

THE GARDEN DOCTOR



SPRING 1994

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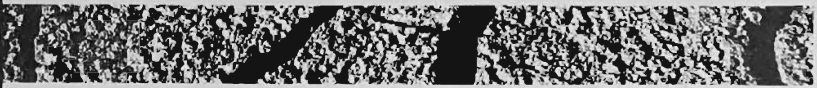
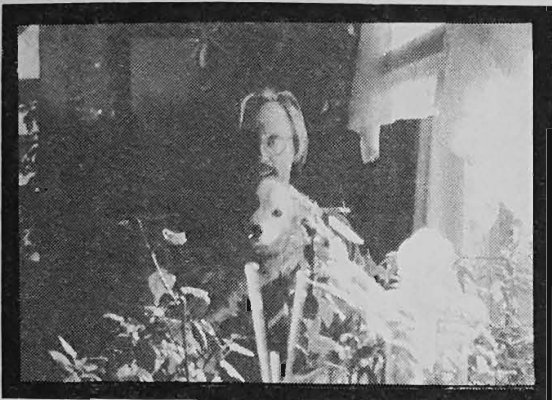
The HERCULES BEETLE

"First comes spring and summer, but then we have fall and winter, and then we get spring and summer again." Chauncy Gardener, "Being There"

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Spending this last winter here in Denver (instead of fleeing in financial terror to Tampa, Florida as I had the 4 previous autumns) reminded me of a life lesson I learned back in the summer of 1984...the value of contrasts. That year I quit a soul-draining, gut-wrenching job at an unscrupulous retail plant nursery in Tampa, and at the invite of my old highschool friend Sally Newkirk, I joined her on a bare-bones, rental car circumnavigation of the southeastern and southwestern U.S. From low, hot, wet Florida we travelled to vast dry deserts, and crossed through 12,000 foot high mountains in the rarified beauty of New Mexico. We saw old friends and lovers, all the while astonished by the sweeping contrasts in geographies and climates all around us and within us. I was startled and delighted by the sudden sense of inner expansion and freedom, the upwellings of good feelings after those two godawful years of job-inflicted emotional constriction and fear, and anger. The gardener in me marvelled at the vast dissimilarities between gardens in Tampa, Abilene, Albuquerque and Denver. I gathered strange seeds and rhizomes I'd never seen. Even the feel of the air in each locale varied sharply; thick, hot and humid in the South, cold and scented of pines in the mountains, thin, hot and dry in the desert. Feeling incredibly alive, we were ecstatic road gypsies for 17 days.

Upon returning to Tampa exhausted, unemployed but euphoric, I was driven by the near-manic release of life energy to sculpt, paint and write like a madman, and to launch my "Garden Doctor" organic landscaping business based in my little 8-wide trailer nestled in a funky trailer park. Sally and I agreed..."The Trip" had changed our lives dramatically, mine in particular. Little did I know it would lead to my moving out West and starting this publication.

The winter of 1993 gave me new contrasts...my lush, jungly summer landscape passing through a swift autumn dance of falling colorful leaves, frosty bare branches and fleeing birds, then to the cold repose of winter. I hunkered down into my warm, food-and-plant-filled house, spared the stressful, frantic shut-down-the-house, pack-and-migrate, set-up-life-and-business-in-another-state frenzy of the 4 previous migratory years. The slower pace reminded me how to relax, and getting connected emotionally to my home made me aware of the contrasts there...informal English-style gardens full of Old Roses and Victorian perennials, while inside, my rooms brim with photos of futuristic cars and sci-fi spaceships, my sleek AEROGAMI paper airplanes, plus several models of Captain Picard's gorgeous Galaxy-class "Enterprise". I realized that the contrast between pure good and unspeakable evil is a prime reason I am still captivated by "Twin Peaks" years after it's cancellation. And of course I still treasure the contrasts between the vibrant health I've always known and the severe illness of last winter, for it triggered a new joy and thankfulness within me.

Winter is now quickly yielding to spring once again, and I'm glad I'll be here to see the whole process instead of arriving in late April from Florida... I had not seen my crocus in 4 years! Over 1,000 tulips and daffodils, then hybrid bearded iris, my wonderful Old Roses, the hopeful swell of Buttercup squash, and the heady sight and scent of towering Oriental lilies...this shifting, living kaleidoscope is central to my happiness each year.

And when I think of the happiest and most interesting people I know and have known, I see their lives as being full of self-generated contrasts as they avoid the stifle of security-at-any-cost in favor of cultivating a prosperous and adventurous and inquisitive heart. In a culture that trains us to base our identities largely on what we consume (the "right" clothes, the "right" car, the "right" house in the "right" neighborhood, etc.) the fear of being seen as "eccentric" (heaven forbid!) by friends, family, neighbors and co-workers can be powerful societal tool for keeping each of us "in line", unaware of our greatest abilities and truest selves.

But since Life is not a destination but a journey, why not take the scenic route?

John

In the time of your life, live--- so that in that wondrous time you shall not add to the misery and sorrow of the world, but shall smile to the infinite variety and mystery of it all.

William Saroyan 1908-1981



GOOD NEWS



Kudzu root has long been used by Chinese herbalists to treat alcoholism. When Syrian Golden Hamsters (which LOVE alcohol) were given injections of kudzu root extract, their consumption of alcohol dropped by 50%. Two natural chemicals, daidzin and daidzein, which are in the herbal extract, also reduced the rodents' boozing. **Wing-Ming Keung & Bert L. Vallee, Harvard Medical School, Boston**

Natural chemicals called caffeic esters, derived from honey, have been shown to slow precancerous changes in the colons of rats given a known carcinogen. Hives contain propolis, which bees make from tree sap and use as a cement. Honey itself, in other studies has been shown to be anti-inflammatory, antibacterial, and antifungal. **SCIENCE NEWS 9-25-93**

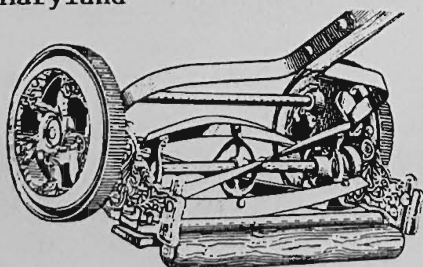
A study strongly suggests that routine, intense aerobic workouts can delay the progressive stiffening of the arteries associated with aging. This stiffening strains the heart and contributes much to high blood pressure. **Edward G. Lakatta, National Institute on Aging's Gerontology Research Center, Baltimore, Maryland**

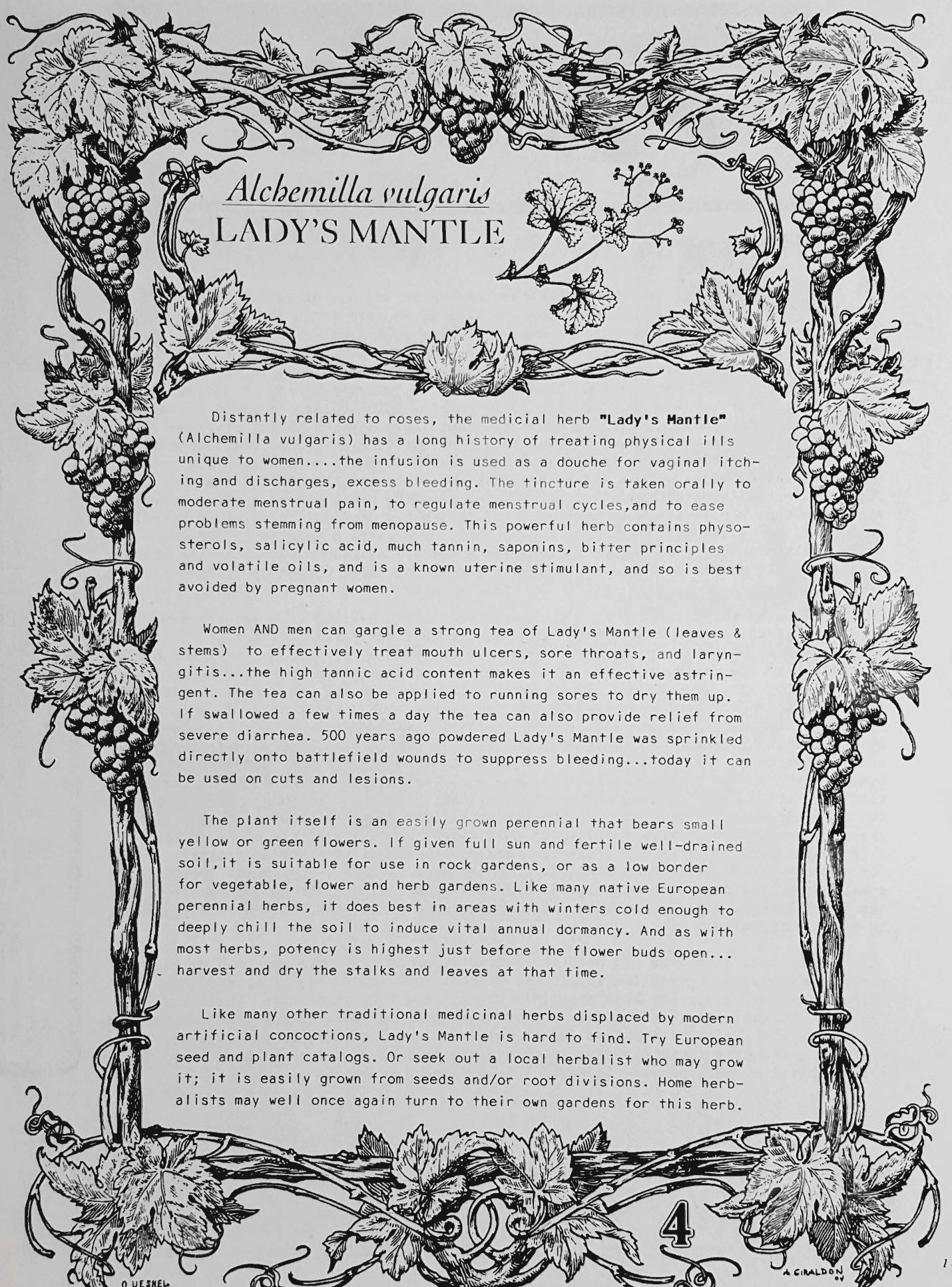
Nonsmokers can cut their risk of lung cancer by 40% just by consuming 1½ servings of raw fruit and vegetables daily, according to a study on men and women. More than 22,000 NON smoking people die annually of lung cancer in the U.S. Aside from finding that raw vegetables and fruit offered more protection than cooked produce, the study also found the consumption of whole milk increased the risk of lung cancer, possibly due to the animal fat (butterfat) it contains. **Journal of the National Cancer Institute, 1-5-94**

According to the IRRI (International Rice Research Institute) located in the Philippines, the pesticides used on rice "are among the most toxic agrochemicals." The organization's new 100 page report details widespread mis-use and overuse of toxic pesticides. For instance, 31% of Philippine rice farmers thought that ALL insects are pests. These farmers continue to spray new insect-resistant cultivars as heavily as the non-resistant strains, expecting losses of 35% if they did not. Unsprayed resistant cultivars average losses of just 5% to 10%. When the IRRI balanced crop values against the costs of the pesticides and their subsequent health problems affecting the applicators, it concluded that using predators instead of pesticides "consistently has the highest net benefits", often 3 times that of spraying. **SCIENCE NEWS 1-29-94**

A man's work is nothing but a slow trek to rediscover, through the detours of art, those two or three great and simple things in whose presence his heart first opened. **Albert Camus**

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Alchemilla vulgaris
LADY'S MANTLE

Distantly related to roses, the medicinal herb "Lady's Mantle" (*Alchemilla vulgaris*) has a long history of treating physical ills unique to women...the infusion is used as a douche for vaginal itching and discharges, excess bleeding. The tincture is taken orally to moderate menstrual pain, to regulate menstrual cycles, and to ease problems stemming from menopause. This powerful herb contains phyosterols, salicylic acid, much tannin, saponins, bitter principles and volatile oils, and is a known uterine stimulant, and so is best avoided by pregnant women.

Women AND men can gargle a strong tea of Lady's Mantle (leaves & stems) to effectively treat mouth ulcers, sore throats, and laryngitis...the high tannic acid content makes it an effective astringent. The tea can also be applied to running sores to dry them up. If swallowed a few times a day the tea can also provide relief from severe diarrhea. 500 years ago powdered Lady's Mantle was sprinkled directly onto battlefield wounds to suppress bleeding...today it can be used on cuts and lesions.

The plant itself is an easily grown perennial that bears small yellow or green flowers. If given full sun and fertile well-drained soil, it is suitable for use in rock gardens, or as a low border for vegetable, flower and herb gardens. Like many native European perennial herbs, it does best in areas with winters cold enough to deeply chill the soil to induce vital annual dormancy. And as with most herbs, potency is highest just before the flower buds open... harvest and dry the stalks and leaves at that time.

Like many other traditional medicinal herbs displaced by modern artificial concoctions, Lady's Mantle is hard to find. Try European seed and plant catalogs. Or seek out a local herbalist who may grow it; it is easily grown from seeds and/or root divisions. Home herbalists may well once again turn to their own gardens for this herb.



Margaret Head's View of the News

I don't know about you, but sometimes hearing an odd bit of news will get me thinking. Like last February when I was touching up my mascara in the bathroom when I heard something about a humungous comet colliding with Jupiter, a refreshing change from the daily banter about penis-whacking wives and ice-skating assassins. So I ran into the livingroom, just one eye done, and learned that around July 21, 1994, a few dozen fragments of a comet called "Shoemaker-Levy 9", which had been shattered by Jupiter's gravity in July of 1992, are going to slam INTO Jupiter in rapid succession at the incredible speed of 135,000 miles per hour. Astronomer's photos revealed that these chunks were headed toward Jupiter in a straight line or train...astronomers call it a "string of pearls" (and I just LOVE pearls!). These guys originally thought the comet was $6\frac{1}{2}$ miles across before breaking up, about the size of the one that apparently took out the dinosaurs after slamming into the Caribbean 65 million years ago...now they say $1\frac{1}{2}$ miles is more like it. So Jupiter shouldn't blow up or anything like that, but a new Great Red Spot may be born, or perhaps a portion of Jupiter's thick toxic atmosphere may be deflected into space if the chunks slam into the planet at a slant. It should be quite an interesting news day...the planetary collision is being referred to as a "once in 25,000 lifetimes event".

So I occasionally find myself thinking, actually "feeling" is a better word, about the giant, unseen contexts within which we live our lives. All the great and little dramas and pleasures which make up my life could be snuffed out (and me too!) in a flash if the earth were once again bombarded by huge glowing rocks from outer space...after all, an asteroid missed earth a few years ago by just twice the distance to the moon, a very near miss considering the size of our solar system. I realize that my life of working, planting the garden, learning how to program my VCR, playing with my cat, evading rude and stupid drivers who run red lights and never signal, composting moldy eggplants I find at the back of my fridge, making "depth charge farts" in my bubble bath, having a friend scratch a good itch, watching re-runs of "Green Acres", reading a good book, laughing with my best friend, faithfully recycling my glass bottles to "save the earth", you know, LIVING, all this takes place on a teensy blue planet zipping through a vast expanse of space that itself is just a little niche in the Milky Way Galaxy that, in turn, has been making a billions-of-years-long majestic journey through the Universe with BILLIONS of other huge galaxies. I know I'm getting cosmic here, but that's my point...all this makes for quite a miraculous backdrop for our brief lives...utter incomprehensible wonder on a scale that puts our daily stuff in a new perspective.

So the next time some pin head in traffic suddenly yanks his car into my lane without signalling or even looking in his rear view mirror to see if another car (mine!) just MIGHT already be there, I'll try to remember, thankfully, that it's Jupiter, NOT Earth that is getting slugged by millions of tons of rock and ice this July...given a choice, I'd rather get hit by the pinhead's rusty Chevette. Whew! Besides, a cometary chunk slamming into my state at 135,000 miles per hour would not only dislevel my herb garden, it would REALLY muss up my hair!

I love this land. I'm not crazy about the nation. There's a real inability on the part of the white males we have elected to understand any kind of inter-relatedness. And that's fatal.

Alice Walker

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HOW PLANTS MOVE AND FEEL

SOME of the simplest plants, which are single cells, so small as to be seen only under the microscope, swim about by means of living lashes, just as many of the simplest animals do. On the other hand, there are many animals, such as sponges and corals, which do not move except in their earliest days.

Yet, when we have allowed for the fact that some single-cell plants do move and the fact that some animals do stand still, the big fact stands out that plants are usually fixed, while animals are usually free. Plants expend little energy in locomotion; animals spend much.

It is important to avoid extreme or fanciful statements in this connection. While plants retain a power of movement in many of their parts, they have nothing corresponding to the muscles of animals; and while plants often show an exquisite sensitiveness to changes in light and warmth, to gravity and moisture, and even to touch, they have nothing at all like a nervous system.

It is altogether a mistake to use words like "sagacity" or "intelligence" in speaking of plants; what we are sure of is that they show a sort of feeling, even an *irritability*, and a shrinking away, as it were. They answer-back to outside influences, and a tree may respond even to the shadow of a



passing cloud. They also move part of their body in an effective way. If we go on to say that plants must have something corresponding to man's mind, no one can prove that we are wrong; but we have passed beyond a point at which science can prove what we say.

The stem of the giant bamboo may grow a foot in a day, and a naturalist reports that he saw with the naked eye the growing of a bamboo in Java. Growth means increase in size; the amount of the living matter is added to, and there is a *redistribution of material*. The growing units, or cells, are very *tense*, for there is a pressure on the cell-wall exerted from within by the watery living matter and the cell-sap. The living matter just inside the cell-wall controls the give-and-take between the cell-sap and the cell-wall, and thus controls the tenses.

Everyone knows the limpness of a shoot that has been cut off from its water supply; it is worse than a punctured tire. It is losing water into the air and gaining none back; its cells lose their tenses and the shoot withers. If we put the cut end into water before the withering has gone too far, the shoot will become stiff once more.

Professor Bower compares the relation of the tense cell-substance and the resisting cell-wall to the relation between the bladder of a football and

PLANT LIFE

the leather skin. When the bladder is blown up, the outer skin is firm and rigid; when the air is withdrawn from the bladder, the outer skin is soft and limp. But in the case of the football the pressure is gaseous, while in the case of the plant-cell the pressure is fluid. It is worth while to dwell a little on the tenses of growing and active plant-cells. The movements of growing parts, and of full-grown parts, depend on changes in tenses.

Charles Darwin detected the bending and bowing of seedlings. On the apex of a growing shoot he fixed a fine glass bristle with a bead at the tip, and from time to time he registered the position of the bead on a horizontal glass plate above the plant. He found that the tip of the shoot does not grow straight up; it bends and bows to the different points of the compass.

The movement is very slow, but it goes on whenever growth is going on; and it is due to the fact that the growth does not take place equally all round. What comes to the same thing is, that there are changes in the tenses of the growing cells in different parts of the shoot; and these seem to depend on the plant itself, not on outside changes. They are movements from within.

THE TWINING AND COLLING MOVEMENTS OF THE SENSITIVE TENDRIL

The movements of tendrils are of great use, for they attach the plant firmly but elastically to its support and help to pull it up. The tip of the slender green hasso slowly round in a circle, and this increases its chance of touching some support. If the under-surface be rubbed a little, the tendril grows faster on the opposite side. Dr. MacGregor Skene describes what follows:

As the tip curves, new joints come into contact with the support, and the stimulus is thus constantly renewed, so that the tendril goes on twining round the support until the whole of the free tip has been used up.

The coiled part hardens and becomes woody, clasping the support firmly. The long, straight portion, between the support and the base of the tendril, twists into a tight cork-screw, reversed once or twice—for a thread fixed at both ends cannot be forced into a spiral, without at least one reversal in the direction of the hoist—and then becomes woody.

The cork-screw is of great mechanical importance. Did the free part of the tendril remain straight, any gust of wind or shock from a passing animal, would throw a great

perhaps a breaking, strain on it. The tight spiral acts as a spring. If pulled, it opens out a little, to contract again when the pull ceases, bringing the plant back to its original position, and avoiding a rupture.

Here we have many striking things: a searching movement of the tip, an exquisite sensitiveness to contact, a twining round the support, and a spiral coiling of the free part of the tendril.

HOW THE TIP OF THE GROWING ROOT IS SENSITIVE TO GRAVITY

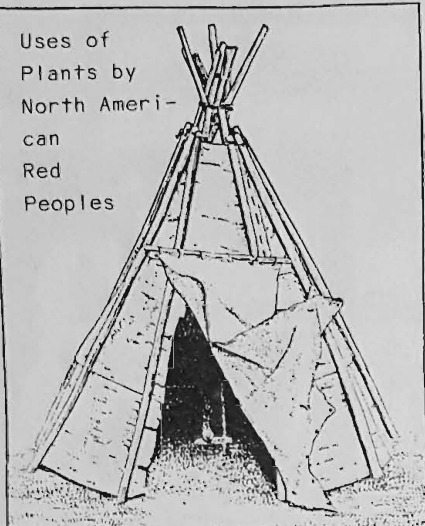
When a seed sprouts, however it has been lying, the young shoot grows upward and the young root grows downward. It is their nature so to do. If the seedling starts rightly and is then turned upside down, it will soon have its root growing up, down once more and its stem growing up. Of course, it may come about that the root's tendency to seek moisture may be strong enough to counteract the tendency to grow toward the centre of the earth.

Very careful experiments have shown that the root's sensitiveness to gravity is situated at its very tip, and that this affects the area of most rapid growth a little higher up. It is the living matter of these quickly growing cells, that answers-back by altering the direction of growth. In the tip-cells of the root there are starch grains which normally settle on the lower side of the cell. If the root-tip is forcibly pointed upward, the starch grains will change their position, and some botanists think that this is the reason for the change. If so, the starch grains might be compared in this respect to the tiny particles of sand or lime found in the ear cavities of many little creatures. When the animal is suddenly moved, these particles in the ear have also to move; their movements affect nerve-endings in the ear; and the animal *answers-back*. In any case, what is certain is that the tip of the root is sensitive to gravity and that the root adjusts the direction of its growth if it is interfered with.

THE THIRSTY ROOTLETS OF TREES THAT INVADE A DRAIN-PIPE

From a beautiful spring a terra-cotta drain-pipe led away the water for use elsewhere; but every year or two there was a blocking of the pipe and a flooding at the well. There was nothing to do but to dig up the pipe, and then it was seen that string-like rootlets of adjacent trees had got in at the joints.

Uses of
Plants by
North American
Red
Peoples



MOUNTAIN BALL SAGE: (*Artemisia frigida*). In Blackfoot language "Ninny kaksa miss". Leaf tea used for colds.

CREOSOTE BUSH: (*Larrea tridentata*). In Paiute language "Geroop". Leaf tea taken for colds.

BITTER ROOT: (*Lewisia rediviva*). In Blackfoot language "Ax six sixie". Dry root pounded, chewed for sore throats.

MEADOW RUE: (*Thalictrum* spp.). In Shoshone language "Pavaga". Seeds and dried plant used as a perfume.

CAT'S CLAW: (*Acacia greggii*). In Moapa language "Bi-Joarum". Buds & blossoms dried for women's sachets.

SNOWBERRY: (*Symphoricarpus racemosus*). In Shoshone language "Newa". New shoots harvested each fall and dried to use as arrows for hunting small birds.

MOUNTAIN MAHOGANY: (*Cercocarpus ledifolius*). In Paiute language "Toobe". Slip of bark worn in hat to protect wearer from lightning strikes.

FALSE HELLEBORE: (*Veratrum* spp.). In Shoshone language "Tobassop". Raw root mashed and applied to snake bites on people and horses.

PEPPERMINT: (*Mentha penardi*). In Paiute language "Pa-quanah". Tea from dry stems and leaves taken for gas.

DOCK: (*Rumex crispus*). In Blackfoot language "Matoa koa ksi". Root mashed and applied to sores.

WILD ROSE: (*Rosa nutkana*). In Arapahoe language "Yano". Fruits eaten raw.

BUFFALO BERRY: (*Eleagnus argenta*). In Blackfoot language "Me e Nixen". Berries jellied, dried, eaten raw.

SEGO LILY: (*Calochortus nuttali*). In Shoshone language "Se gaw". Bulbs boiled and eaten.

BREAD ROOT: (*Psoralea esculenta*). In Sioux language "Tip sinnah". Roots roasted, dried and ground into a meal added to soups.

INDIAN TURNIP: (*Lithospermum linearifolium*). In Blackfoot language "Mass". Tops dried and burned during ceremonies.

YELLOW EVENING PRIMROSE: (*Oenothera hookeri*). In Paiute language "Koatsa dabe buha". Rubbed on a hunter's moccasins to attract deer and repel snakes.

WILD MELON: (*Cucurbita foetidissima*). In Moapa language "Arnoko". Tea given to horses for worms and bloat.

SEA HOLLY: (*Eryngium alismaefolium*). In Paiute language "Momono Kaiyu". Tea of entire plant used for diarrhea.

PENNYROYAL: (*Monarda odoratissima*). Flower head tea used to regulate menstruation in young women.

CLASSIFIED ADS

In response to many readers' comments and requests, THE GARDEN DOCTOR now accepts ads for ecologically and ethically sound products and services related to the health and well-being of ourselves, our gardens, our animal companions and our planet. Companionship-wanted and fellowship ads are also accepted. Rates are 50¢ per word (including address numbers) payable to THE GARDEN DOCTOR 1684 Willow St., Denver, Colorado 80220. Deadlines: Feb. 1 and August 1.

"SPECTACULAR NEW BEARDED IRIS VARIETIES"

Many award winners and rebloomers.
LOW PRICES.

For price list and directions to the garden, write or call:

LOWELL BAUMUNK
10918 Sunshine Drive
Littleton, CO 80125
(303) 791-0456

"HIGHLINE CANAL GARDENS"



MUTANT MESSENGER

by Marlo Morgan

This book cuts to the chase about any questions I've ever had regarding what is the definition of truth and love. It tells the story of its' author Marlo Morgan, an average (what's "average") 50 year old American female. She had been well trained at least by our (the 'mutants') standards, in both conventional (a rekknown MD at Mayo Clinic) and alternative methods of healing.

Her real adventure starts out as she courageously, albeit hesitantly, strips herself of her western garb and supposed "civilized" possessions and finds herself on an unplanned four-month WALKABOUT in the blazing Australian outback to learn about the original REAL PEOPLE; a small nomadic tribe of Aborigines. She quickly learns of their observations of both themselves and us (the 'mutants'). Their observations cut to the quick while maintaining a stunning lack of judgment. Most of all, for me, it is their methods of healing that totally catches me off guard.

What an incredible 7-8 hours I had, lost in the tale of these truly intriguing people, who, by the way, have asked to be removed from the planet (by way of a vow of celibacy). But, before their possible disappearance, they and she (Marlo) want to pass on their story of survival as well as the joy and honor they possess for one another AND for us. This is a story that moved me to rethink my goals, my everyday thought processes, my values, my very being. This story is unquestionably in a class by itself and is destined to become a classic; as its meaning is meant for each of us--individually.

bernadette sonefeld



Longtime Denver resident Bernadette Sonefeld is a dynamic, involved and committed person working to promote vegetarianism, ethical treatment of both wild and captive animals, health issues, and environmental healing.



ANAL-RETENTIVE GARDENING TIPS!

1. Plant your tulips and daffodils in perfectly straight lines using stakes, string and a surveyor's laser.
2. Use electric shears and a carpenter's level every 2 weeks to keep your hedges precisely rectangular.
3. Don't **EVER** put out a bird feeder in your yard; they might poop on the driveway.
4. To keep your lawn weed-free, every 3 years strip up ALL the sod, fumigate the soil with Vapam and Roundup, then put down new, monocultural sod...hire ChemLawn to care for it for 3 more years.
5. Read NO gardening publications except those by Ortho and Martha Stewart. (especially do NOT read that subversive piece of liberal, environmental-wacko trash "THE GARDEN DOCTOR".)
6. Instantly kill ANY insects you see ANYWHERE in your yard with a good, long squirt of Raid.

Any Questions? Give Rush Rambo a call.

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Lees Summit, MO 64063 ISBN: 1-883473-00-4

From where I stand you are home free, the planet's alive, so rare, there's promise in the air...And if all your heart survives, destiny will arrive, and bring all your dreams alive for you.

Olivia Newton-John "Magic"



buying and driving a car is probably the most environmentally-damaging act we routinely commit. But whether we like it or not, the car is central to our economy and the majority of our lives. But until a solar or hydrogen-powered car is the norm, we can use some guidelines when buying a car powered by the internal combustion engine. One is to buy front wheel drive cars; they usually weigh less and thus get better mileage. Avoid extras that strain the engine and add weight: power windows, power steering, power seats, power antennas, power brakes, AC, etc. Get a 4 or 6 cylinder engine, NOT the monstrous new 8,10, and even 12 cylinder engines. Loyal Chrysler and Ford customers can pressure local sales managers to pressure Detroit to produce cars with the "Orbital" 2-stroke engine both companies spent MILLIONS to acquire the rights to...the Orbital is tiny and light enough TO HOLD IN YOUR ARMS, has 2/3's fewer parts, produces 300 HP, gets MUCH better mileage AND puts out MUCH less pollution. Plus its tiny size will allow for even lower, thinner front ends on cars, a crucial aspect of streamlining. Those thin "squinty" headlights you see these days have allowed for lower, more streamlined car front ends, too. The shape of cars used to be dictated largely by fashion (fins, chrome, etc.). But since Ford's groundbreaking Taurus and Sable of the mid 80's, (and the public's acceptance of the rounded "aero" look) cars have been designed far more often to slip more easily through the air, resulting in better mileage and thus less pollution. This "slipperiness" is referred to as the "co-efficient of drag" (cd)...a penguin underwater has a cd of .07, an F-16 fighter's cd is about .16, the Taurus and Sable average .30, and the boxy cars of the 70's were often as high as .52! One reason they got 7 miles per gallon! Many car salesman DON'T know a car's cd, but ask...it's often in company brochures. For us "futurists" this battle against high cd's has given us sleek beauties like the '94 Ford Probe, '95 Aurora, '94 Lexus SC, the '94 Lincoln Mark VIII). The easiest way to lower the cd is to make the car a wedge, with a low pointy nose and a high, blunt tail, which as a bonus contains a deeper trunk. Making both windshields slant sharply helps airflow too. Eliminating the grille and feeding cooling air via a slot BENEATH the bumper (bottom-breather) cuts drag while siphoning off the zone of high pressure that forms in front of a car at speed.

GROWING GREENER CARS



The Eagle Talon has no grille, only openings below the bumper...it's a "bottom breather".

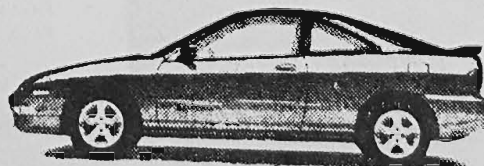


Lincolns used to be boxy, very UN-aerodynamic "old men's cars". But the Lincoln Mark VIII has a low pointy nose, tall rear end, strongly slanting windshields and only a minimal grille, (it's mainly a "bottom breather") giving it a cd of just .31, not much higher than the world record for a production car of .26, held by GM of Europe's Opel Callisto.



The Olds Achieva has partially-covered rear wheels.

Open wheel wells generate 4 pockets of turbulence around a car at speed, but the buying public sees them as "sporty", rejecting covered wheel wells as making a car look "fat", "heavy" and bloated...witness the market failure of the beautifully streamlined 1991 Chevrolet Caprice with its nearly-covered rear wheel wells..as soon as GM opened up those wheel openings, the car began selling even though it was then LESS aerodynamic! Covered rear wheels help give GM's upcoming "Impact" electric car an ultra-low cd of just .20!



The Acura Integra typifies the low-nose, high-butt look that increases gas mileage and thus cuts pollution-per-mile-travelled.



GUERRILLA



GARDENING

by John Starnes

In your travels do you repeatedly see a forlorn-looking, famished plant, be it a straggly fruit tree, aneglected Old Rose, or a hungry flowering vine clinging to life? If the sad orphan tugs at your heart strings, secretly bring it a complete meal next time you pass by. It'll do you both good. Earlier this spring I "snuck" into Fairmount Cemetary with nutrients and clippers in my backpack via tenspeed to nurture a "mystery rose" I spotted on an old grave last spring...despite obvious neglect, the giant produced last spring dozens of large, modern-looking, many-petalled DARK red blooms of incredible fragrance atop strongly vertical stems (I now believe it is the old Hybrid Perpetual "Baron de Bonstetton", 1871). I removed dead wood, then gave it several pounds of a blend of the following: powdered seaweed, Ringer Lawn Restore, micronutrients, alfalfa pellets, feed-grade urea, iron sulphate and Epsom salts. Together they will provide it immediately available soluble nutients and slow release non-soluble ones. Our heavy wet March snows soaked them all in with each melting. When I've done similar "guerilla feedings" in Florida, I've included a VERY generous amount of dolomite to counteract the intense acidity of the sand there while providing calcium and magnesium, both of which are very deficient in central Florida's "soil". It will be a joy this summer continuing my new tradition of bicycling through Fairmount Cemetary as a short cut to Denver's beautiful High Line Canal bicycle path, checking on good ole' "Baron" to see how he's doing. He has already paid me back with several suckers I dug up from where the lawn mowers routinely whack them back...they are in my south-facing rose hedge, and by 1996 or 1997 I should have a nice specimen of that luscious old rose, whatever it is.

Feeding forgotten old plants won't change the world, but it can become a small part of our individual missions to make the world just a little bit better. And if we feed rare and endangered heirloom varieties, or scarce wild species, with the intent of returning to "snitch" cuttings, seeds, suckers or rhizomes, we are also preserving and increasing one more tiny bit of biodiversity, something under siege by the sickening population growth of our species. Several years ago I technically "stole" a clump of rhizomes of Colorado's native iris from behind an outhouse in Pike's Peak National Park. That clump is now big enough to lift and divide into several clones so I can plant them this summer in Clear Creek Canyon, where they were once common (according to very old books) until collectors a century ago plundered them. I did the same thing with Florida's native iris in 1986, sticking them in retention ponds in the glut of yuppie neighborhoods wiping out the countryside. I'd be interested to hear from any of you about your own "guerilla gardening" efforts...what species or cultivar have you fed and propagated? Tell us!



Drop a bar of soap into an old sock and keep it by your spigot for easy hand clean-up after gardening. When the bar melts away untie the knot and drop in a new one.

Pressure-treated wood contains a copper-arsenic-chromium blend. Here's a recipe for a less toxic waterproofer for wood trellises, etc: Melt 1 oz. of paraffin on low heat. Take the pot outdoors and add 13 cups turpentine and 1½ cups linseed oil. Stir till blended. Brush liberally onto the wood until it is saturated.

Common blue violets (*Viola papilionacea*) or native violets (*Viola canadensis*) make an excellent lawn substitute in temperate areas with snowy winters. (violets need winter dormancy). They spread both by runners AND abundantly produced seeds. They thrive in shade or sun, and tolerate a few mowings per year to neaten them up.

Wearing bee gloves (from a beekeepers' supply house)



continued from READERS DIGESTED

Dear John,
I'm visiting good friends in northern California who happen to have an excellent magazine which I've been so fortunate to read for the last couple of days. If I lived in the states I would subscribe - at the moment I live in Denmark but do not get surprised if you get a subscription from me. It just means that I moved to the U.S. Thank you for a real exciting magazine. Many plants regards, Lise Lette Laursen, Denmark

Dearest John,
My friend Jan Wright got me a year subscription to your fabulous mag-come "work of art" last Christmas. Now I'm hooked for life - and continue in my efforts to get my gardening buddies to sign up. The seeds you sent are wonderful; the Scarlet Flax is putting a lovely bright splash of color in what used to be a derelict area. Anyway...about your mag- I love the seeds, section on Plants as medicine, the art work, and the brilliant ways you ask us to continue subscribing to your work. Getting it in the mail and tearing open the envelope. You're definitely my hero. Keep the "pecker" up and I look forward v. v. much to your next issue. Thanks for breaking the trend of boring garden magazine. Love you babe (nothing personal) Dervilla Gowan, Seattle, WA

SHARING SECRETS

make pruning thorny shrubs like blackberries, roses, buckthorn and raspberries easier and less painful.

Gardeners in the hot humid Southeast can grow fieldpeas (also called black-eyed or protopeas) in the heat of summer and get heavy yields of both the pods and the edible young leaves (good in stir fry). The legume is also a heavy nitrogen-fixer, higher than soybeans, especially if heavily acidic soil is sweetened with dolomite.

If your melons crack as they ripen, try to keep soil moisture even...deep watering of dry soil causes the plant to take up water so quickly it cracks the fruit.

A possible deterrent to racoons is to wear a shirt while doing hard labor in the heat for a few days till it REEKS of B.O. The strong human scent may scare the coons if one or more gross shirts is placed in the garden.

Fill an old water bottle with dry sand or sawdust to make a kneeling pad.

To strengthen tulip and daffodil bulbs, snip off the spent flowers AS SOON as the petals fall.

Try using garden soil in your cat's litter box, then spread the used "litter" around roses and other shrubs as a nitrogen-rich fertilizer.

Instead of beer, try using sweet pickle juice in saucers as a slug attracter-and-killer.

A strong tea of Wild Thistle (*Cirsium* spp.) can be used to curdle milk for home cheese making instead of rennet, which is extracted from the stomachs of days old calves.

Possible rabbit deterrents: 1 cup onion juice in 1 gallon water. 7 pounds of tree rosin dissolved in 1 gallon denatured alcohol. Spray the first ON the garden, the second AROUND the garden.

"The worst sin towards our fellow creatures is not to hate them, but to be indifferent to them. That's the essence of inhumanity." George Bernard Shaw



COSTA RICA

by
John Starnes

This is another report in an ongoing series from my July 1991 tour of the S.W. quadrant of Costa Rica, a beautiful, friendly country where I felt very much at home. Now I will share an adventure that made real a childhood dream of mine... to witness an active volcano.

At 6 a.m. on July 15, 1991 I walked onto a bus in downtown San Jose, excited about the journey to the tiny town of Fortuna about 130 kilometers to the N.W., and the huge volcano Arenal which rumbles daily, poised majestically several miles from Fortuna and acting as a natural barrier to the Cloud Forest behind it. We crossed over the green mountains that cradle San Jose, and looking down the flanks I saw a vast, multi-colored geometric grid of farmland, a living quilt of tiny commercial farms, each a colored square outlined by green hedgerows. The riot of colored squares filled the huge valley...one square might contain bright rows of giant red dahlias for the cut flower market. Others were filled with parallel rows of coffee bushes. Some grew crops of vegetables and flowers I did not recognize. A few were picturesque green pastures dotted with grazing black and white cows. Each square was a vision of tidiness and ordered purpose. Every once in a while a chunk of the cloud cover overhead would break loose and RAPIDLY descend onto our valley road, swallowing up the bus in an eerie white fog. The terrain quickly became lower, hotter and more tropical as we left the valley and drew closer to Fortuna and Volcano Arenal. Peering out the bus window, I saw that the jungly roadside was crowded with 60 foot tall scheffleras, 8 foot high feathery ferns and giant orange heliconias of a species I'd never seen in Florida. Looking up, I saw that the now blue sky was filled with huge circling vultures, never flapping, just floating on unseen wind currents. We

drove through tiny humble villages nestled in the thick jungles, and I noted again that these proud people keep their ramshackle "third world" homes surrounded by immaculate yards bulging with dahlias, roses, and a remarkable GIANT terrestrial orchid... each stately 8 foot tall flower stalk bore dozens of flowers similar in color, form and size to a "Cattleya" corsage orchid. I never got a chance to smell those lavender and white beauties.

The bus dropped me off in tiny Fortuna, where I waited for a "taxi", a privately-owned Jeep whose owner takes tourists to the volcano looming ominously over the horizon. I peered over a garden wall as I waited and saw a new (for me!) species of lantana plus some very dramatic BIG flowering plants I could only guess as to their identity. Soon I was in a shiny new Jeep bouncing down a dirt road, my driver careening like the usual Costa Rican driver...like a happy, care-free Mad Max who somehow never has a wreck. I noticed pig-weed amaranth on the dusty shoulder, just like in Denver and Tampa, suddenly appreciating why ancient Mesoamericans domesticated that tough weed into their primary grain. He dropped me off about $\frac{1}{4}$ mile from the base of the volcano, taking his pay and assuring me in broken English he'd be back at such-and-such time. As he sped away, I gawked at the huge red warning signs that in several languages, seemed to say "STAY THE HELL AWAY FROM THIS FREAKIN' VOLCANO!"

Beyond the signs was Arenal, the archetypal GIANT conical volcano of dinosaur movies, its peak swathed in the same layer of clouds that feeds the cloud forest behind it. Mindful of the signs, and that it exploded violently in 1968, killing dozens of people and destroying a town, I decided to hike it, having also read that its daily mini-eruptions serve as a slow-release pressure valve. Before 1968 it had been dormant for centuries but building up a LOT of pressure which it let loose all at once that year. I soon met up with a group of U.S. agricultural college students. A few of us chatted as to whether we were stupid for climbing Arenal as our shoes crunched over the brittle lava fragments filling the ravine which had CLEARLY been a lava flow in 1968! We then excitedly examined the ten foot (cont.)

high sensitive plants that were seemingly the only woody plants to have colonized the lavas flows and thus constituted a vast, dwarf "forest" around Arenal. The closing action of the leaves, when touched, was VERY fast compared to any other sensitive plant I'd encountered before. I gathered several of the dry, leguminous seed pods, carefully avoiding the big, curved thorns protecting the wispy branches.

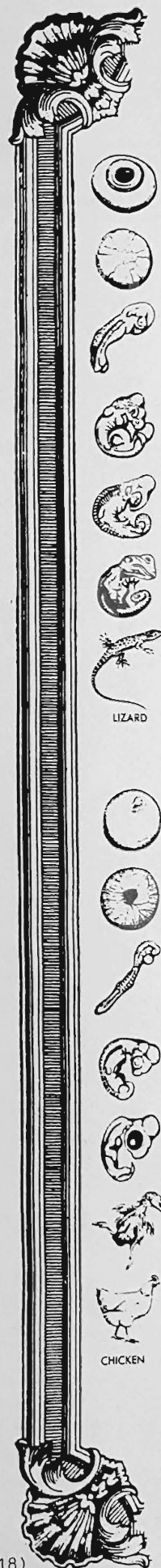
Going up ahead of the students, I entered a boulder field on the lower flank of the volcano, trying to imagine the raw force required to spew so many rocks so far...they ranged in size from cantelopes to small HOUSES! Getting a little nervous, hoping it wouldn't happen again, at least today, I was startled by sudden movements of the smaller rocks all around me...oh shit! But it was lizards, each about 10" long, scampering over loose rocks. Their heads were amazingly reminiscent of that of the ancient Triassic dinosaur Plateosaurus. I looked up the flank towards the giant steam vent that I had chosen as my goal, excited.

But then Volcano Arenal let forth a deep sustained rumble, lower than thunder, almost subsonic, yet sharper than thunder, and of much greater duration...never have I felt so small. A little scared, wondering if "this was it", I searched downward for high ridges to run down in case this was the beginning of an eruption. But suddenly the rumbling stopped, and I reminded myself that the tourists guides all say that Arenal rumbles a bit every day, which is why it doesn't explode. So I continued up towards a ridge between me and the steam vent.

Several hundred feet later I reached the jagged ridge, and met a Christian singing group touring Costa Rica. The several young men were delightfully friendly, free of guile, open and easy to converse with. Sal, their handsome, bare-chested leader led me ahead of them and began telling me of his decadent, promiscuous, apparently bisexual pre-Christian "youth" (he was all of 25). I then gave him my abbreviated life story,

including my two lengthy Bible studies during the 1970's, and of my gayness...I was glad to see that his friendly demeanor was unchanged as we ran full speed towards the steam vent, which they too had targeted. They caught up with us as we stood to catch our breath, suddenly realizing the vent was MUCH bigger and MUCH farther up the volcano than it had appeared from down below. And we also realized that we had climbed much further up than we thought...we were at least 2,000 feet above a remarkable panorama of horizon to horizon jungle and shimmering lakes, all made surreal by mist. Looking straight down the steep mountain we saw new arrivals, understanding the corny "Gee, they look like ants!" of the movies. God that volcano was big. And we were nowhere near the top. Suddenly one of them said "Shush!"... in the silence we heard the eerie "GLOP, GLOP, GLOP" of molten lava bubbling up above us in the cloud-swathed crater. Part of me wanted to run down NOW, knowing that 2 people who had approached the rim recently were killed when huge blobs of hot lava smacked into them... would it start globbing out onto us? But the little boy in me who LOVED dinosaurs and made clay volcanoes filled with "secret fuel" (50% table sugar, 50% potassium nitrate) for fiery nighttime "eruptions", was ecstatic...his dream had come true! We briefly debated approaching the crater, but quickly decided that WOULD be dumb. Suddenly I realized that my taxi was to return soon, so I bid them farewell and started running down Arenal. Moments later I heard a heavenly choir of acappella singing above and behind me. I stopped, turned and there they stood, lined up on the ridge, their song of praise for the Lord echoing in the ravines. Uncannily, Arenal rumbled again, his voice mingling with theirs. It was a beautiful sight and sound to witness, and I'll never forget that vision of those happy young men singing on an active volcano.

I ran down the mountain as fast as I could without falling on my face, darting side to side like a football player evading tackle as my feet sought out smooth and sturdy surfaces...I was late, risking missing the taxi and San Jose was VERY far away. But I got to the meeting point on time, and waited...he never showed. So I hit the road for Fortuna, at first feeling a little panicky, but suddenly realizing that I came to Costa Rica FOR adventure! So my fear of being abandoned in the "middle of nowhere" became delight knowing that I was seeing, UP CLOSE, (instead of from a speeding bus's window) an amazing tropical countryside. All of a sudden I was GLAD the taxi never came...mingled in the grassy roadside meadows were exotic wildflowers,



Berthold Auerbach 1812-1882

"Of all afflictions, the worst is self-contempt".



As our northern hemisphere once again leans towards the sun, triggering Spring, dormant seeds, rhizomes and bulbs send up new growth, while myriads of animals leave their burrows or return along migratory routes. Human gardeners tend to get manic now, eager for the return of favored perennials, or to grow old and new annuals, or to try new techniques in their yards and gardens.

Spring is the most crucial time for feeding the soil, as the new season's growth is most rapid then. Organic gardeners use a wide range of soil nutrients, using different ones for their Spring, Summer and Fall feedings over the years so as to provide the widest range of elements. In areas with acidic soil (most areas east of the Mississippi and high rainfall areas in the Northwest) gardeners give their soil a light sprinkling of dolomitic limestone each spring (except near acid-lovers like blueberries and azaleas). Some nutrients can be bought at feedstores, others gotten for free as "waste products" at the source...look for alfalfa meal, cottonseed meal, flaxseed meal, soybean meal, dry dog food, various manures, fish waste, fish emulsion, blood meal, castor pomace, barghasse (sugar cane waste), feather meal, leather dust, seaweed, tankage, cocoa shells, coffee grounds, brewer's grains, okara (tofu residue), wood ashes, coal dust, granite dust, marble dust, road kill, compost, aged sawdust, tree grindings, butcher's waste, Ringer Lawn Restore, apple pomace, nut hulls, citrus pomace, organic grass clippings, corn cobs, pea pods, or anything you can think of that is organic in nature and hopefully free of pesticides. It is difficult to apply organic soil amendments too heavily excepting those very low or very high in nitrogen, so sprinkle them on with gusto,

Late winter and early spring sees gardeners in temperate areas starting trays of seedlings indoors or in coldframes to get a headstart; in very mild areas like Florida, gardeners start them directly in the garden to try to get bearing crops before the onset of heat and humidity. In all areas early spring is a fine time to plant a cover crop like winter rye, oats, field peas, buckwheat, red clover, alfalfa or winter wheat...turn them under the soil when 6"-8" tall as a "green manure" to decay underground. Wait a few weeks before planting your crops. Health food stores are a good source of organically grown bulk seeds suitable for use as green manures... look in the "Sprouting Seeds" or "Bulk Grains" section.

Lifting and dividing overgrown perennials is best done now too, as is the pruning of winterkilled branches on woody perennials like roses, forsythia, hibiscus, etc. (In subtropical areas cut back HARD [50% or more] fast growing perennials like pentas, eranthemum, lantana, China roses, justicia, sugar cane, jatropa, African Bush Daisy, etc. ...Chop up all that waste and add it to a compost heap made easily by lashing 4 pallets together into an open-topped box. This subtropical brutal cutback REQUIRES a heavy soil feeding, as the plants will need plenty of nutrients to sustain their rampant growth.

If you have a lawn, use any of the above nutrients (preferably those high in nitrogen) for its spring feeding. When frost danger passes give your houseplants a summer vacation beneath a big shady tree..give them compost and plenty of water. You won't recognize them come fall.

Lastly, indulge in feeling within yourself the surge of new life around you... we humans are part of Nature too.

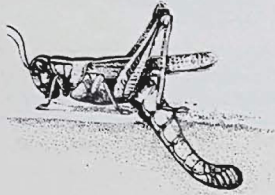
"I think you say "convenience store"..... we lived above it." Mike





Self Study Guide

side view of stamen of *Juniperus sabinia*



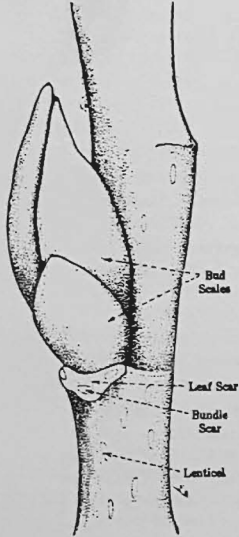
Pignut hickory.



West Indies mahogany.



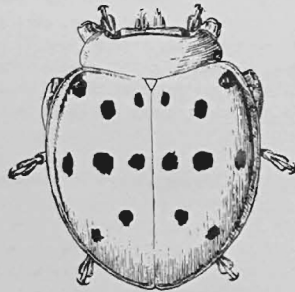
Hongkong fern.



—External view of a portion of a stem of cottonwood (a species of *Populus*) showing an axillary leaf bud, leaf scar and lenticels.



Two-striped locust laying eggs and the completed egg-pod in the soil. (After Walton, U.S.D.A.)



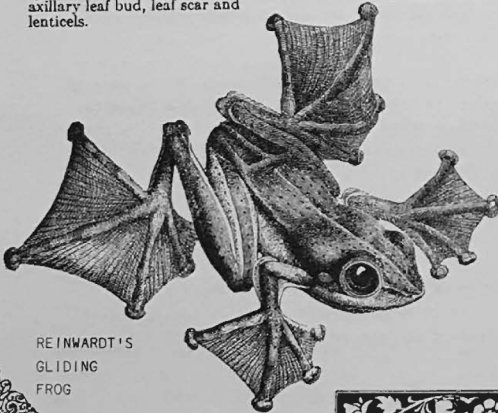
Mexican bean beetle.



Alfalfa weevil.



Northern ca septent



REINWARDT'S GLIDING FROG



Psilocybe mexicana





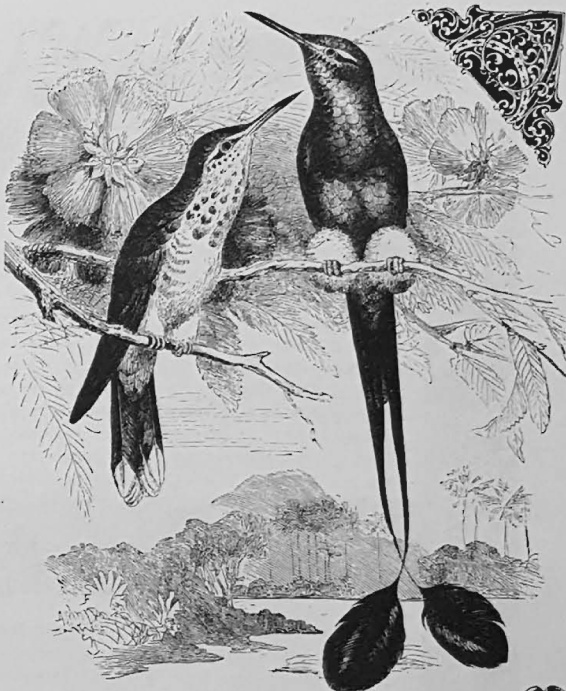
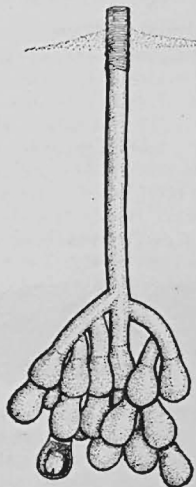
front view of stamen of *Juniperus sabinia*



locust.



Black locust.



Racket-Tailed Hummingbird

Nest of *Diadasia eneuvata*, exterior view (one cell cut open).

Diadasia is a ground dwelling bee.

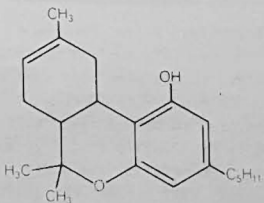


Blind-eyed snake (*Leptodeira trionalis*).

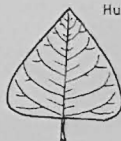


pickerel

x 1/10



Δ^9 -TRANS-TETRAHYDROCANNABINOL



Deltoid (Triangular)



Heart-shaped



stamen of: *Euphorbia canariensis*

SHAPES OF LEAVES



Narrowly Wedge-shaped



Broadly Wedge-shaped



Rounded



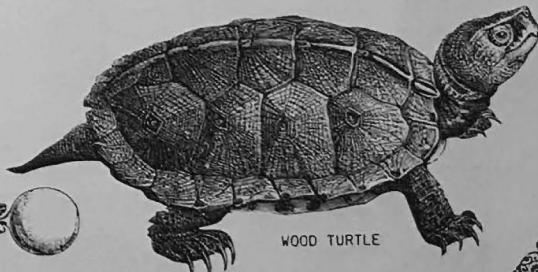
Broadly Pointed



Narrowly Pointed



Bristle-tipped



WOOD TURTLE



stamen of: *Halantium kulpianum*





SEEDS



On your seed packet with **1 ROSE HIP TEA FINGERPRINT** write: "Ch-ch-ch-Chia" (*Salvia columbariae*). You've seen those cheesy commercials, but only THIS publication sends you the seeds (sans tacky ceramics). Chia is actually a subtropical sage (annual?) long used by native Americans as an energy food for their runners, and as a seed meal for making pinole. Early missionaries stationed in Mexico used an infusion of the seeds as a cooling drink and to treat fevers. The '49ers made a poultice of the seeds to dress gunshot wounds. And a certain modern entrepreneur uses it to make BIG BUCKS every Christmas. Information on Chia is very scant, but I suggest you treat it as a frost-tender annual best started indoors and transplanted into a sunny garden AFTER frost danger has passed (March in Florida). Read these tips by the light of a "Clapper" lamp.

On your seed packet with **2 ROSE HIP TEA FINGERPRINTS** write: "Redbud" (*Cercis canadensis*). This spring blooming leguminous shrub is native to North America and is easy to grow except in extremely cold areas (zone 3, 4) and in south Florida, which is too hot and humid while providing insufficient winter dormancy. The heart-shaped leaves emerge AFTER the dramatic early spring bloom phase consisting of multitudes of lavender, pea-like blossoms borne all along the bare branches. Whether grown as a large shrub or a small tree, redbud prefers a loamy, pH-neutral soil. It is tolerant of shade but NOT of heavy, acidic, waterlogged soils. Start your seeds in small pots of compost, leaving them outdoors (keep damp) so that fluctuating temperatures of late winter and early spring can trigger germination (which may take several months).

On your seed packet with **3 ROSE HIP TEA FINGERPRINTS** write: "Dog Rose" (*Rosa canina*). Native to the colder regions of Europe, this ancient species long ago contributed genes to natural rose hybrids. It has also been used as a grafting stock, and the Vitamin C-rich, FLAVORFUL hips (Patti Carr of Tampa describes them as "apple-cherry") have long been used to make a tasty anti-scurvy tonic, plus wines and jellies. The shrub is BIG (easily 7' X 7'), dense and thorny, making it an excellent security hedge...Henrietta, the World's Sweetest Rhode Island Red pet chicken, died suddenly last summer; her grave is beside a specimen I have by my alley fence to deter fence-hopping criminals. Spreads by suckers. Rose seeds sprout best at 43 degrees, so try chilling them pot and all in your fridge for 3 months, then set them in a cool shady spot.

The seeds in this issue have been pre-chilled for you to enhance their germination. And remember: ALWAYS store all your seed packets in your refrigerator (freezer...NOT!) to help insure their continued viability.

(continued from page 13)

including bright orange, cluster-flowered terrestrial orchids, orange asclepias (butterfly weed), huge heliconias at the meadow/jungle interface, plus many others in the daisy (composite) family. Yellow butterflies flitted everywhere in profusion, and little herds (flocks?) of petite lavender butterflies crowded onto any bare patch of soil..I still wonder why they preferred soil to flowers. I stuffed my face with many mouthfuls of wild blackberries, ate a few "cas" fruits, and tasted (then spit out to be safe) an unknown but DELICIOUS berry. I took pictures of Arenal as I slowly left it behind, and got a great close-up of a HUGE black and white cow watching me from behind a fence. (Sadly, this roll of film, and that I shot the day of the eclipse, were stolen from my backpack in the produce market in San Jose by a skillful pick-pocket who vanished into the crowd as soon as I felt a slight pressure on my back.) Soon I caught up with two young American women...we chatted a bit, then I went ahead full steam. About half an hour later, Sal and the Hot Volcano Singers passed me in their van, stopped, backed up and took me aboard...I must confess I was glad even though I HAD been enjoying myself! We again all started talking away, and a young woman in the van, upon learning I was a gardener from Florida, asked me for advice on growing impatiens outdoors there, as her Dad loses them year after year. But comparing our amazing day on Arenal was topic number one.

Soon we were parked in front of their hotel in Fortuna, and we said goodbye. But I was surprised and flattered when Sal caught up with me some feet away, clasped my hand in both of his and said that people like me reinforces his hope that people are good...I thanked him for saying that, for the ride, and for the day of comraderie, then we waved goodbye.

Upon learning that the bus for San Jose wasn't due for awhile, I walked into an open air restaurant and slugged down a scrumptiously

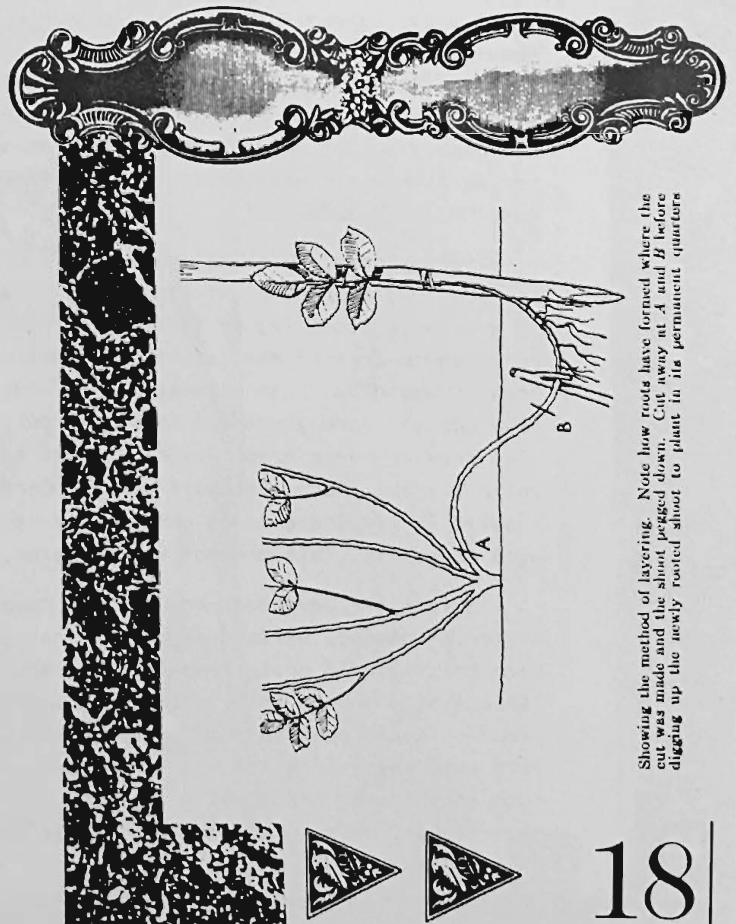
frothy cold drink made from milk, ice and the tangy-sweet pulp of the tamarind fruit. Down the street I bought a little bottle of green Costa Rican shampoo (clean hair at last!), fresh orange juice and three small, very fragrant yellow bananas with sticky-sweet, yellow-beige flesh. Running back to get the bus, I BARELY caught it as it started to pull away.

On the way back home to San Jose, a typically friendly young Costa Rican man (a "Tico" is how these people refer to themselves) and I coached each other as best we could on Spanish and English, laughing at our attempts and slowly learning of each other's lives. Back in San Jose, hours after sundown, I went to a delightfully funky, crowded subterranean family restaurant, had 2 local beers (good!) and a huge plate of pinto con natilla, a delicious beans and rice dish served with chopped raw onions.

Back in my hotel room, all showered and savoring my clean hair, delightfully tired, I decided to sleep in the next day, even though it was my last in Costa Rica. My final destination was much closer to San Jose, and would prove as intense as everything else had been so far. The Lankaster Botanic Gardens awaited me!

Obstacles are those frightful things you see when you take your eyes off the goal.

Hannah Moore 1745-1833



Showing the method of layering. Note how roots have formed where the cut was made and the shoot pegged down. Cut away at A and B before digging up the newly rooted shoot to plant in its permanent quarters

A GARDENING EXPERIMENT: Back-Breeding Hybrids by Miss Dee Ennay



many of us would not recognize the primitive ancestors of our modern hybridized flowers, fruits, grains and vegetables. The apples we eat were slowly bred over the centuries from the small, hard, bitter crabapple. The modern large-flowered, multi-colored pansy is just an extremely hybridized wild violet. And the "Johnny Jump-up" or viola was the intermediate step between violets and pansies as breeders sought bigger, more colorful blooms. "Back-breeding" pansies would simply be a slow reverse-evolution involving saving pansy seeds one year, growing them the next, saving THEIR seeds, etc. over a period of several years. The first couple years there may not be much change, but soon the saved seeds would produce violas, then primitive violas, and eventually, wild violets. This "reverse-evolution" occurs naturally when hybrids set seed because they are genetically unstable, like a house of cards, and their basic urge is to unravel all that breeding until they reach their stable original "wild" form. And while many hybrids taste better or are bigger, they often are frail, susceptible to bugs and disease, or, as in the case of modern corn, incapable of self-sowing.

Many of us organic gardeners avoid reliance on F1 hybrids for many reasons: preserving biodiversity, refusal to subsidize agri-giants wiping out the small farmers and seed houses, plus the knowledge that many hybrids lack important things, like fragrance (in the case of sweet peas, carnations, and many modern roses), or flavor (as in the case of many modern tomatoes and sweet corns). So by back-breeding hybrids, a gardener can have fun, satisfy his or her scientific curiosity, plus possibly recover buried genetic treasure. If you keep a garden journal, take notes year after year as you reverse-evolve the plant, for with each new generation of seeds there will be changes (some dramatic) in the appearance of its offspring. There can even be decidedly different seedlings emerging from seeds taken FROM THE SAME FRUIT OR SEED POD!

For example, 10 seeds taken from a ripe hybrid squash or ripe hip on a modern rose can produce 10 different plants producing 10 different squashes or roses! Why? Because you are, in a sense, recovering or exposing AT RANDOM some of the many ancestors that were created (or used to create) earlier hybrids that led to the modern hybrid you extracted the seeds from. (Many of us have witnessed this when weird, mutant squash have sprouted in our compost heaps). Some gardeners have also noticed pale, small-funneled primitive-looking petunias growing years after having planted modern hybrid petunias in that bed. Or tall rangey white alyssum where the dwarf hybrid "Carpet of Snow" was once planted. Calendulas self-sow readily in temperate zones and quickly back-breed on their own into their tall, daisy-like wild ancestors. This process can, however, be used deliberately.

Scientists have back-bred modern "man-made" cattle over a period of years into a pre-historic-looking, buffalo-like ancestral bovine. They've also back-bred corn into the knee-high bristly wild grain "teosinte" of Mexico that has long been believed to be what ancient Indians slowly bred into their corn, which we in turn used to breed OUR corn. So try back-breeding sweet peas to recover their legendarily fragrant forms of Shakespeare's time. Or take some seeds from the hip of a modern rose like "Peace" and discover a wild array of some of the many ancestral roses used to create the incredibly complex genetic structure of that flower. What's YOUR favorite fruit or flower or vegetable? Back-breed it and see what happens!



"What we've got is the realization that suburban environments lack qualities that civilized people require." Robert A. M. Stern

PHUKINAY!!

The human eye takes 1/3 second to shut and open. But the jaws of the ant *Odontomachus bauri* are 1,000 times faster, taking just 0.33 millisecond to close and open.

SCIENCE 10-22-93

December 1 is the first day of summer in the Southern Hemisphere.

Brent Loy at the University of New Hampshire has bred a miniature pumpkin that produces hull-less, high protein (40%) seeds almost free of saturated fat. Each pumpkin is about 5" in diameter, weighs about 1½ pounds, and contains from 300 to 400 edible seeds, which have a ratio of 1:3 of mono- to polyunsaturates. The "Snack-jack" pumpkin seeds can be eaten raw, dried and salted, or puffed like popcorn in a microwave oven. Commercial introduction is scheduled for 1995. SCIENCE NEWS

The Mt. St. Helens landslide contained just under 3 cubic kilometers of rock. But oceanographers have discovered an undersea landslide involving 19 cubic kilometers of rock on the side of the mid-Atlantic ridge at 26.5° N latitude. It occurred in the last

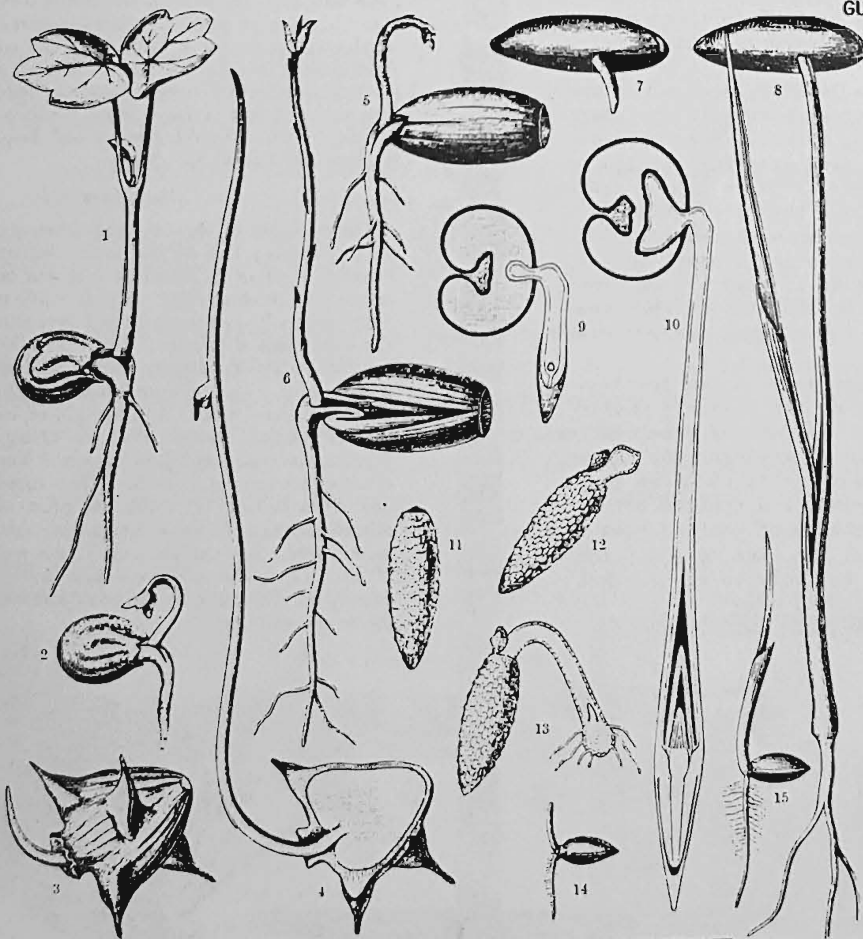


450,000 years and produced a wave about 700 meters high. Another ancient slide on the undersea flank of an Hawaiian volcano contained 5,000 cubic kilometers of rock! GEOLOGY, February 1992

A specimen of the lily "*Hesperogucca whipplei*" grew 12 feet in 14 days in July 1978 at Treco Abbey, Isles of Scilly, England. GUINNESS BOOK OF WORLD RECORDS

A cauliflower head weighing 52 lbs. 11½ oz. was grown by Mr. J. T. Cooke of Funtington, W. Sussex, England in 1966.

GUINNESS BOOK OF WORLD RECORDS



1. Germinating Seeds and Seedlings

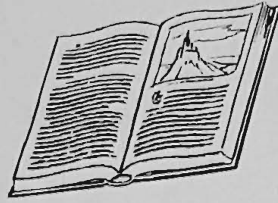
1 Seedling of the Nasturtium (*Tropaeolum majus*). 2 The same at an earlier stage of development. 3 Water Chestnut (*Trapa natans*), from which the embryo is emerging. 4 Later stage of development. 5 Young seedling of the Austrian Oak (*Quercus Austriaca*). 6 The same, further developed. 7 Seed of the Date (*Phoenix dactylifera*) from which the embryo is emerging. 8 The same eight weeks later, after the seedling has already developed root and scale-leaves. 9 Young Date in longitudinal section. 10 Older Date in longitudinal section. 11 Seed of the Reed-mace *Typha Shultzevorhii*. 12 The same with protruding embryo. 13 The same at a later stage of development. 14, 15 Seedling of the Sedge *Carex vulgaria*. Fig. 1-5, natural size; 9, 10, X 8; 11-13, X 4; 14, 15, X 6.

Learning to identify seedlings can help one differentiate them from sprouting weed seeds. And their varied sculptural forms can amaze us in that life itself can be contained, preserved and transported in tiny seeds, themselves often rather plain-looking little things.



KEEPING A GARDEN JOURNAL

by John Starnes



People who wish to record the annual events and changes in their yards and gardens, plus maybe those in the garden within them, might consider starting and keeping a garden journal. It's easy to start...office supply houses stock a wide array of cheap diary-format booklets, ordinary spiral notebooks, plus classy hardcover journals containing blank or ruled pages. Your choice will depend on the format you plan to use (frequent diary-style entries) and whether you plan to include drawings.

I use mine to record the plant life I see while travelling (i.e. the "Costa Rica" series of reports in this publication). I also make drawings of my food-producing gardens each year to help me choose favorite cultivars, and to insure that I rotate my crops adequately. A few years ago my journal also served to house a "wish list" of Tea and China roses I felt would grow well in Florida; that list served to galvanize my passion for the Antique Roses and continues to prove invaluable in my ongoing search for new specimens, for it is comprised of over 900 variety names I gleaned from dozens of 19th and 20th century rose books. At the time I had no idea I was reshaping my life with that list.

I've also noticed over the years that my old notes often had a diary-like quality to them, serving to remind me of who I've been in times past, and how my gardens have reflected and shaped me.

A garden journal is a logical, portable place to store data regarding experiments with new plants, soil amendments, composting methods, home hybridizing programs, grafting, seed starting trials, and other structured efforts. I often do not notice patterns in my results unless they are written down where I can review them at my leisure. It's also easier to share our gardening lessons and dreams with gardening friends if they are on paper, for many of us are trying so many things that memory alone may not suffice in relating our progress.

Some of you who already keep garden journals can feel free to submit to me for possible publication in THE GARDEN DOCTOR certain of your entries that might enlighten me and my readers. The pay is cheap (copies of that issue) but it COULD be your gateway to Endless Fame (yeah, and monkeys might fly out of my butt!). And those of you who have never kept a garden journal can give it a try for one year, just to see how it feels to record that part of your life. Let me know, okay?



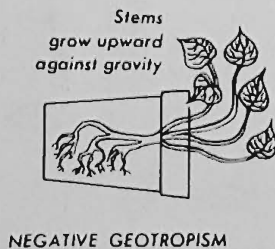
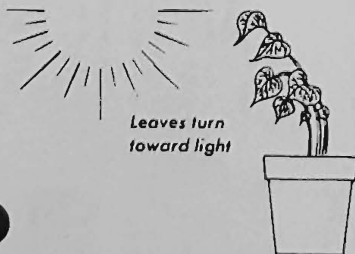
MAN



CHIMPANZEE



POSITIVE PHOTOTROPISM



NEGATIVE GEOTROPISM

RECIPES FOR POT-POURRI



"THE roses used should be just blown, of the sweetest-smelling kinds, gathered in as dry a state as possible. After each gathering, spread out the petals on a sheet of paper and leave until free from all moisture; then place a layer of petals in the jar, sprinkling with coarse salt; then another layer and salt, alternating, until the jar is full. Leave for a few days, or until a broth is formed; then incorporate thoroughly, and add more petals and salt, mixing daily for a week, when fragrant gums and spices should be added, such as benzoin, storax, cassia buds, cinnamon, cloves, cardamom, and vanilla bean. Mix again and leave for a few days, when add essential oil of jasmine, violet, tuberose, and attar-of-roses, together with a hint of ambergris, or musk, in mixture with the flower ottos to fix the odour. Spices, such as cloves, should be sparingly used. A rose *Pot-pourri* thus combined, without parsimony in supplying the flower ottos, will be found in the fullest sense a joy for ever."—G. H. Elwanger in "The Garden's Story," quoted by Mrs C. W. Earle in *Pot-Pourri*, pp. 241, 242.

I. POT-POURRI

Take the rind of two lemons, cut thin, one pound bay salt, one ounce of powdered orris root, one ounce of gum benzoin, one ounce of cinnamon, one half-ounce of cloves, one ounce nutmegs, one grain musk, twelve Bay leaves, a few Sage leaves, Rosemary and Lavender cut small, one ounce lavender-water, one ounce eau-de-Cologne, one ounce Bergamot. Mix all together in a pan, and add sweet flowers in their natural state as they come into blossom, stir up frequently—at least once a day. It must be put in a covered stone pot, with a wooden spoon to stir it with. At the end of two or three months this will be a sweet-scented mass ready to fill any number of pretty Japanese rose-jars. From time to time throw in fresh Rose petals.—*Recipes I. II. III.* from "Sweet-Scented Flowers and Fragrant Leaves," by Donald M. Donald, pp. 47-49.

II. POT-POURRI

Gather early in the day, and when perfectly dry, a peck of Roses; pick off the petals, and strew over them three-quarters of a pound of common salt. Let them remain two or three days, and if fresh flowers are added, some more salt must be sprinkled over them. Mix with the Roses half a pound of finely pounded bay salt, the same quantity of allspice, cloves, and brown sugar, a quarter of a pound of gum benzoin, and two ounces of powdered orris root. Add one gill of brandy, and any sort of fragrant flowers, such as Orange and Lemon flowers, Lavender and lemon-scented Verbena, and any other sweet-scented flowers. They should be perfectly dry when added. The mixture must be occasionally stirred and kept in close-covered jars, the covers to be raised only when the perfume is desired in the room. If after a time the mixture seems to dry, moisten with brandy only, as essences too soon lose their quality and injure the perfume.





BEYOND FRUGAL \$



A DUMPSTER DIVING UPDATE:

by
John
Starnes



The "Alley God" has blessed me for 2 decades now with an abundance of goods of all kinds from many memorable dumpsters, freeing up cash for fun and travel and freedom and survival needs. This last fall and winter He (She) came through in a BIG way, making my first winter in Denver in 5 years warm and cozy and luxuriantly food-filled. To give you time to seek out productive dumpsters, and to subsequently "harvest" similar raw materials before NEXT winter, I'll pass on how I used these "recycled" treasures.

Born in Key West, Florida, I don't like being cold. But being a pathologically cheap environmentalist, I won't run my gas central heat continuously. But dumpster diving at 3 insulation companies let me insulate my (previously bare aluminum) flat-sided cold air return ductwork with rigid, foil-backed structural foam: I used less than \$1 worth of duct tape (on sale) to attach it firmly and quickly. Free sheets of foil-backed fiberglass insulation, held in place with a little duct tape, insulated my tubular hot-air ductwork, resulting in a DRAMATIC increase in the warmth of the air entering my rooms. Covering window glass inside and out with free giant sheets of bubble wrap held in place with wide clear scotch tape from a dumpster at last eliminated the cold glass surfaces that made my bedroom and kitchen perpetually chilly...plus bubble wrap admits nicely diffused light. Seven discarded interior doors made reflective on one side with aluminum foil and (you guessed it) duct tape, then positioned at various angles OUTSIDE my west and south windows reflected vast amounts of sunlight and heat into my livingroom and office, so much so that I had 13 breeder roses in pots thriving and blooming in my livingroom all winter long, speeding up my hybridizing program while blessing me with fragrant rose blooms as snow lay outside! My heater became an AUXILLARY source of heat for cloudy days and evenings. My biggest total utility bill was \$80...my summer bills average \$32. My house was very toasty (70's) all winter long, something I promised myself if this Florida boy spent the winter in Denver.



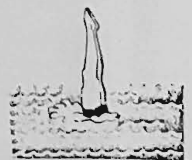
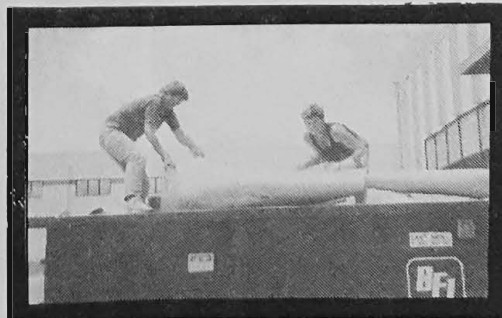
Making 2 coldframes about 8 feet long, 3 feet high and deep by the south side of my red brick garage gave my "girls" a gloriously warm henhouse (vital since they'd spent the previous 4 winters in Tampa) and gave me fresh brassicas, cilantro, collards, arugula, onions, peas and turnips from the other equally effective coldframe. Both were made from free, DOUBLE-PANE frameless windows discarded by 2 window companies, and were easily assembled simply by binding their edges with...DUCT TAPE! The tape is strong and simultaneously seals the edges. Laying windows UN-TAPED across the top gave me movable ceilings for easy harvest, and to vent excess heat, which occurred daily even when it was in the 30's! The veggie cold frame was also a nursery for rooted rose cuttings and trays of veggie seedlings for spring planting...covering it each sundown with slabs of free rigid reflective foam cut radiant heat loss big time: 2 home-made candles was all that was required during evenings with single digit temperatures. Plus I'm sure the carbon dioxide created by the candles helped promote the luxurious growth I witnessed.

(continued next page)

To stay young requires unceasing cultivation of the ability to unlearn old falsehoods. Robert A. Heinlein



Sheryl Shicora (left) and Janet Burgdorfer, the World's Best Dumpster Diver, feverishly retrieving rolls of carpet for Sheryl's new house.

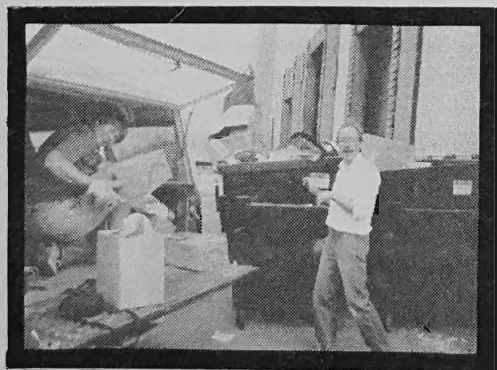


I made a third, much larger coldframe I like to call a greenhouse out of two doors (lying on their sides) for the north and west walls (with rigid insulating foam glued to their inside surfaces), plus wood-framed, double-pane sliding glass doors and windows (discarded by a window manufacturer in Industrial Park due to barely perceptible blemishes) for the south and east walls. The roof is of frameless double-pane windows resting on discarded door sills...the rubber gaskets act as heat seals at night and allow for easy sliding open of the ceiling window panels on hot days. In 1988 I found hundreds of little aluminum "candles" filled with kerosene for use in restaurants...3 of them burning inside the greenhouse on super cold nights, plus covering the roof with two sheets of some high-tech blackfoam-and-aluminized Mylar insulation from another dumpster kept my treasured potted antique roses quite cozy. (Many of my rare roses are shipped by growers ONLY during January and February, so this greenhouse let me acquire many new varieties for my customers, my own yard and my breeding program). Until it got full of potted roses (about 140) in late February, I had a chaise lounge in there, so I could lay in there Michael Jackson-style in my swimming trunks, listening to Twin Peaks (of course) on my Walkman, incredibly warm and humid (like a pseudo-Florida) as I gazed at snow outside! Quite a treat. Okra thrives in Tampa, but is "iffy" here due to cool summer nights and a short growing season. So by planting okra seeds between the rows of potted roses I'll be able to have big juvenile plants by the May 15 last frost date...at that time I'll take off the ceiling panels, take out the roses, and soon have okra up the ying yang. I'm doing the same with eggplants in the other coldframe. And when I switch "the girls" to their airy summer henhouse, I'll use their winter glasshouse to grow the potted subtropical Tea, China and Noisette roses I'm using to breed my line of "Florida Roses"...with it I'll be able to duplicate the heat and humidity they tolerate (even enjoy) so well.

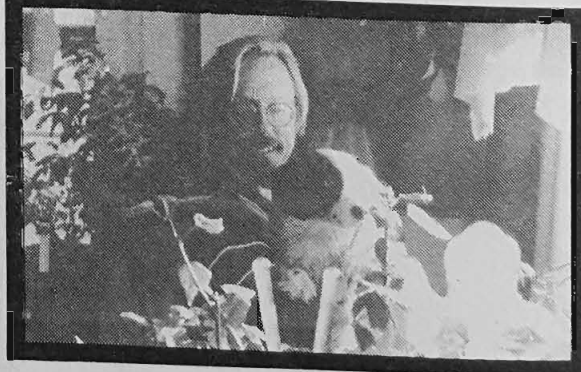
I don't really like the soft, mushy "silken" style tofu, but Janet and I find it by the ton in health food store and grocery store dumpsters, discarded on the day it expires (so it's ALWAYS still good). But I was told of an ancient Chinese method of using fluctuating winter temperatures to "freeze-dry" it. I quickly found that slices of silken tofu, sandwiched between two plastic window screens and laid across my clothesline, became radically altered into a tough, chewy, "meaty" dried tofu that stored just fine in jars at room temperature. Even non-vegetarian friends loved it in stir fries. I did the same with fresh mushrooms, which we also find in great quantities, discarded at the slightest sign of the gills opening BY THE CASE. Like I said, I ate well this winter for about \$15 a month (I'd put up quite a bit of food from the garden and dumpsters).

Before I forget...the coldframes and greenhouses let me start many trays of seedlings of annuals flowers and veggies for me, my customers and friends in far greater numbers than I could have indoors AND without any "legginess". Dumpster diving is out of the closet, propelled by the best-selling book "The Art and Science of Dumpster Diving" (which my friends say I SHOULD or COULD have written). Precycling resources from dumpsters keeps them out of landfills, adds to our freedom and prosperity, and stimulates the creative process..."Gee, what can I do with ALL these free double-pane windows, doors and insulation?" Just lift the lid and "Peek and you shall find!".

Sheryl and I horsing around a dumpster full of tortillas and chips.



Sergeant and I basking in the warm glow of our west-facing solar reflectors. In the next issue I should have pics of the roses on the window sill.





BAD NEWS

The body fat of most humans now contains about 7 parts per trillion of TCDD, one of the most toxic chemicals in the dioxin family. Rhesus monkeys fed a diet containing 5 ppt of TCDD developed moderate to severe endometriosis after 4 years. The disease occurs when endometrial cells escape the uterus and form nodules elsewhere, such as the ovaries or fallopian tubes. (Dioxins often appear as contaminants in herbicides like 2,4-D, which is often used to kill weeds in monocultural lawns.) **Sherry E. Rier, USF College of Medicine, Tampa, Florida**

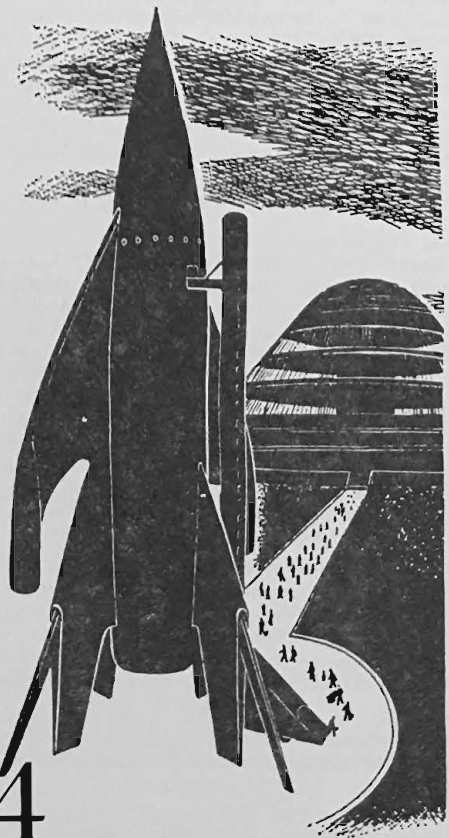
ometers, almost equal to all of North America. Ozone levels fell to 90 Dobson units, "the lowest value of total ozone ever recorded on earth." This represents a loss of 70% of the ozone there. **Science News 10-16-93**

Maine's state health officials have warned the public, especially pregnant women, nursing mothers, and women of child-bearing age, to NOT eat the pastey green material called tomalley found inside Maine lobsters due to the high levels of dioxin it now contains. Tomalley is the lobster's pancreas and liver, both de-toxifying (for the lobster!) organs. The crustaceans' meat itself has been declared safe. Dioxin has caused birth defects and cancer in laboratory animals. **Rocky Mountain News**

The hole in the ozone layer over Antarctica set new records last fall by growing to over 23 MILLION square ki-

Evacuating humanity from an ecologically-wrecked Planet Earth would require building and launching many MILLIONS of spacecraft much larger and far more advanced than the Space Shuttle. These spaceships would have to be capable of interstellar trips many years in duration because there are no other habitable planets in our solar system, and because the next closest star (sun) is many light years away. We currently have no means of detecting planets orbiting another star, much less HABITABLE planets. And even if we could find another welcoming (and uninhabited) world and reach it, the arrival of 5 (or more) BILLION human beings would likely result in that planet being ravaged also. And what if that world had "Indians" when we arrived...would we, as usual, decimate them too?

Clearly, an easier and more workable solution is to stop damaging THIS planet first, then begin allowing it to heal. Reducing our birthrate would ease the stresses on local (and thus global) ecologies, for over-population is the first "domino" to fall. Abandoning fossil fuels in favor of hydrogen and solar power would allow the air and rain to cleanse themselves. Expanding our recovery and use (recycling) of industrial waste would cut pollution AND the need to plunder the earth's crust further. Converting to largely vegetarian diets and subsequently, organic agriculture, would drastically cut our use and pollution of water while sparing many of the wild animals and plants routinely exterminated by modern industrial farming and flesh production. And questioning blind allegiance to ancient patriarchal holy books that say we humans have a "right" and a "duty" to "subdue the earth" may give us a new perspective on what we call "civilization". Surely, if we were in fact born into a Garden created by loving hands, we can find ways to live in it gently, mindfully.





READERS DIGESTED

Dear John,
We've enjoyed your magazine for years. I continue to use your organic lawn yard care methods, which I learned through your Colorado Free University class, with "lush-us" results. We really appreciated your gracious, loving, and highly empowered reply to Sherry of Jackson, Mississippi in the Fall '93 Garden Doc! Keep smiling. Peace & Love, Jim Douglas & Steve Cunningham, Denver, CO

John-
Enclosed is our renewal to "THE GARDEN DR." Also please find ad copy for the Spring '94 issue along with \$19 for the 38 words at 50¢/word. We especially liked "Burt the Bird". Thanks, Lowell Baumunk & Barb Lewis, Littleton, CO

DEar John,
Of course I wish to extend my subscription, and that of my mom, Bettie Spellman in Cranston, RI, as well. Enclosed is a check for \$32 to cover the two subscriptions.

I've been meaning for months now to write you in support of your efforts, and I feel badly indeed that I've been so remiss.

I hugely enjoy THE GARDEN DOCTOR. That said, I recognize also that you put a huge amount of yourself into the production, evidently without a lot of ongoing positive feedback. I find this mystifying. THE GARDEN DOCTOR is so one-of-a-kind and so far above and beyond other gardening publications in terms of outlook, scope, perspective, subject matter, style, and joie de vivre that it is stunning to me that people don't renew. Let me just emphasize that I think your work is tremendous and that I value it greatly... THE GARDEN DOCTOR is inspirational, as it posits a wonderful outlook on the world: one that is Edenic, caretaking, thoughtful, unhurried, contextual. Also, it's wickedly funny. As long as you enjoy it, I hope you'll keep at it. When it stops being fun and starts being a burden, though, you should let go. It's been a great run so far, and I look forward to more. Take care, John. John Spellman, Beverly, MA

Dear Garden Doctor John,
I would like to tell you how much I admired your reply to Sherry Pendleton's letter that referred to "gays and freeloaders". You defended your position with grace and tact, and hopefully helped to open a few minds. I love your magazine but haven't been able to plant any of your seeds because I live in an apartment and everything you have sent doesn't sound as if it would do well in a pot with limited light. I'm saving them for when I buy a house. In addition to renewing my subscription I would like to get one for my friend Mary Furman as a birthday gift. Thanks. Josie Carleno, Denver, CO

OK, OK Here's your renewal money. I'd hate to see a grown man cry. Besides, there have been a few moments I've spent reading your mag. that I'd consider priceless. Whether it was busting up laughing or twitched at the irony of our planet's condition and us. I've always admired your work. Mike Mahoney, Geyserville, CA

Dear John, I am having to let my subscription stop. I have recommended your publication to others. Thank you & God Bless & Keep you. Kerry Goldmeyer, Chesapeake, VA

DEar John,
Please cash my check and renew my subscription. You know, I'd planned not to renew. Seemed like when you wrote the editorial awhile back regarding the lack of success with THE GARDEN DOCTOR that you were in a negative trap. Being caught in one myself, at the time, I just didn't need to be reminded of it. So the recent issues of THE GARDEN DOCTOR just remained in my pile of unread mail. When the last issue arrived I let it sit too and then one day the roses got to me. (last year I planted a David Austin Rose in my front yard) So I sat down and said O. K., one morning, one flip through. Of course I started at the beginning and... I must say congratulations. Thanks so much for your personal story of recovery. Sounds like you've discovered the Fountain of Youth as well as your place in the world. Your editorial seemed to have a lightning rod effect in my own life, reminding me to appreciate and love my own life and not be so concerned with what others are doing.

My husband, Dave, and I work for many retired folk. We've noticed over the years that some people, as life works on them, learn to "give it up". They stop complaining, they are flexible, and they appreciate the gift of life. Others just keep on bitching and whining and are continually upset by the values that they hold that conflict with those of others.


Dave and I spend nearly all of our time together and so we have plenty of opportunity to fine tune our own value system. We've been often trapped in the game of constantly comparing ourselves to others.

Sometimes we are slow learners but it's been coming to me for awhile now that we won't grow by putting so much attention on others, and that we aren't living our lives. It seems in my life that like a habit these paradoxical behaviors seem to run their own course; sometimes it seems like they will suck the very life right out of me.

But then... there is grace. Your editorial was the beginning, a seed so to speak that sprouted just in time to give me something to nurture and grow during this time of seasonal darkness and turning within. Thank you for your part in this world. Your efforts are reaching beyond the benefit of your own life - to the life that we all share - congratulations for your hard work.

I'm looking forward to more issues of THE GARDEN DOCTOR and news of your movement through this world. Thank you! and Blessed be! Joni Veatch, G.M. Garden Services, Inc. 9500 7th N.W. Seattle, WA 98117 p.s. I just thought how amusing it is that all these years you've been calling yourself THE GARDEN DOCTOR and when you were ill that the Garden in the mystical sense is where you were healed. "Thanks Joni, not only for sharing back your own internal landscape and growth, but for letting me know that it's "okay" and even helpful for me to get personal in THE GARDEN DOCTOR... sometimes I wonder if it is simply self-absorption to tell my readers of my own life events. You're right... I sometimes now feel I HAVE found the Fountain of Youth... harboring one or more passionate interests instead, as you pointed out, of worrying how others mirror me. And while it might sound a bit syrupy, Roses have made me a kid again in that there is SO much to learn and love about them... they are a beautiful world to explore within themselves... dipping my nose into "Abraham Darby" or "General Jacqueminot" or the incredible Rosa moschata can make me so happy I get tears in my eyes, quite a surprise for a guy who always grew corn and squash! I think that if, as we get older and learn to be easier on ourselves, whole new realms that we could never have anticipated when younger begin forming inside us, almost as a kind of justice to compensate us for the pain and insecurity that youth so often consists of... thanks for sticking with me for 6 years now! John". p.s. which David Austin Rose do you have? "Othello" and "Abraham Darby" have absolutely broken my heart.

("READERS DIGESTED" CONTINUED
ELSEWHERE IN THIS ISSUE)



Rush Rambo

KNOWS ALL

"I'd bless you with my endless gardening wisdom, but I'm busy chanting my latest book sales figures. Contact the people below: I'm ALWAYS right."



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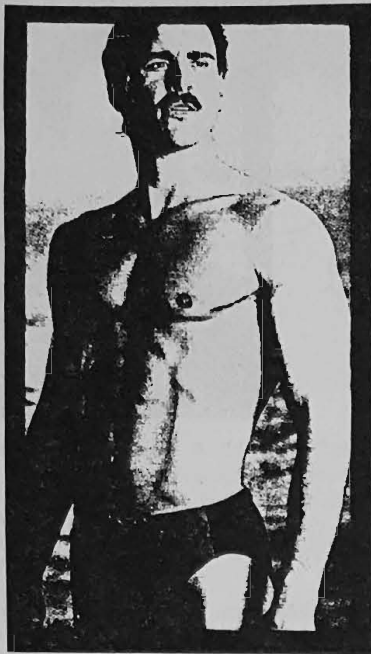
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GREGORY PICS S EZ:

Centuries ago, Paracelsus called fasting "the greatest remedy, the physician within". We are all aware of the Indian yoga masters who periodically fast and amaze us with their physical and mental prowess. Gandhi fasted. Wild animals instinctively fast during illness....a body freed of all of the work of digesting, processing, and eliminating food can focus its energy on healing. Advocates of fasting feel that during a fast of 3 or more days, the body's natural process of "self-digestion" (autolysis), which prolongs life during famine or in concentration camps, will naturally digest non-vital or sick or excess tissues FIRST...fat deposits, tumors, dead or dying cells, etc. are metabolized to compensate for the caloric deficit of a fast. Fasting advocates also feel during a prolonged fast the body sheds toxins that have slowly accumulated in body tissues, hence the foul urine and bad breath that often occurs during such a fast. Arthritis and other degenerative diseases are often reversed by fasting as the body cleanses itself. There are many ways to fast...juice fast, water fasts, use and non-use of enemas, brief and long duration, etc. But a 3 day juice fast, during which one stays at home, takes it easy, and consumes only fresh fruit and vegetable juice, vegetable broth and water, without resorting to enemas, is a safe and recommended way to try fasting. A weekly 1 day juice or water fast is also not only a way to give your body a brief, healthy rest, but also a way to burn up that squishy layer of subcutaneous fat that hides those nice hard muscles you've been so diligently sculpting. Before trying your first fast, try reading "How to keep Slim, Healthy and Young with Juice Fasting" by Paavo O. Airola, Ph.D. Yo bro, fasting, working out, and eating a vegetarian or vegan diet can give you a clean lean body no one can resist! Yo, pump it up!

Honeysuckle Shifts

Use your shoes...
paint them blue and sky dance.
Gather the colors of the air
into secrets
and whisper them into a warm ear.

Please remember that jade never bleeds
when cut by women
and teach this to a man.

In winter
use dry oak and cedar
to create an amiable flame in the hearth...
boil soup
and watch snow dash against window glass.

Use your eyes
to penetrate hearts
and look for signs of light.

A frightened man has glass hands...
show him the world through them.

Become absolute hero,
bold beneath a blue sky future;
discover inside you a color clear
and choose to make it news.

Create in lieu of reproducing
and discover that Freedom
is the first and last dogma,
an anxiety salad tossed and dreamed
when we summer sleep beneath a cricket sky.

Use three heartbeats to wonder,
use four screams to tell the truth,
use five words to ask for love...
there is a trick to this;
know when to stop.

Then give one last Katie Hepburn sigh
just as the fragrance of honeysuckle
shifts to the moonlit gazebo.

Use your blues...fashion them into light
and move.

John Starnes

SOME EXTREMELY FRAGRANT 20th CENTURY ROSES (*=good for hot, humid areas)



FAIR BIANCA, English Rose 1982
HERITAGE, English Rose 1984
ABRAHAM DARBY, English Rose 1985
OTHELLO, English Rose 1986
THE PRINCE, English Rose 1990
GERTRUDE JEKYLL, English Rose 1986
BELLE STORY, English Rose 1984
CHINATOWN, Floribunda 1963
CORNELIA, Hybrid Musk 1925*
PENELOPE, Hybrid Musk 1924*
SNOWBIRD, Hybrid Tea 1936*
HANSA, Hybrid Rugosa 1905

ROSE a PARFUM de l'HAY, Hybrid Rugosa 1901
BELINDA'S DREAM, Shrub Rose 1988*
DAINTY BESS, Hybrid Tea 1925
LADY HILLINGDON, Tea 1910*
MRS. DUDLEY CROSS, Tea, 1902*
FRANCIS E. LESTER, Hybrid Multiflora 1946
AMELIA EARHART, Hybrid Tea 1929
HADLEY, Hybrid Tea 1914
PROSPERITY, Hybrid Musk 1919*
MRS. B. R. CANT, Tea 1901*
HENRY NEVARD, Hybrid Perpetual 1924
OKLAHOMA, Hybrid Tea 1964

Radical Plants

WINGED BEAN

The winged bean*† is a tropical legume with a multitude of exceptionally large nitrogen-fixing nodules. It produces seeds, pods, and leaves (all edible by humans or livestock) with unusually high protein levels; tuberous roots with exceptional amounts of protein; and an edible seed oil.

The winged bean has important potential for small-scale farmers. It is a fast-growing perennial that is particularly valuable because it grows in the wet tropics where protein deficiency in human diets is not only great but difficult to remedy. Winged bean seeds rival soybeans in oil and protein content, and the plant has the added advantages of protein-rich roots and edible foliage.

Though relatively unknown, this multipurpose legume appears to meet many dietary needs of the tropics. It is grown in quantity only in Papua New Guinea and Southeast Asia.

A twining vine, it grows to over 3 m when supported. The pods have four longitudinal jagged "wings" and they contain up to 20 seeds, each weighing about 3 gm. The smooth, shiny seeds may be white, brown, black or mottled. The roots are numerous: they grow horizontally at shallow depth and become thick and tuberous about 2 months after planting. Excellent nodulation without need for inoculation has occurred wherever the crop is grown, even on sites cleared from virgin forest. Individual winged bean plants may carry over 600 nodules, and the fresh weight of the large nodules can reach 0.85 tons/ha.‡

Neither pests nor disease appear to be a serious threat. Nor do soil requirements appear to be demanding. Winged bean crops have always been grown in regions having fairly heavy rainfall. The lower limit has not been established. The plant thrives in regions with an annual rainfall of 250 cm or more.

The winged bean is cultivated largely for its young, tender pods, which are sliced and cooked, much like green beans. Pods are picked beginning 10 weeks after sowing, and the plant continues to bear pods indefinitely. The young leaves and shoots may also be eaten as a leafy vegetable.

Unripe seeds can be used in soups. Ripe seeds are roasted and eaten like peanuts. The nutritive value of the ripe, dry seeds is very close to that of soybeans (34 percent protein and 18 percent oil*). The protein is high in lysine—8 percent of the total amino-acid content (without tryptophan). More than 60 percent of the fatty acids in the oil are unsaturated. The seeds are rich in tocopherol, an antioxidant that increases vitamin A use in the human body (vitamin A deficiency is common in many tropical regions).

The winged bean may have high yield potential. Yields of about 2.5 tons of seed/ha have been reported.† If this is confirmed as a fair average the winged bean will be among the top-yielding tropical grain legumes.

The immature tuberous roots are eaten like potatoes. They are reported to contain over 20 percent protein (dry weight basis). An edible tropical root crop with such high protein content could be of immense help in reducing protein malnutrition, particularly since winged beans grow well in the regions where inhabitants already live on low protein root crops such as cassava.

Perhaps after harvesting the crop for pods, seeds, or roots, the haulm can be fed to animals. It is reportedly palatable to livestock.‡ Like all other parts of the winged bean, the foliage has a remarkably high protein content.

LIMITATIONS AND SPECIAL REQUIREMENTS

Winged bean varieties now cultivated for pods and seeds must be grown on stakes. This—and the fact that all pods do not ripen simultaneously—restricts

*Pospisil *et al* 1971. See Selected Reading..

†*Ibid.*

‡*Ibid.*

their use to the small (or village) farmer. The winged bean cannot yet be considered for mass commercial planting.

Because of antinutrition factors, mature winged bean seeds must first be cooked before they can be used for human consumption.* This phenomenon is common to several other leguminous seeds, including soybeans. Immature seeds can be eaten raw without ill effects.

The climatic requirements of the winged bean have not been studied in depth.

RESEARCH NEEDS

A detailed analysis of winged bean research needs appears in the companion report: *The Winged Bean: A High-Protein Crop for the Tropics*. (See page 187.)

Because seed sources are scarce, the varietal composition is virtually unknown. It will be necessary to collect several varieties, especially in Southeast Asia; to propagate them; and to run comparative trials (with seed from various sources) in the wet tropics of Africa, Latin America, and Asia.

The chief obstacle to the further investigation of the crop is the difficulty in obtaining seed. There is little available because there has never been a need for it in quantity. Seed supplies must be increased before large-scale experiments can be undertaken. The best seed available must be used; a random selection may lead to unjustifiably poor results.

Variations in pod length and number of seeds per pod should be considered when seeking high-yielding varieties. There may also be genetic variation in root yield, or in foliage yield and composition. Only comparative trials can provide definitive answers.

The phenology of different varieties should be studied for use in breeding programs aimed at producing high-yielding types with uniform time of flowering and seed maturation.

Research is needed to find agronomic practices, climatic conditions, and soil conditions that give optimum yields.

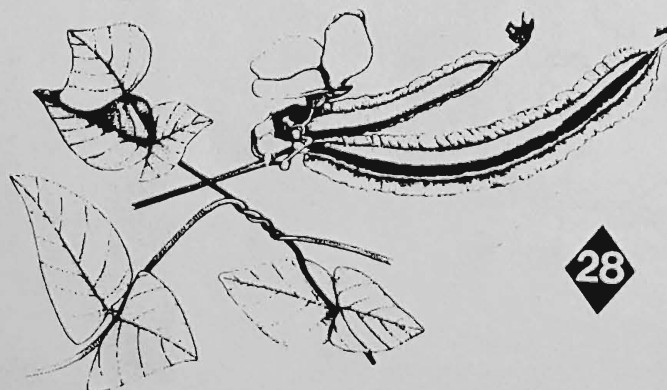
The relative yield of pods and seeds from supported and unsupported plants should be explored. It would be useful to investigate the possibility of harvesting first a seed crop and then a root crop, maintaining reasonable yields for both.

The winged bean's ability to enhance soil fertility for subsequent crops is worth detailed examination. It would also be beneficial to determine its use as a forage.

Possible toxicants and antinutrition factors in the mature seeds need analysis and detailed study. Research should also include an amino acid assay and an investigation into the overall nutritional value of the roots.

Other major research needs include:

- Determining digestibility of protein at different stages of development of leaves, stems, pods, etc.;
- Investigating seed physiology and the germination and storage of seeds;
- Developing ways to prepare the dry beans and roots; and
- Studying the plant's palatability and value for livestock.





JAPANESE MINT

by
Connie Shewah



Native to my homeland island country of the rising sun, this species of mint far superior to others due to the fact that it's flavorful voratile oil is nearly 90% menthol...Good Gorry, Miss Morry, that's a minty mint! Mama-sans and Papa-sans arike take this cool brew for embarrassing flatulence, travel sickness, upset stomach and even migraines. They also pour boiling water on the leaves and inhale the minty steam for nasal congestion. Grandma-san soaks a compress in a strong infusion and soothes arthritic joints. I rike to brush a few drops of the essential oil into my hair when I get a headache, or dab it onto mosquito bites.

Getting seeds or young prants in your country can be quite a charrenge...unusual and heirroom seed catarogs. Once you get it, remember that Japanese Mint (*Mentha arvensis*) like all mints, rikes a rich, damp, humusy soil of a neutral pH, full sun, and a period of winter cold to induce dormancy. Honorable herb,yes?

次のよ
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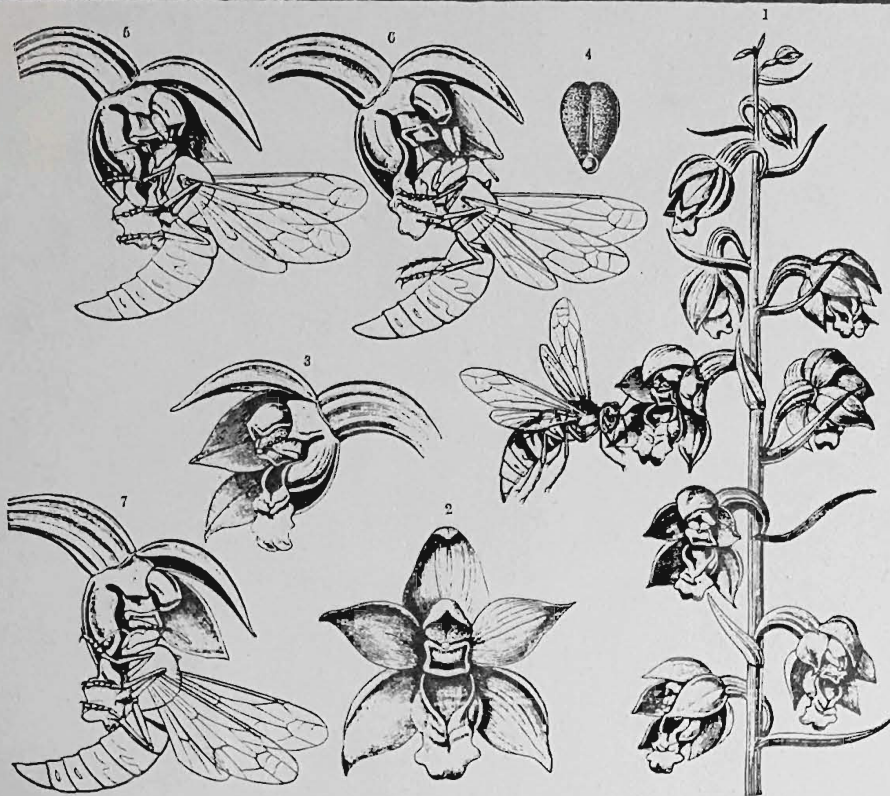
Common chickweed, *Stellaria media*

Chickweed (*Stellaria media*) is despised as a troublesome weed by many gardeners. But in its native Europe people have long savored it as a cooked green, and to feed caged birds.

Asparagus (from the Greek word "asparagos" which meant "to swell", referring to the sudden plump shoots of spring) evolved in European salt marshes. So it likes rich, damp soil, a thick organic mulch and...salt! Give your asparagus patch an annual sprinkling of sea salt.



Life is like a deck of cards. The hand that is dealt you represents determinism; the way you play it is free will. Jawaharlal Nehru 1889-1964



—Withdrawal and deposition of pollinia in the flowers of an Orchid

Flowering spike of the Broad-leaved Helleborine (*Epipactis latifolia*) upon which a wasp (*Vespa Austriaca*) is alighting. ² A flower of the same seen from the front. ³ Side view of the same flower with the half of the perianth towards the observer cut away. ⁴ The two pollinia joined by the sticky rostellum. ⁵ The same flower being visited by a wasp, which is licking honey and at the same time detaching with its forehead the tip of the rostellum together with the pair of pollinia. ⁶ The wasp leaving the flower with the pollinia cemented to its head; the pollinia are erect. ⁷ The wasp visiting another flower and pressing its forehead with the pollinia (which in the meantime have bent down) against the stigma. ¹ nat. size; the other figures $\times 2$.

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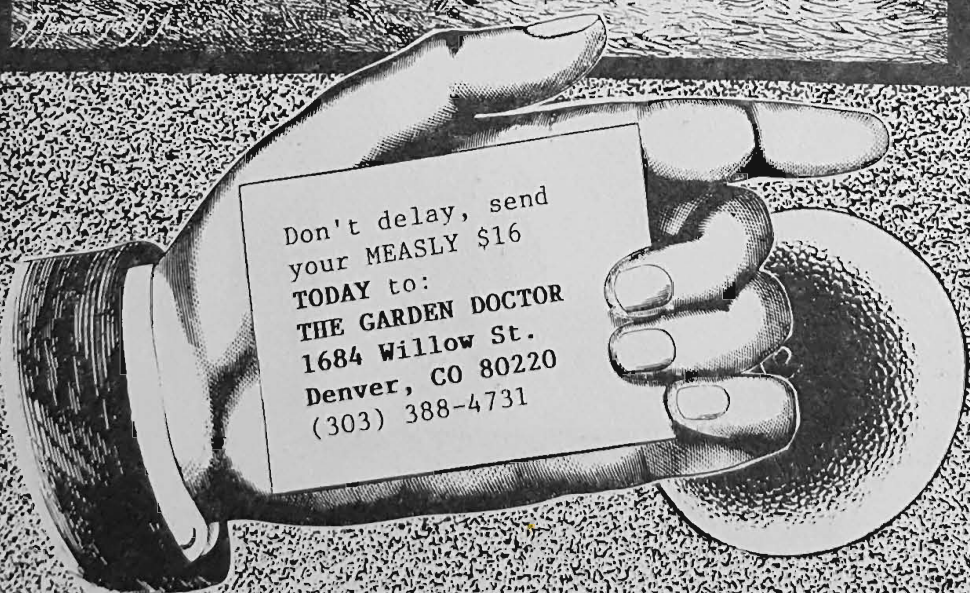
The tamarind, *Tamarindus indica*.—Short-podded or West India form. ($\times \frac{1}{2}$)

LOW LIGHT
INDOOR
PLANTS:

- Clivia
- Cycads
- pothos
- sansevieria
- Aglaeonema
- Pepperomia
- Nephtytis
- Mushrooms
- Haworthia
- Ficus spp.
- Dracena
- Ferns
- Dwarf Schefflera
- "China Doll"
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- Grape Ivy



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"That the sky is brighter than the earth means little unless the earth itself is appreciated and enjoyed." **Helen Keller**

"And if all your heart survives, destiny will arrive to bring all your dreams alive for you." **Olivia Newton-John "Magic"**

