

Composition of Seed Banks

Species composition of soil seed banks is a function of the source community type history. Seed of pioneer and early successional species usually dominates the seed bank in most ecosystem types. Many of the species in the seed bank are pioneers which have been eliminated from the aboveground community by the process of community succession. These species are disturbance adapted and have characteristics desirable in the formative years of a new plant community. However, many tree species are not well represented in the seed banks because their seeds are easy targets for seed predators, and because long-lived species that produce yearly seed crops have no need to produce seeds that persist from year to year in the soil.

When to Use Seed Banks

Use of topsoil seed banks is most logical when the long term goal is the establishment of a large numbers of species characteristic of a specific

community type. This may be desired for community restoration in disturbed areas of historic significance or for establishment of communities of natural character and composition. An assemblage of native species will also have value as a source of diverse foods and habitat for wildlife.

Considerations

Amount, availability and source of the topsoils must be considered when use of topsoil seed banks is contemplated. Seed-bearing topsoils are usually about 15 cm thick. Low seed quantities below this depth generally make deeper soils a diluting material more than a seed source. If topsoils are used as a propagule source rather than a growth medium, they can be "stretched," that is, a 15 cm deep soil collection can be redistributed in a 2.5 cm deep layer over a receiving area that is six times that of the source area. A 2.5 cm layer has proved sufficient to supply a complete cover of native species in only one growing season. Thickness has been reduced to as little as 1 cm with some success, but growing conditions in that study were very harsh and a 2 cm layer was no more successful. Shallow tilling to incorporate a 1 cm layer into the substrate did not result in significantly different results from no tilling of the same amount. Distribution of the topsoil into patches or strips can further extend topsoil coverage, but gaps must then be tolerated until they are filled by second generation seed or other successional processes.

Collection of topsoil does cause disturbance to the source area, but if only small amounts are needed for small projects, then the disturbance may be justified. Small source disturbances themselves may be rehabilitated using the topsoiling

technique. A "topsoil and seed bank rescue" can precede planned disturbances such as road, subdivision, or industrial construction, and large amounts of topsoils can thus be made available.

Topsoils and their propagules should be matched to the receiving site. Seed bank species from mesic sources are likely to fail on xeric sites. Large elevational differences are also likely to reduce success. Matching soil types may be less important. We have successfully established many species on mine soils of both higher and lower acidity than the source areas. However, many species in basic or neutral soils might not successfully establish on strongly acidic soils. Seed banks on opposing aspects of the same hill or ridge may have considerable differences in species composition and populations.

Topsoils often contain important microbial components, especially fungal symbionts, that aid and in some cases are required in the establishment of plant species. Therefore, adding top soil to virgin soil areas such as road embankments, barrow areas and newly exposed mine spoils may be very important. Even where native plant species in a seed bank might be of secondary importance in the desired plant community, they may have value as necessary hosts and nurse species for microbial symbionts required by native species which are seeded or planted later.

Techniques

Topsoil collection can be accomplished at any scale using equipment ranging from shovels and buckets to large pan scrapers used in highway construction. In forested source areas, we have successfully used a small bulldozer to push topsoil into piles next to a forest road where a front end loader then transferred

them to dump trucks. The dozer went between and around standing large trees in the donor forest tract; saplings and other vegetation were taken with the topsoil. (The forest was then logged and remaining materials were removed for highway construction.) Trucks then could "tailgate spread" the collected topsoils on the receiving site if the topsoils were relatively dry. Rain-wet topsoils did not spread easily from the truck. Additional spreading was done with a tractor-mounted scraper and with hand tools.

Several experiments in use of topsoil for species introductions on mined lands have shown that stockpiling topsoils for long periods of time, a few months to a year or more, reduces viability of contained seed banks and microbial populations. Direct use, pickup from source and spreading on target site, causes fewest propagule losses, and microbial populations and small soil fauna are more likely to survive such a transfer.

Where new native species communities are being established on pre-existing soils, a seed bank may already be in place although the species composition may be undesirable. Grasses, especially aggressive sod-forming types, may also provide unwanted or overcompetitive species. Soil sterilization with gases such as methyl bromide under a plastic cover is very effective in small areas, but on large areas this becomes impractical. Methyl bromide is also somewhat hazardous and state-certification of purchasers and applicators is required in Kentucky. Deep plowing in Spring followed by twice weekly disking for three weeks has successfully controlled most of a Kentucky-31 fescue sod in a pasture although there were some surviving fescue clones and native or naturalized species. Preparation of

a good quality seed bed also assists in the establishment of native species.

In some situations, a herbaceous cover of grasses and legumes may be sown also with the seed bank to reduce erosion. Many ground cover species such as fescue, ryegrass, and the lespedezas have proven to be quite competitive and they can cause complete failure of native species establishment. Land reclamation efforts using topsoil seed banks in Australia have successfully used forage sorghum seeded at about 10 kg/ha as a cover crop to reduce wind erosion and surface temperatures. In temperate forest seed banks of the eastern U.S., native species are slower to establish than common ground cover species used in land reclamation. On steep sites where erosion may be critical, extensive use of seed banks might not be desirable except in protected strips or patches.

Mulching after topsoil spreading is often desirable. A mulch reduces surface temperatures and erosion and it slows evaporative soil drying. Seedy or hay mulches should be avoided because species introduced by the mulches themselves may be quite competitive. We have found that wheat from wheat straw mulches provides a reasonable amount of early ground cover, but it is not too competitive for native species. Residual mulch material in the second year also seems to assist in establishment of propagules newly reaching the site, and perhaps it also assists establishment of seed bank species which might not germinate until the second year. Mulch may also lessen seed predation by rodents and birds by reducing the visibility of seeds on the surface of topsoils.

Irrigation can promote the successful establishment, growth, and reseeding of native species from seed banks, especially on xeric sites.

Results of one study indicate that irrigation can lessen (but not eliminate) the competitive effects of seeded grasses on seed bank species.

Careful soil seed bank sampling might also be used to recover seed of specific rare species in soils where they are expected to occur such as in senesced or historically noted community sites. A decimeter-square sample from each square meter of an area would result in considerable amounts of soil from even modestly-sized areas with a disturbance that totalled only 1 percent of the source surface area. The recovered topsoil could be used to germinate and grow a target species under controlled environmental conditions or introduce the seed bank species to another suitable environment.

Problems

No environmental management technique is without its problems, and use of seed banks is no exception. Seed banks can potentially contain unwanted native or naturalized species such as poison ivy, grape (a bane of foresters), or honeysuckle. Some soil-borne diseases may also be established in new environments in this manner. However, these problems can be largely avoided through careful inspection and choice of source areas.

Inspection of source areas will not reveal all species available in the seed bank. Some species, formerly present as pioneers after past disturbance, will be present as long-dormant seed without representation among the visible plant community.

Many native species have "windows" of nondormancy, during which time they can germinate if environmental conditions are acceptable or physiological triggers are activated. At the end of this time they may become dormant once more. If topsoils are collected and

redistributed outside of this period of nondormancy, seed of these species will not germinate until season and environment again become favorable. For this reason, some native species will have significant delays before they germinate and appear.

Seed bank sampling, if undertaken to determine seed bank quantity and quality, can provide useful data but it may also give misleading results due to species dormancy problems compounded by time of collection and test conditions. Artificial stratification by a two-month period in refrigeration above freezing can lessen the dormancy problem. Seed distribution in nature is also patchy. Extensive numbers of small samples therefore need to be taken, and a weighted, stratified random sampling plan is considered best.

Finally some native species do not have a persistent soil seed bank. This is most often true of late successional species, most especially trees. Thus, supplemental seeding with selected species will often be required in order to achieve a complete type community of native species.

Suggested References

Farmer, R. E., Jr., M. Cunningham, and M. A. Barnhill. 1982. First-year development of plant communities originating from forest topsoils placed on southern Appalachian mine soils. *Journal of Applied Ecology* 19:283-294.

Leck, M. A., V. T. Parker, and R. L. Simpson. 1989. *Ecology of Soil Seed Banks*. Academic Press, Inc., San Diego. 462 pp.

Wade, G. L. 1989. Grass competition and establishment of native species from topsoil seed banks. *Landscape and Urban Planning* 17:135-149.

News and Announcements

KNPS is now Incorporated!

KNPS has finally taken the steps for incorporation. Many thanks to KNPS member Mr. R. Hughes Walker for doing the legal work and drafting the articles for incorporation. Incorporation will soon allow KNPS to be tax exempt, obtain a lower postage rate, accept tax deductible donations, and generally operate as an independent financial entity.

Reminder on Membership Dues

Please send in your dues promptly. Note that the current dues now are \$5 for individual and \$7 for a family. A membership form is enclosed for your convenience.

Discount on Horticultural Publications for KNPS Members

The American Horticultural Society is offering a discount on its publications to KNPS members. This society is offering a Subscribing Membership, which will include a subscription for American Horticulturist magazine, for only \$6 a year (for 6 issues), and an Associate Membership for \$15, which will include the 6 issues of the magazine and the monthly News Edition of the magazine. If you would like to receive this offer send an extra \$6 or \$15 in with your \$5 KNPS dues (checks made out to KNPS), and we will forward your name to the magazine. The normal subscription rate for this magazine is \$35.

KNPS T-Shirts on Sale!

We still have T-Shirts from the Natural Bridge Wildflower Weekend of 1990 available. Some of these had

a fading problem, but all have been corrected now. The T-shirts are heavy duty Hanes and Jerzees Brands, are available in a variety of colors, and feature a silhouette of a columbine. There is still time to get them for Christmas if you send in your order soon. See the enclosed membership/order form.

Report on KNPS Symposium: Landscaping and Gardening with Native Plants

This symposium was held at Maywoods Environmental and Educational Laboratory in Garrard County, on October 5-7. There was a capacity crowd of about 50 people, and they heard an excellent series of presentations on many aspects of landscaping with native plants. The talks were very well received, the discussion stimulating, and a good time was had by all. The facilities at Maywoods proved ideal for the meeting, the food was excellent, and many thanks go to Homer Strong and staff at Maywoods for the arrangements. Even the weather cooperated and gave us 2 excellent days for hikes in the area. We thank all of the speakers and hike leaders, and especially everyone that attended and showed their interest in native plants. The symposium provided a lot of information to the participants, and also allowed time for meeting and socializing with new and old friends, and an opportunity to just get away for a couple of days to a relaxing setting, and enjoy the early fall scenery.

The Kentucky Native Plant Society, Inc. was founded in 1986 as a botanical organization for all persons interested in the native flora and vegetation of Kentucky. The goals of KNPS are to serve as a medium of information exchange, to promote native plant conservation, public education in botany, and botanical research in Kentucky. Annual dues of \$5.00 (family \$7.00) may be sent to KNPS, c/o Tom Bloom, 900 Keenon Rd., Harrodsburg, KY 40330.

The KNPS NEWSLETTER is published quarterly (Feb., May, Aug., Nov.). Please notify us four weeks in advance of any changes of address. Back issues of the NEWSLETTER are available for \$1.00 each. Send articles and correspondence to: Editor, KNPS NEWSLETTER, Department of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475.

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