POTOMAC BONSAI ASSOCIATION

Newsletter

ISSN 0160-9521

VOL 16 NO 9 SEPTEMBER 1986

CALENDAR OF EVENTS

Bob Sitnick,at this writing,is well on the road to recovery after a successful operation in which a malignant kidney was removed. Because of the ailing kidney, Bob's health began to deteriorate well before IBC '86, and we are indeed grateful that Bob as Chairman of IBC '86 hung in there until IBC '86 ended.

17 August Sunday — Mr. and Mrs. William J. Spencer are proud to announce an addition of a new branch to their family tree.

David Elliot

In training since Sunday, August 17,1986. Weight - 9 pounds 7 ounces. Length - 21 inches. (From the announcement of the birth of a son to Jay and Bill Spencer. CONGRATULATIONS!!!!!)

13 September Saturday — BOWIE: 10: a.m. at the Bowie Community Center. Bring trees, tools,wire, etc. There will be a discussion of the Fall collecting trip. Questions? Call Jim Sullivan at work 496-5195 or home 262-9633.

13 September Saturday — NORTHERN VIRGINIA (703) 644-4822: Green Springs Horticultural Center at 10:00 a.m. Telephone the previous number for details

20 September Saturday — WASHINGTON (202) 583-2676: National Arboretum at 2:00 p.m. INDOOR BONSAI. We will start with a JADE (Crassula Arborescens). Please purchase the jade and bring it with you to the meeting. Other plant material that you may want to consider are Benjamin fig (Ficus Benjimina), Natal Plum (Carissa macrocarpa).

25 September Thursday — BROOKSIDE (301)744-9028: Argyle Community Center. 7:00p.m. BEGINNERS' CORNER. 7:30 p.m. Preparation for the White Flint Show. Bring tres that you wish to put in the show on October 18th. We display trees in all stages of development. All members are encouraged to participate.

18 October Saturday — WASHINGTON (202) 583-2676: National Arboretum at 2:00 p.m. INDOOR BONSAI. Serissa wil be the plant material. The tentative plan is to make this the indoor charter tree for the Club. Unless you hear differently, a plant will be provided.

For information on the following clubs' activities, telephone: ANNAPOLIS (301) 263-3995; BALTIMORE (301) 669-1487; KIYOMIZU (301) 423-8230

PBA NEWSLETTER: Published by the Potomac Bonsai Association, Inc. (PBA), a non-profit organization, in the interests of its affiliate member clubs and societies.

CIRCULATION: Over 300 internationally on a monthly basis.

SUBSCRIPTIONS: PBA membership includes 12 monthly Newsletters covered by part of the annual membership dues. Corresponding membership: $ 6.50 for 12 monthly PBA Newsletters. Make checks payable to: Potomac Bonsai Association and mail to M. Hersh, 1o2 Devon CT., Silver Spring, MD 20910.

ADVERTISING RATES: Monthly rates: 1/4 page - $ 5.00; 1/2 page - $ 10.00; full page - $ 15.00 . 20% rate reduction for advertisements that run for 3 or more consecutive months.

ADVERTISEMENTS and/or ARTICLES: Send to J. F. Koetsch, 6709 Caneel Ct., Springfield, VA 22152, (703) 569-9378.

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WASHINGTON, D.C. 20002

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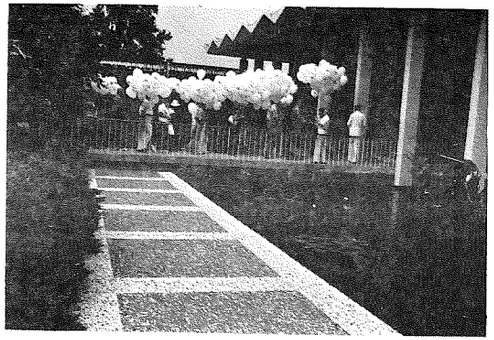
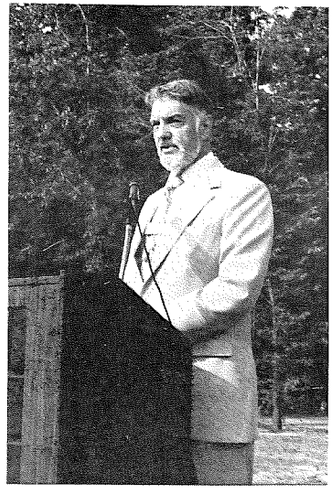
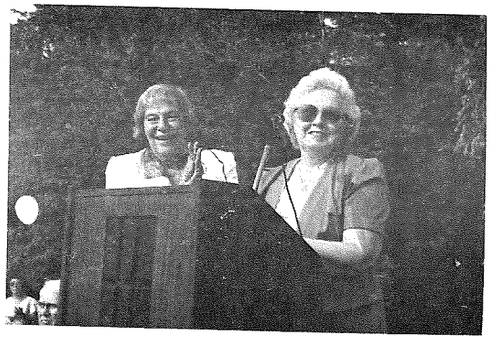
SITE DEDICATION CEREMONY *FOR THE* AMERICAN BONSAI PAVILION *AT THE* U.S. NATIONAL ARBORETUM

Those who attended IBC '86 had the opportunity to be present at the Site Dedication Ceremony for the American Bonsai Pavilion at the U.S. National Arboretum on the evening of 11 July, 1986. The significance of the occasion can be found in Dr. Orville G. Bentley's keynote speech which follows the photographs. The Department of Agriculture is now officially commited to allowing the American and Chinese pavilions to be constructed at the U.S. National Arboretum and the bonsai complex to be completed. Dr. Wu's trees are here and in quarantine.



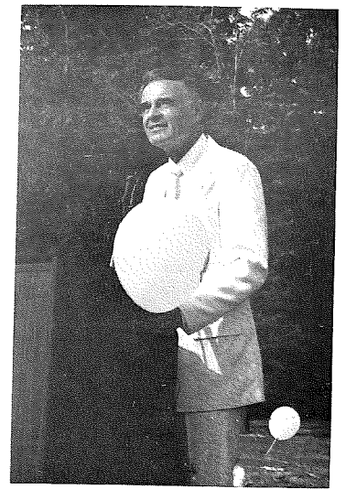


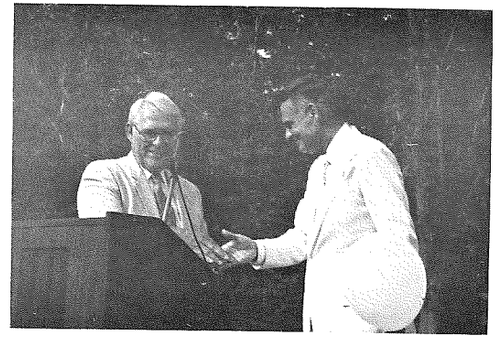
Above: Upon arriwal at the Arboretum balloons were given to attendees.
Right: Bill Merritt opens the ceremony.



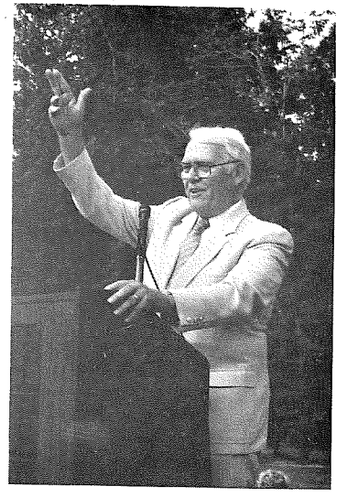
Left: Marion Gyllenswan, President of The National Bonsai Foundation receiving a check to the Foundation from Elyse VanDyke, President of Bonsai Societies of Florida, Inc., on behalf of that organization.

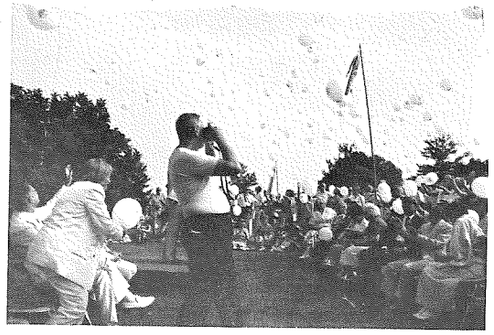
Photos by Howard Clark





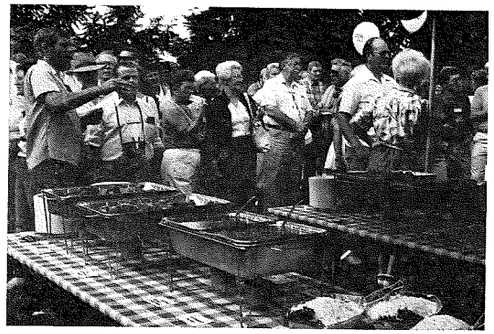
Left: Dr. H. Marc Cathey, Director of the U.S. National Arboretum, addressed the audience and then introduced Dr. Orville G. Bentley, Assistant Secretary for Science and Education, U.S. Department of Agriculture (see the above photgraph).





Left: Dr. Bentley gives the signal for the release of the balloons shown in the above photograph.

Photos by Howard Clark



After the dedication ceremony everyone lined up to partake of the southern barbecue.

While everyone was eating, The Dixie Rebels played Country and Blue Grass music.

Photos by Howard Clark

REMARKS BY DR. ORVILLE G. BENTLEY, ASSISTANT SECRETARY FOR SCIENCE AND EDUCATION, U.S. DEPARTMENT OF AGRICULTURE, AT THE SITE DEDICATION FOR THE AMERICAN BONSAI PAVILION, US NATIONAL ARBORETUM

11 JULY 1986

I saw a bumper sticker recently that caught my attention--it said "Think Small--Grow Bonsai". "Think Small" is appropriate advice for the individual bonsai grower, but it certainly doesn't apply to the Bonsai movement in the United States, or to the National Bonsai Foundation.

Judging by all this activity in the present, and the impressive plans for the future, Bonsai enthusiasts are clearly people who "Think Big". "Thinking Big" is what has brought us here tonight. We are dedicating the site for the construction of the American Bonsai Pavilion. It's the next stage in the plans for a National Bonsai Complex here at the Arboretum. We at USDA are proud that the Arboretum is becoming the focal point for the study and enjoyment of Bonsai in the United States.

We are delighted to be able to work closely with the National Bonsai Foundation to advance the study of the ancient art of Bonsai. The completed complex will be unique. For the first time anywhere (including Japan) visitors will have the opportunity to compare and contrast the various styles of Bonsai. Dr. Cathey has just returned from Hong Kong with the Penjing plants for the proposed Chinese Pavilion. (Of course, they'll be in quarantine for a while.) The juxtaposition of Japanese, American, and Chinese Bonsai will provide a study in similarities and differences that will be stimulating from both artistic and horticultural standpoints.

Unlike the construction of the Japanese Pavilion, which was carried out with Federal funding, the American Pavilion will be financed entirely through donations from the private sector -- and then given to the Federal government for all citizens to enjoy. The fact that Marion's team has already raised a great deal of money for this project is a compliment not only to their hard work, but to the strong support of the Bonsai community. The unpaid labor of many talented volunteers--and the private contributions of individuals, clubs, societies, and commercial firms have brought us this far. But there is still a long way to go before the dream is realized. We must keep up the effort.

This past Tuesday, we celebrated the Tenth Anniversary of the gift of the Japanese Bonsai Collection -- from the Nippon Bonsai Association on behalf of the people of Japan--to the people of the United States in honor of the American Bicentennial. In releasing the Japanese gift, Mr. Takahashi, Vice-President of the Nippon Bonsai Association, referred to it as a "Green Culture Mission for Peace."

That same motto is written on the balloons you are holding. In the spirit of that living gift of friendship and peace between two nations -- I want to ask all of you to release your balloons. Let's send them on a symbolic "Green Culture Mission for Peace

Thank You.

THE WHITE HOUSE

WASHINGTON

July 29, 1986

Dear Mr. Naka:

Congratulations on being honored by the International Bonsai Congress. You have made an extraordinary contribution toward the understanding and appreciation of the beauty and significance of the Japanese culture through Bonsai, while utilizing native American materials. Your unique talents have brought many honors and I am delighted to see this most recent recognition of your achievements.

Nancy joins me in sending our best wishes for continued success.

Sincerely,

Ronald Reagan

Mr. John Yoshio Naka
Post Office Box 78211
Los Angeles, California 90016

The above letter is a copy of the one sent to John Yoshio Naka. Bill Merritt had started the action to have the above letter available at IBC '86. However, when Bill checked into it, it developed that the effort had become lost in the White House daily business. The next best step was for Bill to send it to John's wife, Alice, who secretly had it framed so that Bill Merritt's son, Todd, could present it to John at his birthday party. John Yoshio Naka was born on August 16, 1914 in the year of the dragon so this year he marked his 72nd birthday,- another year of the dragon.

PLANT NUTRIENTS

Everyone growing bonsai is concerned with whether or not not their plants are getting the proper nutrients. Towards this end, the following information was extracted from "SOIL, The Yearbook of Agriculture 1957", U.S. Department of Agriculture, Washington, D.C. At the time of publication, 16 elements were recognized as essential to the growth of higher plants. Of these 16 elements, 9 are classified as "macronutrients" and 7 as "micronutrients",- the prefered name over "trace elements" or "minor elements".

The 9 macronutrients are:

Carbon	Hydrogen	Oxygen
Nitrogen	Phosphorous	Potassium
Sulfur	Calcium	Magnesium

The 7 micronutrients are:

Iron	Manganese	Zinc	
Copper	Molybdenum	Boron	Chlorine

The book went on to mention that there were 12 micronutrients known at that time of which iron, zinc, boron, copper, and manganese have become of widespread importance in soil fertility.

Of the 9 macronutrients, carbon, hydrogen and oxygen are provided by the atmosphere and water; all of the hydrogen would come from water.

The remaining 6 macronutrients are covered in more detail in the following paragraphs.

NITROGEN

Function : Causes in the plant, a good rate of reproduction, growth and respiration.

Symptoms :

Lack of: Foliage yellow and stunted.
Yellowing and dropping of leaves farthest from growing shoots.
Dwarf plant

Adequate: Vigorous stem and leaf growth with rich, green green color.

pH: Not applicable

Available Forms:

Natural	Man-made
From atmosphere - i.e. lightning,rain	Nitrate of soda
Decaying animals, plants	Sulfate of ammonia
Manure	Dried blood
	Cottonseed meal

Remarks: Provides protein to plant to stimulate growth and color.

PHOSPHOROUS

Function : Necessary for photosynthesis, the synthesis and breakdown of carbohydrates, and the transfer of energy within the plants.
Balances the nitrogne used.
Stimulates root development

Symptoms :

Lack of: Older leaves become mottled or yellowish between the veins and scorched at the margins.
Lower, older leaves show lack of chlorophyll or deepening of green color or red color in the leaves.
Roots are stunted and poorly branched.
May delay plant maturity.

Too much: Makes iron and zinc unavailable (see Remarks).

pH : Soil micro-organisms change organic phosphorous to inorganic phosphorous at a faster rate as the pH increases
(Note: organic phosphorous increases as organic nitrogen increases.)

Available Forms:

Natural	Man-Made
See nitrogen	Bone meal
	Super phosphate
	Treble phosphate

Remarks : pH higher than 8 : plant is unable to absorb enough iron, zinc and manganese even though the availability of phosphorous is high.
pH lower than 5 : concentrates of manganese and aluminum may be large enough to be toxic to the plant.
Molybdenum becomes deficient in the soil.

POTASSIUM

Function : Plants need large amounts!!!
Regulates plant's digestive system.
Enables plant to withstand low temperatures.
Thickens plant.
Increases resistance to disease.

Symptoms :

Lack of: Hard to detect low potassium until most severe.
Older leaves show affects first in yellowing of tips and edges. The yellowing areas get progressively broader.

pH : Not applicable.

Available Forms:

Natural
Plant residues
Manures and compost
Hardwood ashes

Remarks: If the supply of nitrogen and phospherous is high relative to the amount of potassium, growth is rapid at first. However, in the process the potassium concentration may be reduced to too low a level in comparison to the amounts of nitrogen and phosphorous remaining. If this is the case, the amount of potassium supplied must be increased.

SULFUR

Function : Improves protein synthesis
It makes the plant more prone for nitrogen fixation.
Seems to be associated with the making of chlorophyll.

Symptoms :

Lack of: Similar to those for nitrogen deficiency but the leaves do not die-back in the early stages of the deficiency.

Too much: Toxic to plants. (See Remarks)

pH : Not applicable.

Available Forms :

From soil.
Rain and irrigation water.
Fertilizers
Insecticides.
Fungicides
Atmosphere

Remarks: With a high nitrogen supply but low sulfur supply the plant's growth processes are disrupted. This is most common in greenhouses.

CALCIUM

Function : The calcium in lime is a highly essential nutrient to plants. (See Remarks.)

Symptoms :

Lack of: A deficiency of calcium first shows by death or distortion of the cells in the growing points of shoots and roots. In fact, the roots of most crop plants must have a supply of available calcium immediately at the root tips and cannot depend on calcium available in other parts of the root zone if the roots are to continue to grow.

Too much: Since the source of calcium is lime, one must be be careful not to raise the pH of the soil for acid loving plants and those collected

in acid soils.

pH : See the last sentence above.

Available Forms : In the soil used.
Lime.

Remarks : Calcium concentration in the cell affects the activities of certain enzymes, but it is especially important in combining with pectin to form calcium pectate - a sort of cementing material laid down between cells that aids in holding them together.

MAGNESIUM

Function : Active in enzyme systems.
Especially significant in that an atom of magnesium is the central part of every chlorophyll molecule in cells of green leaves.

Symptoms :
Lack of: Leaves lack dark, deep green color.

pH : Not applicable.

Available Forms : Dolomitic limestone
Epsom salt.

Remarks : The magnesium taken up from the soil has a vital part in the photosynthesis process.

A description of the micronutrients follows.

IRON

Function : Catalyst in the production of chlorophyll.

Symptoms :
Lack of: New growing leaves show lighter color in the tissues between veins and become yellow. Only a single branch may be affected.

pH : pH greater than 8 and plant may not be able to absorb iron.

Available Forms : Iron chelates
Spraying with iron salts.

ZINC

Function : Essential part of certain plant enzyme systems. Enzymes are proteinlike substances that catalyze (speed up) biochemical reactions.

Symptoms :
Lack of: Abnormal roots, - secondary roots develop at a later time.
Rosette
Mottle leaf.
Little leaf
Yellows

pH : pH greaterthan 8 and plant may not be able to absorb zinc.

Available Forms : Zinc chelates.
Foliar sprays, - zinc sulfate.
Zinc coated nails into trunks of tree.

Remarks : Rosetting is when dense clusters of small yellowish leaves grow at the ends of twigs that are bare of lateral leaves.
Little leaf produces small, chlorotic, narr leaves. Chlorotic mottling progresses inwa from the margin in the interveinal tissue Considerable dieback of the branches occurs in severe stages of little leaf.

BORON

Function : Essential for plant growth in that it affects at least 15 functions.

Symptoms :
Lack of: First shown by death of terminal growing point of the main stem. Multi-branching occurs with dying of buds on shoots.
Thickening and curling of leaves and sometimes chlorosis.
Stunted roots.

pH : Very important since increasing the pH fixes the boron in soil and to release the boron to the plant, the pH must be lowered.

Available Form : Borax

COPPER

Function : Enhances normal plant growth.

Symptoms :
Lack of: Gum pockets appear under bark.
Stained spots on bark of terminal twigs and defoliation.
Dying back of twigs.
Too much: Reduces growth, stunted roots, chlorosis foliage.

pH : Increasing the pH by liming reduces the to[illegible]y.

Available Form : Bordeaux mixture spray.

Remarks : Copper has the tendency to raise the toxicity but a high phosphate content in the soil reduces the copper toxicity. Hence if Bordeaux mixture is used too much, phosphate added to the soil should correct this.

MANGANESE

Function : Essential in certain enzyme systems of the plant cell.

Symptoms :
Lack of: Chlorosis in interveinal tissues of leaves.
Too much: Spotted leaves

pH : pH less than 6.0 allows the manganese to be leached from the soil. Liming the soil to raise the pH above 6.0 fixes the manganese in the soil thereby causing a manganese deficiency in the plant.
The pH sould be between 5.7 and 6.0 .

Available Form : Manganese sulfate.

MOLYBDENUM

Function : Needs to be present in only minute amounts. It is essential in the enzymatic processes which convert nitrate nitrogen taken up from the soil to organic nitrogen forms which in turn are used in aynthesizing amino acids and proteins.

Symptoms:
Lack of: Poor plant development or growth.

pH : Not applicable

Available Forms : Sodium molybdate.
Molydic acid.

CHLORINE

Function : Needs to be present in the form of the chloride ion in minute amounts. Its role in plant metabolism had not been established at the time the reference book was published in 1957.

Symptoms :
Lack of: Leaves display symptoms of wilt, chlorosis and necrosis (death of leaves).

pH : Not applicable

Available Sources: Rainwater if it comes from the ocean.
Tapwater.

Remarks : Plants need more of this trace element than any other trace element, except possibly iron.

POSTSCRIPT : I had compiled the above material a number of years ago. Since then I have been using granite in the form of Gran-I-Grits and prefired clay in the form of Turface as my principle bonsai soil ingredients. This sterile soil mix is void of any nutrients. Looking at the above listing of nutrients that should be supplied to plants made me realize that I had been overlooking some important points.

First, if I use the usual mix of blood meal, cottonseed meal and bonemeal (1:2:1), I certainly am providing nitrogen, phosphorous and potassium, but what about all those other micro- and macronutrients? MinorEL Concentrate #3086, Nutri Soil Chemical Co. Inc., Tampa, FL 33614 is a source of iron, copper, zinc, cobalt, molybdenum and manganese. Kelp meal such as MaxiCrop which is produced by Maxicrop, U.S.A., P.O. Box 964, Arlington Heights, IL, 60006, has all the macronutrients and micronutrients. It is an organic source for those nutrients and is 8 times more effective if sprayed onto the leaves (foliar feeding) versus putting it into the soil in liquid form.

Second, if I use a commercially available plant food the chemical analysis usually comes up void in some of the nutrients:

HYPONEX 15-30-15		SPECTRUM EARTH CARE	
Nitrogen	15%	Nitrogen	20%
Phophorous	30%	Phosphorous	20%
Potassium	15%	Potassium	20%
Copper	0.075%	Chlorine	less than 1%
Iron	0.125%	Iron	0.10%
Manganese	0.075%	Manganese	0.05%
Zinc	0.075%		

The above analyses explain whay many people have found that the coloration of their bonsai foliage improves when given magnesium in the form of epsom salt. The analyses also show why some people prefer to alternate commercial fertilizers because one brand may not have the same micronutrients as another.

The end result is that one keeps on trying different fertilizer combinations until the right mix is found for specific species of bonsai.

Jules Koetsch

Potomac Bonsai Association

ANNUAL FINANCIAL STATEMENT
May 1, 1984 - April 30, 1985
(Revised 17 May 1986)

Bank Statement Balance, April 30, 1984		$1,035.35
RECEIPTS		
Dues		$1,450.25
Newsletter		402.50
Symposium		10,464.02
Auction		1,691.75
Interest Earned on Checking Account		487.88
Annual Show		5,442.61
Visiting Artist Program		
Dan Robinson (Tree Raffle)		145.50
Miscellaneous Income		
Cash		24.00
FONA (Reimbursement for Expenses)		1,490.00
TOTAL GROSS INCOME		$21,598.51
EXPENSES		
Newsletter		
Printing		$1,358.35
Postage		651.72
Symposium		10,071.76
Auction (Chairs and Tables Rental)		42.53
Fees to Donors		1,278.18
Spring Show		588.03
Contribution to FONA		2,227.62
Workshop for New Members		480.00
BCI and ABS Memberships		20.00
BCI Convention Representative		200.00
Visiting Artist Program		
Dan Robinson		490.00
National Bonsai Foundation		
NBF Memorial Fund		1,000.00
Bird - Show		246.60
Meszler - Auction		103.70
Miscellaneous Expenses		
Bank Service Charges		20.01
Postage		24.00
Printing		
PBA		241.19
NBF Auction		58.37
IBC'86		807.25
TOTAL EXPENSES		$19,909.31
NET PROFIT		$1,689.20
Bank Statement Balance, April 30, 1985		$4,584.63
Net Cash Adjustments:		-508.23
Outstanding Checks:		-1,351.85
Adjusted Bank Balance:		$2,724.55
Opening Bank Statement Balance		$1,035.35
NET PROFIT		$1,689.20 Check