

GROWER GRANT YIELDS SEED BONANZA

Last season's federal grant provided seed money to increase the number of species of Chinese herbs grown by High Falls Gardens from 35 in 1995 to 120 in 1996. An additional 160 species are in the form of ungerminated seeds or plants indoors and in nursery beds for the winter, representing a great potential for future seasons.

Serendipitous forces came together for HFG last year, as previously reported in these pages, when "extraordinary collector" Robert Newman (see Winter 1996 issue) decided to disband his greenhouse in San Francisco where he had painstakingly assembled over 800 species of Asian medicinal plants. Meanwhile, organic farmers Don and Marnie MacLean of the Thompson-r-inch Farm in Ancram, New York had provided an entire field and the use of their greenhouse as well as their herb and vegetable growing expertise so that HFG had ample facilities available.

The MacLeans and HFG applied to the Northeast Region Sustainable Agriculture Research and Education (SARE) Grower Grant program (funded under the U.S. Department of Agriculture and managed regionally out of an office at the University of Vermont) which responded with a grant of \$3,498 to help get many of the seeds and plants in Robert's collection out to New York.

Almost seven hundred "batches" of seeds and/or plants were shipped, then carefully labeled and cataloged. Best efforts were used to germinate as many different species as possible, although many arrived too late in the season and have been held over for this year. Everyone in the project had to really scramble all season long in order to keep up; fortunately, several wonderful volunteers helped out with planting, weeding and other tasks.

As visitors to the field could attest, the plants grew like weeds (in fact, some of them are considered weeds!) and forty-four species produced seeds at season's end. Many photos and slides were taken, enough for HFG to prepare a presentation on Chinese herbs which is now available to grower or practitioner groups. (Contact HFG at the address below to arrange.)

To evaluate this abundance of species and its potential usefulness to growers in the Northeast, HFG enlisted the services of herbalist Jeffrey C. Yuen who helped determine which of the species are potentially marketable

Newman Tours China, Accepts Job Offer

Robert Newman, the extraordinary collector profiled in our Winter 1996 issue, returned on November 16th to San Francisco after a seven-week tour of China.

Having set up a series of meetings with practitioners, horticulturalists and other scientists well in advance, he started in Beijing where he met with Prof. Zhang Bengang of the Institute of Medicinal Plant Development. From there he went on to see Li Li of the Shanghai Botanic Garden, Professors Chen Chong-ming and He Shan-an of the Nanjing Institute of Botany; then in Sichuan, Prof. Wu Jia-lin of the Sichuan School of Chinese Materia Medica and Liu Yu of Chengdu University of TCM.

In Kunming, Robert saw a wonderful collection of Chinese medicinal plants within the Kunming Botanical Garden. He also met with Dr. Huang Chuan-gui of Yunnan South Border Hospital and Prof. He Guang-xin, director of the Kunming Institute for Drug Control. On to Nanning, where he saw Prof. Wu Zhong-fa of the Guangxi Botanic Garden of Medicinal Plants, and then he briefly visited Shenzhen in Guangdong and also Hong Kong just prior to his return.

In Sichuan Robert saw *Coptis* growing in the mountains and in Anhui, a province near Nanjing, he saw *Pseudostellaria*, a rare herb. In the mountains of Guangxi he saw a whole grove of *Cinnamomum cassia* and also *Illicium verum*, the true star anise. He heard about extensive cultivation of *Angelica sinensis* and *Saussurea lappa* in the mountains of Yunnan, and now hopes to return there to collect material. (Continued, p. 4)

to practitioners of Chinese herbal medicine. The plant species were divided into three categories: (1) potentially marketable with favorable prospects for cultivation in the Northeast; (2) potentially marketable but cultivation appears problematic for various reasons; (3) marketability uncertain. The last category includes many "secondary" species; because many of the herbs have not been cultivated for medicinal purposes in the West, it is not yet known precisely which species of a closely-related group has the best potential to serve as the medicinal remedy. Therefore, plants of the third (**BONANZA cont'd. page 4**)

High Falls Gardens 1996 Season / Plants in Field

<u>Species Binomial</u>	<u>Remedy (Pinyin)</u>	<u>Common Name</u>	<u>Source(s)</u>
<i>Abutilon theophrasti</i>	Dong Kui Zi	Velvetleaf	China
<i>Achillea wilsonii</i>	Tu Yi Zhi Hao	Yarrow	China
<i>Adenophora</i> sp.	Nan Sha Shen	Glehnia root	Yunnan, Sichuan
<i>Agastache rugosa</i>	Huo Xiang	Mint, Korean	Domestic commercial
<i>Agrimonia pilosa</i>	Xian He Cao	Agrimony	Sichuan, Nepal
<i>Allium ramosum</i>	N/A	Allium	Unspecified
<i>Anemarrhena asphodeloides</i>	Zhi Mu	Know Mother	Japan
<i>Angelica acutiloba</i>	Dang Gui	Angelica root, Japanese	Domestic
<i>Angelica dahurica</i>	Bai Zhi	Angelica root	Beijing
<i>Angelica pubescens</i>	Du Huo	Angelica root	Sichuan
<i>Artemisia annua</i>	Qing Hao	Sweet Annie/Wormwood	Guangxi, domestic comml
<i>Artemisia apiacea</i>	Qing Hao	Sweet Wormwood	Beijing
<i>Artemisia argyi</i>	Ai Ye	Mugwort leaf	Japan
<i>Artemisia capillaris</i>	Yin Chen Hao	Capillaris	Unspecified
<i>Artemisia Gmelinii</i>	N/A	Artemisia	Unspecified
<i>Artemisia vulgaris</i>	Ai Ye	Mugwort	Domestic commercial
<i>Aster tataricus</i>	Zi Wan	Aster root	Domestic
<i>Astragalus adsurgens</i>	Huang Qi	Milk Vetch root	China
<i>Astragalus complanatus</i>	Sha Yuan Ji Li	Milk Vetch seed	Beijing
<i>Astragalus membranaceus</i>	Huang Qi	Milk Vetch root	Guangxi, domestic comml
<i>Astragalus mongholicus</i>	Huang Qi	Milk Vetch root	Beijing
<i>Astragalus sinicus</i>	Hong Hua Cai	Astragalus	Beijing
<i>Atractylodes macrocephala</i>	Bai Zhu	Atractylodes, White	Beijing, Japan
<i>Belamcanda chinensis</i>	She Gan	Blackberry lily	Nepal, Sichuan, Domestic
<i>Benincasa hispida</i>	Dong Gua Ren	Winter Melon seeds	Domestic commercial
<i>Carthamus tinctorius</i>	Hong Hua	Safflower	Domestic commercial
<i>Cassia occidentalis</i>	Wan Jiang Nan Zi	Coffee Senna seeds	Germany
<i>Catharanthus roseus</i>	Chang Chun Hua	Madagascar Periwinkle	Unspecified
<i>Celosia argentea</i>	Qing Xiang Zi	Celosia seeds	India
<i>Celosia cristata</i>	Ji Guan Hua	Cockscomb	Domestic commercial
<i>Chrysanthemum morifolium</i>	Ju Hua	Chrysanthemum flower	Guangxi
<i>Cimicifuga dahurica</i>	Sheng Ma	Black Cohosh rhizome	Domestic commercial
<i>Cimicifuga foetida/europaea</i>	Sheng Ma	Black Cohosh rhizome	Unspecified
<i>Cnidium monnieri</i>	She Chuang Zi	Cnidium seeds	Beijing
<i>Codonopsis pilosula</i>	Dang Shen	Bonnet Bellflower	Domestic commercial
<i>Coix lachryma jobi</i>	Yi Yi Ren	Job's Tears seeds	Domestic commercial
<i>Cyperus rotundus</i>	Xiang Fu	Nut Grass/Earth Almond	Unspecified
<i>Dianthus amurensis</i>	N/A	Pinks	Domestic commercial
<i>Dianthus chinensis</i>	Qu Mai	Pinks, Chinese	Domestic commercial
<i>Dianthus superbus</i>	Qu Mai	Pinks, Fringed	China, Japan, Domestic
<i>Dipsacus asper</i>	Xu Duan	Teasel root, Szechuan	Asia, unspecified
<i>Dipsacus</i> sp.	N/A	Teasel	China
<i>Dolichos lablab</i>	Bian Dou	Hyacinth Bean	Domestic commercial
<i>Eclipta alba</i>	N/A	Eclipta	India, domestic comml
<i>Eclipta prostrata</i>	Han Lian Cao	Eclipta	China, Japan
<i>Ephedra equisetina</i>	Mu Tsei Ma Huang	Ephedra	Domestic
<i>Ephedra</i> sp.	N/A	Ephedra	Domestic
<i>Euphorbia pekinensis</i>	N/A	Euphorbia	Unspecified
<i>Ferula asafoetida</i>	A Wei	Asafoetida	Unspecified
<i>Gentiana tibetica</i>	Qin Jiao	Gentian root	Domestic commercial
<i>Glycyrrhiza glabra</i>	Gan Cao	Licorice root	Domestic commercial
<i>Glycyrrhiza inflata</i>	N/A	Licorice root	Guangxi
<i>Glycyrrhiza pallidiflora</i>	Nai Zhui	Licorice root	Japan
<i>Glycyrrhiza uralensis</i>	Gan Cao	Licorice, Manchurian	Domestic commercial
<i>Gypsophila oldhamiana</i>	Yin Chai Hu	Baby's Breath, Manchurian	Korea
<i>Houttuynia cordata</i>	Yu Xing Cao	Chameleon plant	Domestic commercial
<i>Imperata cylindrica</i>	Bai Mao Gen	Woolly Grass rhizome	Domestic commercial
<i>Inula britannica</i>	Xuan Fu Hua	Elecampane, Chinese	Japan
<i>Inula japonica</i>	Xuan Fu Hua	Elecampane, Japanese	Beijing
<i>Ipomoea nil</i>	Qian Niu Zi	Morning Glory seeds	Unspecified

<i>Species Binomial</i>	<i>Remedy (Pinyin)</i>	<i>Common Name</i>	<i>Source(s)</i>
<i>Isatis indigotica</i>	Ban Lan Gen	Isatis leaf/root	Beijing
<i>Isatis tinctoria</i>	Ban Lan Gen	Woad leaf & root	Domestic commercial
<i>Kochia scoparia</i>	Di Fu Zi	Cypress, summer	China, Russia
<i>Leonurus artemisia/sibericus</i>	Yi Mu Cao	Motherwort, chinese	Domestic commercial
<i>Leonurus heterophyllus</i>	Yi Mu Cao	Motherwort, chinese	China
<i>Leonurus sp. (L. cardiaca)</i>	N/A	Motherwort	Domestic commercial
<i>Lepidium apetalum</i>	Ting Li Zi	Lepidium seeds	Beijing
<i>Lepidium ruderae</i>	N/A	Lepidium seeds	Commercial
<i>Ligusticum jehofense</i>	Gao Ben	Lovage root	Beijing
<i>Lilium sp. (L. davidii)</i>	N/A	Lily bulb	Unspecified
<i>Luffa cylindrica</i>	Si Gua Luo	Vegetable sponge	Domestic commercial
<i>Lycium barbarum</i>	Gou Qi Zi	Matrimony vine fruits	China
<i>Lycium chinense</i>	Gou Qi Zi	Matrimony vine fruits	Japan, Domestic
<i>Malva chinensis</i>	N/A	Malva seeds	Domestic
<i>Malva verticillata</i>	N/A	Malva seeds	Tibet, Russia
<i>Mentha haplocalyx</i>	Bo He	Mint, field	Domestic commercial
<i>Ophiopogon japonicus</i>	Mai Men Dong	Wheat, Lush Winter	China
<i>Paeonia anomala</i>	N/A	Peony root	Mongolia
<i>Paeonia delavayi</i>	N/A	Peony root	New Zealand
<i>Paeonia lactiflora</i>	Bai Shao	Peony root, White	China, Siberia
<i>Paeonia obovata</i>	Tsao Shao Yao	Peony root	Domestic commercial
<i>Paeonia suffruticosa</i>	Mu Dan Pi	Peony root bark, Tree	Beijing
<i>Paeonia veitchii</i>	Chuan Shao Yao	Peony root, Red	Domestic commercial
<i>Panax quinquefolius</i>	Xi Yang Shen	Ginseng, American	Domestic
<i>Patrinia scabiosaeifolia</i>	Bai Jiang Cao	Patrinia	Domestic commercial
<i>Patrinia villosa</i>	Bai Jiang Cao	Patrinia	Japan, Sichuan
<i>Perilla frutescens</i>	Zi Su Ye	Shiso leaf/seed	Domestic commercial
<i>Phytolacca acinosa</i>	N/A	Pokeberry, Indian	Germany
<i>Pinellia ternata</i>	Ban Xia	Pinellia rhizome	Domestic commercial
<i>Plantago major</i>	Che Qian Zi	Plantain seed	China
<i>Platycodon grandiflorum</i>	Jie Geng	Balloonflower	Domestic commercial
<i>Polygonatum odoratum</i>	Yu Zhu/Huang Jing	Solomon's Seal rhizome	Domestic commercial
<i>Polygonum multiflorum</i>	He Shou Wu	Fo-ti root & stem	Domestic commercial
<i>Polygonum aviculare</i>	Bian Xu	Polygonum	Unspecified
<i>Prunella vulgaris</i>	Xia Ku Cao	Selfheal	Japan, Domestic comml
<i>Psoralea corylifolia</i>	Bu Gu Zhi	Psoraleen fruit	Beijing
<i>Rheum palmatum</i>	Da Huang	Rhubarb root, Chinese	Domestic commercial
<i>Rheum sp. (R. altaicum)</i>	N/A	Rhubarb root	Unspecified
<i>Rumex japonicus</i>	Yang Ti	Dock root	Japan
<i>Salvia miltiorrhiza</i>	Dan Shen	Sage root, red	China
<i>Salvia przewalskii</i>	Dan Shen	Sage root, red	Yunnan
<i>Salvia sp.</i>	N/A	Sage root, red	Sichuan
<i>Sanguisorba officinalis</i>	Di Yu	Burnet/Bloodwort root	Domestic commercial
<i>Saposhnikovia divaricata</i>	Fang Feng	Siler	Beijing
<i>Schizonepeta tenuifolia</i>	Jing Jie	Schizonepeta stem/bud	China
<i>Scrophularia ningpoensis</i>	Xuan Shen	Figwort root, Ningpo	Guangxi
<i>Scrophularia nodosa</i>	N/A	Figwort root	Domestic commercial
<i>Scutellaria baicalensis</i>	Huang Qin	Skullcap root, Baikal	Beijing, Domestic comml
<i>Scutellaria barbata</i>	Ban Zhi Lian	Skullcap plant	China
<i>Senecio chrysanthemoides</i>	Tu Tian Qi	Groundsel	Asia unspecified
<i>Siegesbeckia pubescens</i>	Xi Jian Cao	St Paulswort	Beijing
<i>Sinapis alba</i>	Bai Jie Zi	Mustard seed	Turkey, Russia
<i>Sophora flavescens</i>	Ku Shen	Sophora root	Unspecified
<i>Taraxacum sp.</i>	N/A	Dandelion root	Domestic commercial
<i>Tribulus terrestris</i>	Bai Ji Li	Tribuli fruit	Beijing, Domestic
<i>Trichosanthes kirilowii</i>	Gua Lou Ren	Cucumber, Chinese	Beijing
<i>Vaccaria segetalis</i>	Wang Bu Liu Xing	Vaccaria seeds	China
<i>Vitex negundo v. heterophylla</i>	Huang Jing Zi	Chaste Tree fruit	Domestic commercial
<i>Xanthium sibiricum</i>	Cang Er Zi	Cocklebur fruit	Beijing
<i>Xanthium strumarium</i>	Cang Er Zi	Cocklebur fruit	Guangxi

(BONANZA, continued from p. 1) category are not necessarily of a lower value or priority. HFG prepared a report to the SARE program with all 280 plant species listed according to evaluation category, along with basic information including Chinese remedy name, common name, herbal properties (nature, treatment strategy, organ system affinities), cross-references to three texts, taxonomic family, comments (related species, zone information, etc.), and original source(s) of seed or plants.

As the report concludes, the materials received from Robert Newman represent a significant resource for farmers/growers in the Northeast. Obtaining appropriate plant materials is only the first step in a complex process to develop a market for the remedies, and much more remains to be done. However, growers in the Northeast can now participate in a more widespread effort to take advantage of this developing market.

On pages 2 and 3 of this issue is a list of the 120 species grown in 1996. For plants that went into the ground this past year, the seasonal cycle is not complete and their winter hardiness is still uncertain. Allowing for a surprise or two, most are expected to come up next spring. ■

(Newman Tours China, continued from p. 1) The most exciting result of Robert's trip is that he was offered a job as manager of the Chinese medicinal herb garden at the Nanjing Institute of Botany. He's now sorting out and storing his books and household goods in preparation for a May departure and a stay of at least one year. The salary is very low, so Robert plans to help people with their English for a little extra income, especially academics and scientists who are eager to publish in English.

On this trip Robert fully witnessed the ironies of modern China. "The Chinese, especially in the rural areas, are much more knowledgeable about plants than the average American," he said. As a Westerner in the provinces he attracted plenty of attention, especially when people saw he was looking at plants. They'd approach him with comments about the plants' medicinal qualities and aesthetic value, obviously more appreciative of their own herbal traditions than we are. People readily recognize herbs in the wild, but also can very easily obtain them in restaurants and market stalls.

Yet where rampant industrialism and its inevitable pollution are concerned, there's a blind spot. For instance, in a meadow Robert visited where 10-15 types of important medicinal plants were growing wild but collecting was restricted, he noticed a giant pile of trash in one corner of the area. "Look," he complained to his Chinese hosts, "you can't pollute the landscape and then expect to save the plants simply by prohibiting wildcrafting. There's a basic contradiction here."

We expect that Robert, who has done so much to bring Chinese medicinal plants to the West, will return the favor by raising environmental consciousness in a part of the world where it's especially needed right now. ■

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Don't blame it on the post office, it's OUR fault. But we have a good excuse, having been too busy sorting out the bonanza of plants and seeds to publish a Fall 1996 issue.

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High Falls Gardens Meets Mountain Gardens, Greets Mountaineers

It wasn't exactly a tour of China, but Jean and Laura managed to do some traveling of their own this past October when, accompanied by intrepid spouses Chris Reed and Tim Smith, they paid a visit to grower Joe Hollis of Mountain Gardens in Burnsville, North Carolina.

Joe is one of five herbalists across the country who received seeds and plants from Robert Newman's collection. The purpose of this trip was to get acquainted with a fellow grower, see some of the plants growing in a mountainous woodland environment, and to exchange slides, seeds and tips.

Joe and his wife Rhea live, garden, paint, study, teach and raise their son in a beautiful mountain hollow located just a few miles from Mt. Mitchell, the highest mountain in the eastern U.S. (elev. 6684). Living quarters, playgrounds, Rhea's studio and Joe's greenhouses and workrooms are integrated into terraced gardens. The effect is magical, something like Swiss Family Robinson discovers permaculture.

In fact, Joe is part of the permaculture movement, an approach to designing sustainable human environments that relies on multipurpose uses, recycling, emphasis on biological resources and diversity, and other techniques. Joe has published articles in *The Permaculture Activist* and also runs the Permaculture Seed and Plant Exchange. You'll be hearing more about Joe Hollis in future issues.

On the way back to New York, the travelers took in the West Virginia Herb Association's fifth annual "Celebration of Herbs" held in Weston near the Stonewall Jackson birthplace. Laura Smith contributed to a panel discussion on commercial botanical production organized by Frank Porter of Riverview Herb Farm, Racine, Ohio. The keynote address was given by Dr. James A. Duke, renowned ethnobotanist and favorite friend of herbalists. The conference included a breakout session on "Mountaineer Green Gold," cosponsored by the West Virginia University Cooperative Extension, focusing on woodland growing techniques and conservation laws related to Ginseng. The West Virginia Herb Association is a great group of people. More on this later, also. ■