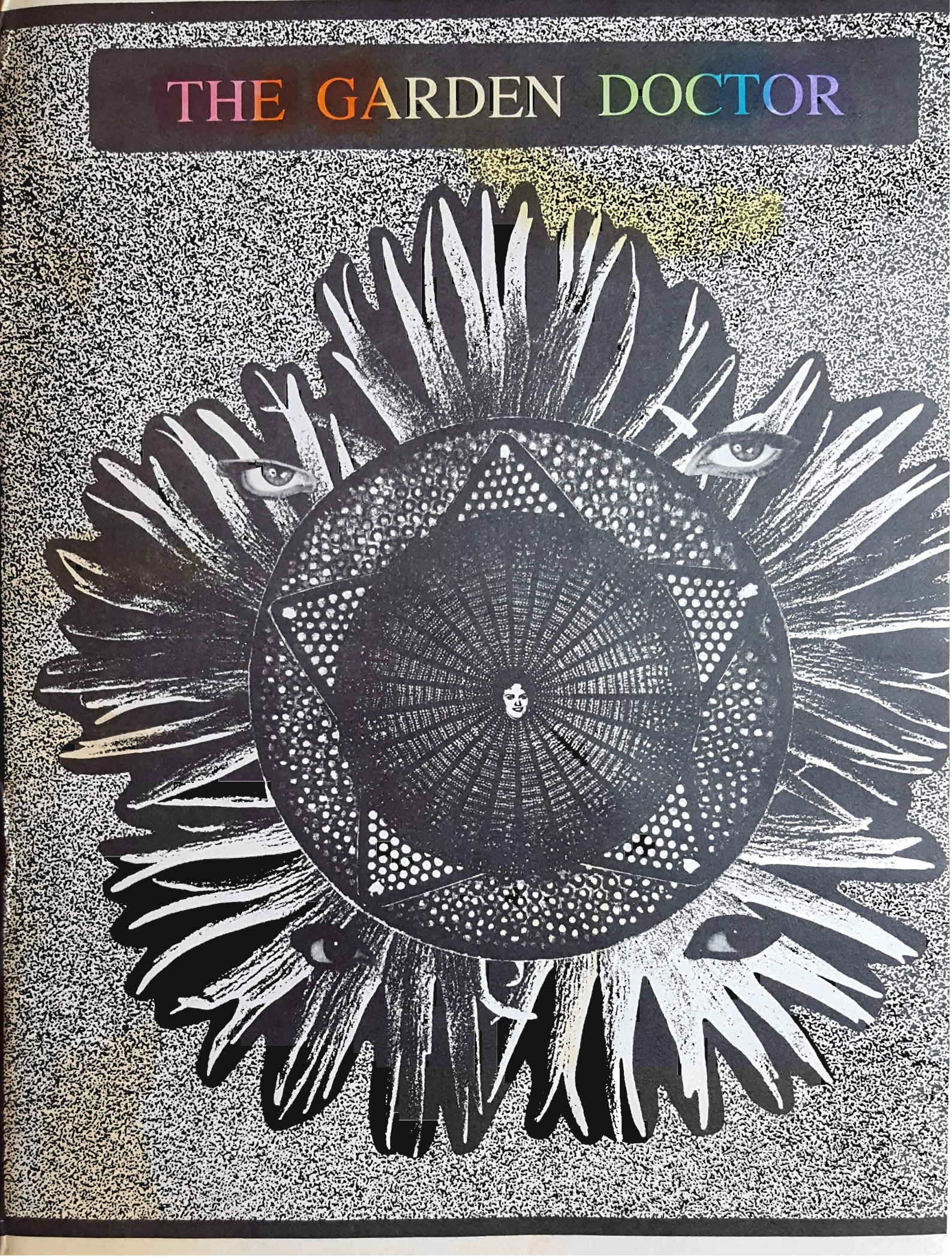
THE GARDEN DOCTOR

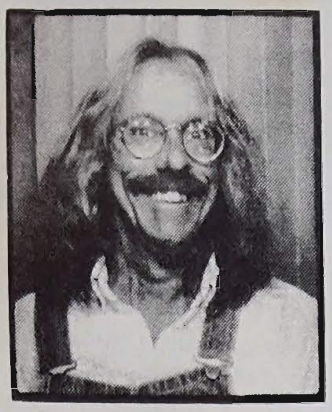


Mygale aricularia, the Bird Spider

INDEX:

Peek and you shall find!

There's no place like home. Dorothy



For the last year or so I've occasionally wondered if we humans, and perhaps other creatures, are born with an innate need to adore some one or something, some way or another...I've seen good, decent parents glance adoringly at their children, filled with unconditional love. For many of us, of course, what precedes that is the reciprocal, healing adoration of their soul mate, if they are so lucky as to find him or her.

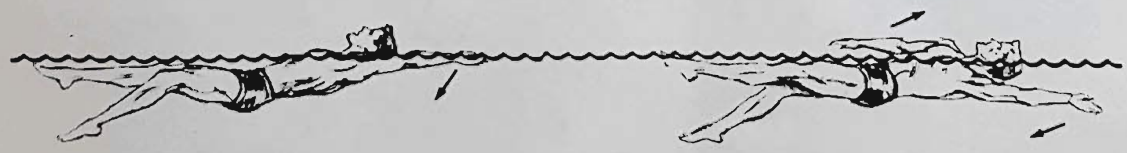
The lives of a good many people are made more tolerable, or sensible, or meaningful by entering into a worshipful relationship with an anthropomorphic deity who, according to the faith, offers unconditional love back to the believer...witness the adoration offered statues of Mary, Jesus or Krishna.

Many single people, such as myself, find themselves utterly enamored with their animal companions, relishing the chance to provide a safe, loving home to a sentient creature who undeservedly suffered on the street, or in an abusive home, or on death row in a pound.

I now feel blessed to have serendipitously discovered the labrynthian joys and passionate curiousities I harbor for several classes of the antique roses...their complex forms, haunting evocative scents, and intriguing histories. Collecting and breeding them will likely occupy much of my upcoming 40's. And it seems that these days, a lot of other people adore some aspect of gardening, be it their sense of healing a tiny patch of the planet, or providing safe refuge for wildlife, or the sensory interplay that can lead one to a wordless sense of life's intrinsic goodness, the gift of expansive awareness, the daily defeat of entropy.

Perhaps only a few of us, as children, received much of the love and confirmation we seem to so need to give. And the rest of us will spend our days and years treading a frost-strewn garden path, our hearts flowering in the sudden presence of warmth and light.

cover illustration: **"Lucy and some Eyes with Diatoms"** a collage by John A. Starnes,Jr. 1992. Background flower: Dianthus plumeria. Large circular diatom: Coscinodiscus. Small circular diatom: Arachnoidiscus ehrenbergi. Triangular diatoms: Triceratium.

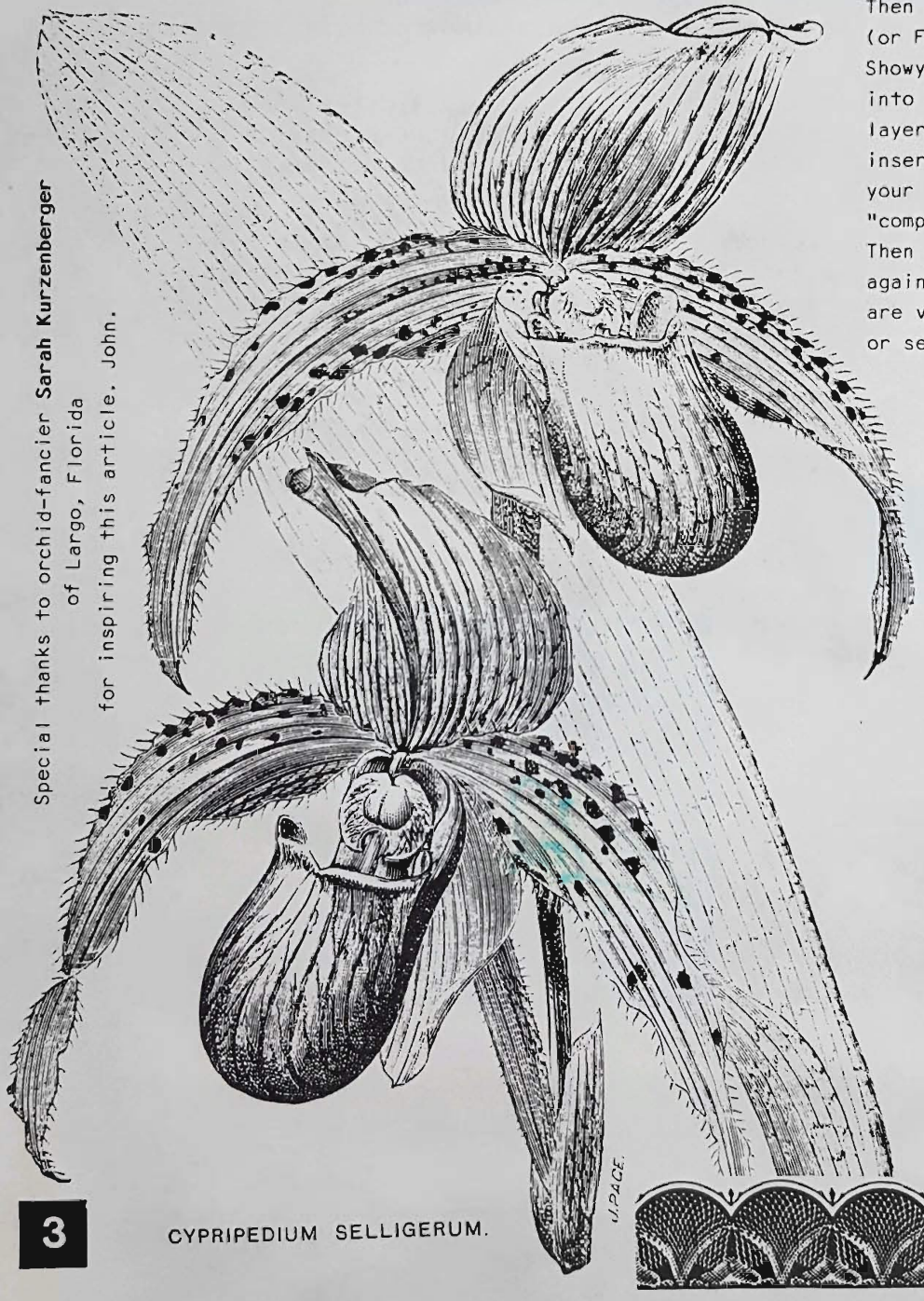


The

"Lady Slipper Orchids" (Cypripedium species) are native to North America in regions with cooler winters and moist,acidic,humusy soils. Old growth forests, bogs and damp meadows with dappled sun are their preferred habitat, so try to duplicate one of these biomes when establishing these terrestrial (soil-dwelling) orchids in a yardscape. A troublesome semi-shady corner can be converted into a preserve for these beautiful but increasingly rare plants.

Creating a thick mantle of acidic organic matter atop your soil is thefirst step, especially if your soil is "sweet" (alkaline) as it so often is West of the Mississippi River (due to scant annual rainfall failing to rinse out alkali compounds of potassium, calcium, sodium.etc.) Feed-grade cotton-seed meal is a mild, slow-acting organic acidifier, so give alkaline soils 10 pounds of it on every 100 square feet BEFORE putting down your humus-formers. Shredded peat moss, old oak leaves, broken up twigs, pine needles,corn cobs, tree grindings, unfinished compost, spoiled hay, leaf mold, horse stall sweepings, nut hulls, rotted horse manure, etc. can all be applied to the soil in a thick (8"- 12") layer that mimics the spongey damp carpet of organic litter so pleasant to walk on when hiking through an old growth forest...remember that smell, that feel of the soil?...that is your goal. Settle this new layer into place with a long, deep watering. Then plant each Lady Slipper Orchid (or Fringed Orchid (Habenaria sp.) or Showy Orchid (Orchis spectabilis) into a roomy hole in the spongey layer...form it with your fingers, insert the orchid, then gently use your fingers once again to firm the "compost" around the root ball. Then water the native orchid garden again. Note* if soils in your area are very acid, bury an eggshell,bone, or seashell beneath each orchid to insure sufficient calcium.

Special thanks to orchid-fancier **Sarah Kurzenberger** of Largo, Florida for inspiring this article. John.



CYPRIPEDIUM SELLIGERUM.

Two or three times per growing season, give each Lady a good slosh of fish emulsion (3 tablespoons per gallon of water). But that artificial "forest litter" will be their main source of nutrients, as in the wild. If all goes well, your orchids may self-sow in a few years, as could the native ferns, trilliums and violets you can plant, not only for esthetics, but to avoid a monoculture of orchids. Each year replenish the humus layer with new leaves,twigs, etc as in a forest, else it will soon decay away. Do not dig your Lady Slippers from the wild, but buy them from native plant nurseries that propagate their own...try these, please.

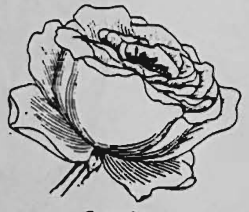
Orchids by Hausermann, Inc.
2N 134 Addison Road
Villa Park,IL 60181 catalog $1.25

Orchid Haven
900 Rossland Road East
Whitby,ON,Canada,L1N 5R5 free cat.

← Rose Flower Forms

Globular

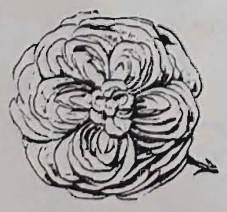
Informal or Cactus



Cupped

Imbricated

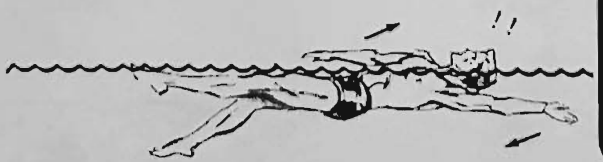
Pointed or High-centered



The Quartered Rose

William J. Elliott, a clinical pharmacologist at the University of Chicago, has discovered the scientific basis for the old Chinese treatment for hypertension...eating celery. He found that this vegetable contains a compound called 3-n-butyl phthalide, which dilates constricted blood vessels by relaxing the smooth-muscles that line them. How?...by lowering blood levels of the stress hormones "catecholamines" which tense up those muscles, thereby reducing the diameter through which blood flow must pass. It does that by blocking the activity of an enzyme called "tyrosine hydroxylase", used by the body to form those stress hormones. **SCIENCE NEWS 5-9-92**

The fruit of the "Pawpaw Tree", aside from long being savored by native Americans and others for their custard-like, banana-like flesh, also contains a family of biologically active compounds called "acetogenins" collectively. One, asimicin, readily kills nematodes, two-spotted spider mites, striped cucumber beetles, blowfly larvae, mosquito larvae, and Mexican bean beetles. A related plant native to Cuba, "Annona bullata", contains two known cancer-fighting acetogenins. One, bullatacin, was 1 MILLION times more potent in slowing the growth of human ovarian cancers transplanted into lab mice(poor mice!) by researchers at a major pharmaceutical firm. Whereas artificial anti-cancer agents can CAUSE cancer due to their effects on DNA, bullatacin kills cancer cells by starving them of the ATP they use to grow and divide. Jerry L. McLaughlin, of Purdue University in West Lafayette, Indiana, reports finding bullatacin and 6 more acetogenins within that pawpaw native to North America. One of those acetogenins, "trilobacin", exhibits powerful suppression of cultured cells of colon cancer, some leukemias, melanoma, renal cancer, ovarian cancer, and small-cell lung cancer. Unripe fruits of the pawpaw (Asimina triloba) contain higher levels of these toxic compounds. **SCIENCE NEWS 2-29-92**



Not seen for 25 years, the very rare bat "alionycteris paucidentata", has been discovered on Mount Kitanglad, which is on the southern island of Mindanao in the Philippines. It weighs just ½ ounce,has big dark eyes, and sports a dense coat of fur. Bats are often highly effective controllers of pest insects in flight. **The Haribon Foundation**

The Sagebrush, a common shrub throughout the arid regions of the United States, contains a volatile oil called methyl jasmonate that is used in many perfumes. But its nice smell has another benefit: alfalfa, tobacco and tomato plants exposed to various airborne concentrations of it (0.5 to 100 nanoliters per liquid sample applied to a cotton-tipped wooden dowel) responded by producing in their leaves "proteinase inhibitors", which discourage or even kill pest insects by preventing their stomach enzymes from digesting protein. Edward E. Farmer and Clarence A. Ryan at Washington State University's Institute of Biological Chemistry in Pullman, found that even sagebrush branches positioned for a while near tomato plants elicited the same response. **Proceedings of the National Academy of Sciences**, October 1990.

Optimist - A person who gets treed by a lion but enjoys the scenery.
Walter Winchell, adapted

Man is the most intelligent of animals, and the most silly. Diogenes

can find these and other wild edible plants.

Native to the eastern half of Canada and the U.S., the **"Sweet Goldenrod"** (Solidago odora) grows best in fertile but drier sandy soils in full sun meadows. Known also as "Anise-Scented Goldenrod" and "Blue Mountain Tea", it is a slender perennial that reaches 2-3 feet in height, the central stalk bearing lanceolate leaves that vary in length from 2"-4"; if gathered, dried in the shade then stored in tightly sealed jars, these leaves can be brewed into a pleasant tea. When searching for this plant on hikes, just crush and sniff the leaves of any goldenrod you see; none are toxic, but only this one bears this sweet smell. It's yellow, spreading flower clusters appear in mid to late summer. Propagation is by division of established root clumps in late fall or early spring.

The easiest way to tell **Sweet Birch"** (Betula lenta) from other birches is to crush the oval, serrated leaves in your hand and sniff for a sweet wintergreen odor. Native to higher elevations in much of the eastern U.S., it has dark bark similar to cherry bark...it is smooth on young trees, furrowed on the older trees that can be 80 feet tall. The youngest growing twigs have much oil of wintergreen in them and can be chewed on the spot or chopped and brewed into tea. The inner bark of the trunk and main surface roots is the live cambium layer; it is soft, flavorful and nutritious enough to eat if gathered in spring through early summer, but this practice damages this beautiful native tree, whose range extends north into Canada.

Sweet birch.

SWEET GOLDEN-ROD

"Lemonade Berry" shrubs are various sumacs that bear fuzzy, red, acidic berries that can be gathered in the fall and crushed in water, which is then strained and sweetened to make a delicious "pink lemonade" long savored by Native Americans. All of the many varieties are natives and have pinnate leaves, plus red berries (vs. the white berries of Poison Sumac, Ivy, and Oak). Staghorn Sumac (Rhus typhina) & Fragrant Sumac (R. aromatica;common.

R. typhina.

INSANELY FRAGRANT ANTIQUE ROSES

by **Paul Neyron**

SNOWY WINTER REGIONS:

"Hansa", Rugosa, 1905
"Kazanlik", Damask, 1850
"Agar", Gallica, 1843
"Maiden's Blush", Alba, 1797
"Charles Lefebvre", Hybrid Perpetual,1861
"Clio", Hybrid Perpetual, 1894
"Rose du Roi", Portland, 1815
"Stanwell Perpetual", Hybrid Spinosissima, 1838
"Nuits de Young", Moss, 1845
"Cabbage Rose", Centifolia, 1596
"Rosa Moschata Plena", Musk, 1596
"Marie De St. Jean", Portland, 1869
"Salet", Moss, 1854
"Reine des Violettes", Hybrid Perpetual, 1860
"Unique Blanche", Centifolia, 1775
"Paul Neyron", Hybrid Perpetual, 1869
"Blanc Double de Coubert", Rugosa, 1892
"Manning's Blush", Eglantine, 1799
"Marie Pavie", Polyantha, 1888
"Georg Arends", Hybrid Perpetual, 1910
"Mme. Ernest Calvat", Bourbon, 1888
"Mme. Isaac Periere", Bourbon, 1881
"Sydonie", Hybrid Perpetual, 1846
"Souvenir de la Malmaison", Bourbon, 1843
"Souvenir de St. Anne's", Bourbon, 1950
"Boule de Neige", Bourbon, 1867

MILD WINTER REGIONS:

"Mrs. B. R. Cant", Tea, 1901
"Maggie", Mystery Bourbon
"Duchesse de Brabant", Tea, 1857
"Ragged Robin", China, 1825
"Yvonne Rabier", Polyantha, 1910
"Louis Philippe", China, 1834
"Devoniensis", Tea, 1838
"Nastarana", Noisette, 1879
"Spice", mystery Bermuda China
"Ducher", China, 1869
"Celine Forestier", Noisette, 1858
"Clothilde Soupert", Polyantha, 1890
"Gruss an Teplitz", Bourbon/China 1897
"Bon Silene", Tea, 1837
"Mrs. Dudley Cross", Tea 1907
"Blush Noisette", Noisette, 1817
"Sombreuil", Tea, 1850
"Prosperity", Hybrid Musk, 1919
"Dr. Grill", Tea, 1886
"Etoile de Lyon", Tea, 1881
"Lady Hillingdon", Tea, 1910
"Mme. Laurette Messimy", China, 1887
"Sophie's Perpetual", China
"Souvenir d'un Ami", Tea, 1846.....
the translation of the name of this last rose is 'In Rememberance of a Friend"...following is an evocative early 19th century entry regarding this grand, fragrant Tea rose similar in form to 'Souvenir de la Malmaison' but a delicate salmon-pink and suited to grow in the Deep South....

"One of the roses for memory. Bright pink, sweet-scented, hopeful, and as constant as the summer days, equally as interesting as its claims to beauty, life, and strength, is its tender history...not a line of prose or poetry has ever revealed the secret of its name...Motives of delicacy seem to have prompted withholding the name of the friend. Was it death or estrangement? Was it a name under political ban? The name of the remembered friend folded forever in the heart of the rose; by whom and for whom named a mystery."

KIWI

It's better to be in love with your work than in love with yourself. B. C. Forbes

Sanity is madness put to good use.
George Santayana

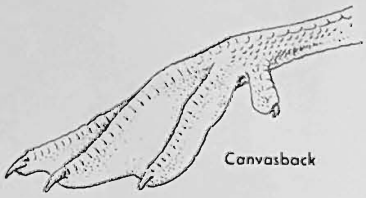
Gregory Pecs **BEFORE** he subscribed to **THE GARDEN DOCTOR**... ***SUBSCRIBE NOW!!*** ← crass pushy ad

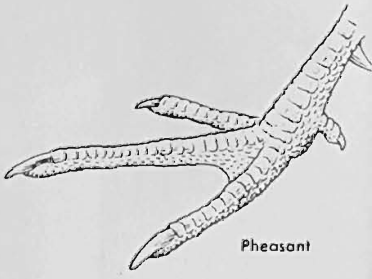
Margaret Head's View of the News

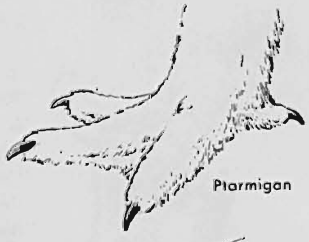
Much as I love a candlelit dinner of grouper broiled in garlic butter, or steamed shrimp and cocktail sauce, or, (hold me back!) SUSHI, it's getting harder for me to enjoy those savory meats knowing the unsavory facts about what the commercial fishing industry calls "incidental kills". This clinical sounding phrase is a euphemism for the annual drowning in nets of HUNDREDS OF THOUSANDS of seabirds, many THOUSANDS of sea otters, seals, walrus, sea lions, dolphins, sea turtles, even whales, not to mention the MILLIONS of "trash fish" accidentally caught as huge nets strip mine the sea. While the fisherman may be after, say, cod, his miles long nets sieve them plus all those other creatures out of the living waters. Air-breathers are usually snared underwater as they dive for prey for themselves and their young. My heart broke one night as I watched video footage of fishermen tossing the dead and dying sentient creatures overboard, which comprised the bulk of their nets' contents...a sadly small number of target fish remained in the wet nets. Some of the men cruelly cut the fins off of still living sharks to insure they could not swim and revive themselves.

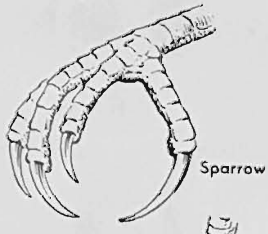
I know, I know, it seems that these days we can't do ANYTHING that doesn't screw up something somewhere, like we're supposed to be joyless ascetics in the name of being environmentally correct. No this, no that, stop doing this, give up that, right? And down deep, I'm pretty shallow...I like a good time, and life is short. But on that same selfish level, I'm mindful of the fact that shrimp and many fish are very high in cholesterol, or heavy metals, or pesticide residues or PCB's or dioxins, these last "additives" being the result of us charming humans using the sea as a planetary toilet and dispose-all. But there is no nifty drop-in blue thing we can toss in to make those animals safe to eat routinely. The oceans are the life blood of our home planet, keeping our atmosphere breathable and driving the global climate machine. I can't help but see all those multitudes of living things as equivalent to the cells in my blood; some predatory ones keeping others in check, some carrying oxygen and nutrients, all working together in that warm fluid stream to keep me alive. But due to over-fishing, "incidental killing" and standard crass human behavior, ENTIRE POPULATIONS of sea creatures are vanishing from the ocean, creating tears in the web of global marine life. Humm....

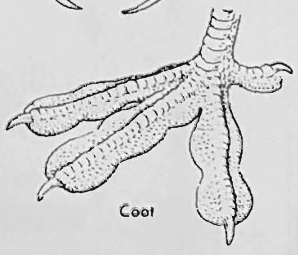
Rather than either-or the matter to death, I'm dropping seafood as a STAPLE food, and will reserve it for special occasions so I'll really appreciate it. I'll treat myself to a dose of shrimp-and-garlic-flavored cholesterol in a Thanksgiving Day scampi pig-out....sushi on my birthday, maybe broiled octopus on Ground Hog Day! I'll be healthier, helping to reduce the demand that leads to factory-fishing (gill nets, etc.), keeping favorite foods "treats" to be truly enjoyed, and thus avoiding bleak, pleasureless activism. California roll, anyone?

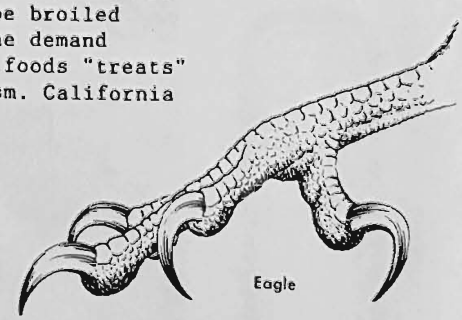


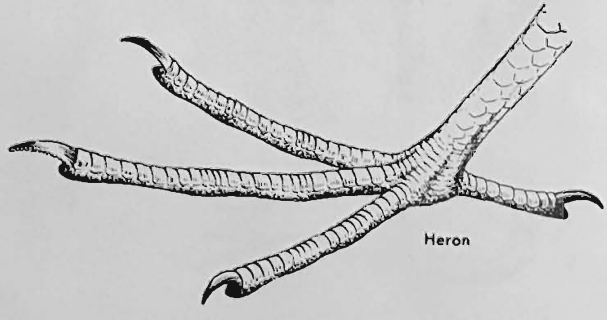




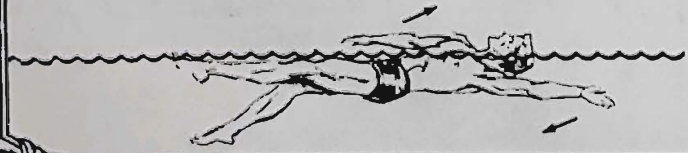








Nothing is more the child of art than a garden. Sir Walter Scott



There are two kinds of Christian morals, one private and the other public. Mark Twain

"Burt, the Bird" by John Starnes

One morning in early May, 1992, a fierce thunderstorm whipped through my northeast Denver neighborhood as I landscaped a home beside the foothills several miles to the west. That afternoon I returned to see that my yard, the streets, everything, was rain-soaked and littered with wind-blown twigs and green leaves torn from trees. Two grackles paced nervously side by side on my roof, squawking hysterically...moments later I found two dead baby birds (mauled by a cat) on the ground below my cedar tree where a week prior my friend Shirley Osgood had pointed out a nestful of cheeping birds near the pinnacle.

But from directly below where the parent birds made such a fuss, in a flower garden, came the frantic "cheeps" of a survivor....there, between red poppies and purple iris, was a soaked, shivering, sorry-looking baby grackle. I took him inside, and quickly rigged up an incubator using a clear plastic bulk food bin from a grocery store dumpster, a soft towel, and a 40 watt bulb in a pivoting reading lamp. Soon, his feathers were dry and fluffy, and he no longer shivered, nestled in the towel and basking in the heat of the lamp. I named him "Burt, the Bird".

Since re-arriving in Denver 2 weeks before, I had been barely functioning, sort of on automatic pilot, nearly paralyzed by shock and grief over the violent suicide of my old friend Renee' Ashley, which occurred as I migrated back from Tampa and learned of less than an hour after unlocking my dormant house. Many of you remember her as my "official" literary editor...for two years she chose the poems and prose in THE GARDEN DOCTOR. Anyway, "Burt" was simply too hungry too often for me to slip further into numbing grief as I struggled to devise a diet for him....I'd always heard that feeding orphaned baby birds a food slurry via an eyedropper can get food into the tiny lungs, leading to fatal pneumonia.

So I soaked little pellets of dry dog food in a weak solution of warm water and liquid baby vitamins left over from when I lived with "Dino", the world's sweetest iguana. (Lovely, my cat, always disagreed with that analysis and killed Dino in Mississippi during the previous migration to Florida). As soon as the pellets softened and swelled, I offered them to this tiny but incredibly LOUD baby bird, who promptly sucked them up like a black hole...he made a hilarious gurgling sound as he continue to scream through a throatful of wet pet-food nuggets. That tiny bird would wolf down 7 or 8 of them, till even his NECK filled up! He rinsed it down with baby-vitamin water in an eyedropper, then would fall asleep in the warm glow of the lamp or in my hands. An hour later, his screams for food echoed through the house once again, and I obeyed. Umpteen times a day Burt screamed, I fed...it became a Pavlovian response for me, even when dead asleep. I had instantly fallen in love with this infant bird. Sergeant, "The World's Best Dog", didn't seem jealous, only curious.

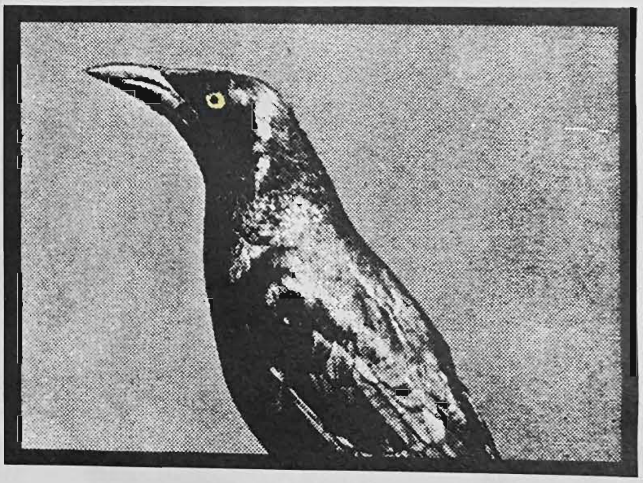
Burt grew like something in a 50's sci-fi movie, and soon his fuzzy baby feathers fell out as wave after wave of flight feathers emerged from his transluscent grayish-pink skin. All this growth and change was fueled by watermelon, slugs, raw corn-on-the-cob, peeled grapes, cereal, oatmeal (cooked or dry), raw beans, citrus, banana, cherries, cottage cheese, and his favorite..."Prime Cuts" canned dog food. Like me, he was a garbage gut.

Burt bonded to me on day one, always wanting to be with me, perched on my head (pooping indiscriminately) as I typed, washed dishes, or worked in the garden. We were buddies. If he WAS elsewhere in the yard or house, he would invariably answer me with a loud singular chirp whenever I called out his name. One terrible day however, as he sat drying on a tall squash trellis (he'd taken a dip in the bird bath) while I gardened beside him, he fell about four feet, too damp to flap, and landed skull-first on the CORNER of a pane of glass at the back of the henhouse. Already filled with horror about Renee's death, I saw him bounce sickeningly to the ground, legs painfully stiffening, eyes closed, motionless. I felt guilty for putting him up there too wet to glide, sure he was dead.

But he was still breathing! So I put him on the hay on the floor of his little sunning cage atop the hens' dwelling, begging him not to die, eyes filling up, a big lump in my throat, pretty well maxxed-out with negative life events. I stayed with him, calling out his name in a soft voice, watching his breathing. Soon he sat up, head waggling dizzily and unable to stand without falling over...within the hour he was almost normal and screaming for food. Whew!

All that summer, most mornings started with taking Burt, perched on an index finger, out to my neighbor Doug's expansive lawn (vs. my token 10 foot oval of grass) for daily flying lessons as I sipped coffee. I'd launch him with a gentle swing of my hand, but he just controlled his descent. As he got better,I'd give him a softball-style underhand toss, and he'd "fly" maybe 15-20 feet. By midsummer Burt was still a poor flyer as dozens of young grackles flew over the house daily. I noticed that his now nearly-adult feathers, a gorgeous shiny gray-black with an iridescent overlay of indigo and violet, had frayed tips on his wings and tail from rubbing against the bars of his cage, made vital by my and other cats who had all approached him hungrily. I wondered if he would ever be able to leave home to be with other grackles, even though I had nearly weaned him from hand feedings by showing him how to catch pillbugs, earthworms, crickets and slugs, and by offering him assorted dry grains and seeds.

Tragedy struck Burt once again one morning during a flying lesson, when he landed on the heat-retaining compost berm on the north side of my house, where he spotted and ate a wild mushroom. The next morning the inside of his mouth was a sickly gray, his saliva was gummy, his golden eyes very dilated, and his movements slow and jerky. So I gave him fresh water continuously from the eyedropper he had outgrown a few weeks prior to flush him out. He would not eat, and seemed very spaced out...



was he tripping?, I wondered. If so, it was clearly a bad trip. The next morning he was okay, but seemed even more bonded to me, downright affectionate. I asked him to recall this lesson about mushrooms when he was off in the wilds as a free bird someday.

A few weeks later, during a practice flight, he proudly surprised me by leaping off my finger and flying straight across my yard and the next 3 neighbors' yards in a long, strong but very low flight. But panic filled me as he crossed Ruth's yard when one of her cats lept off the front porch and nabbed Burt in mid-flight with its front paws, pulling the screaming bird to the ground. Like an hysterical parent I shot forward, screaming loudly, instinctively at the damn feline, who was so freaked by the vision of a deranged angry maniac bolting his way that he released Burt before biting him and fled into the bushes. Walking back to my yard with my heart thumping, Burt perched on my finger, noticing the cat saliva on his wings, I felt a wave of relief wash away my terror. This poor, cursed bird had once again cheated fate.

 (continued ->)

October came, the leaves changed to rust and gold, frost coated my gardens each morning, and still, Burt the bird barely flew, never again repeating his Wright Brotheresque performance. I wondered if he'd be migrating to Florida soon in the truck with my other critters. Suddenly though, he was decidedly UNtame, pecking at my finger instead of jumping onto it as usual. One sunny autumn morning, as thousands of grackles oddly swarmed into the tall trees in our neighborhood, their voices filling the air, I coaxed Burt onto my finger and took him out of his big back yard sleeping cage for yet one more disappointing practice flight, knowing that winter was closing in. Instead, Burt the bird shot up from my finger at a 45 degree angle and landed in the pollarded 15 foot elm tree beside my raspberry patch. Convinced it was a fluke that he for the first time had GAINED altitude, I climbed up to "rescue" him. With my outstretched hand just inches from him, Burt burst away in a beautiful arcing upward flight to the big apple tree half a block away: Back on the ground, I was filled with conflicting emotions...pride, joy, relief, uncertainty, and a touch of sadness that this might, at last, be the goodbye I'd hoped for all summer...I never wanted Burt to be a pet, I just wanted him to mature into a healthy wild grackle. Filled with paternal concern, I walked to the apple tree filled with grackles feasting on the red ripe fruits, and spotted him due to his frayed feather tips. I called out his name, and as usual, he answered back. Without warning, there was an explosion of grackles from the tree and towards a distant elm and grinning, misty-eyed, I saw a grackle, flying lower and slower than the rest of the flock, but damn, he WAS keeping up!

Back home, I read that grackles migrate south each fall in large gregarious flocks, ending my fears of his freezing to death, hungry and alone. So all this last winter in Florida, whenever grackles flew over making that oh-so-familiar sharp call, I'd call out "Burt!", checking first (usually) to see if anyone was looking, entertaining the fantasy that one of them would break away from the flock and descend to land in front of me, screaming for "Prime Cuts"!

I still occasionally wonder where he is, IF he is, thankful for the chance to have first saved him and then grown to know him. And while I don't believe in an anthropomorphic God running a cosmic show, I can't help but to see Burt as a gift of light when, for the first time since my grim youth, I was completely filled with pain and darkness. While I will always miss Renee', Burt's golden shining eyes reminded daily all that sad summer long of Life, and Love, and Innocence...

If that is not a priceless gift, what is?

Floridata

by

Sally Hassy

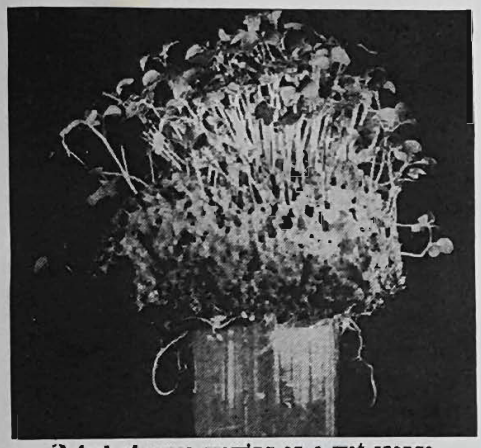
Seein's it's a peninsula hemmed in by warm seas, Florda has a climate & biome all to it's little ole self. Land agoshin', it's sandy, acidic, nutrient poor soils, its spring drought, and heaven-help-us the hot humid summers can send a soul straight from a right sorry lookin' garden to a big ole jug of Southern Comfort beneath a palm tree. But ya'll Crackers just' remember these hospitable tips:

1. Annually sprinkle a fair amount of dolomite on your soil to keep it sweet and brimming with calcium & magnesium, 'cepins' azaleas, gardenias, camellias and ixora... they LIKE acid soil.
2. March and April are fine times to plant frost tender vittles like beans, peppers, corn, squash, and maters...
3. In late April and early May, when the soil is warm, plant tropicals like okra, black-eye peas, field peas, sweet potatoes & eggplant.
4. For easy, long-lasting summer color, plant perennials like Pentas, Red Brazillian Sage, Pineapple Sage, blue perennial sages like Salvia transylvanica, S. auritanica & S. forskamli, plus hybrid African Bush Daisy, bush allamanda, justicia [pink, white, yellow (rare), red (rarer!)], ruellias, jatropha, old Tea & China roses, hibiscus, turnera, Four O'Clocks (invasive), Blue Porter Weed, Cranberry Hibiscus, Yellow Crossandra and Manaos Beauty.
5. April & May are right fine, sugar, for plantin' perennial food crops like taro, Surinam Spinach, cassava, boniato, sugar cane, katuk, chayote, chaya and Central American hot peppers, plus fruits like loquat, Brown Turkey Fig, eugenia, banana, plantain, feijoa, carissa and Muscadine grapes.
6. Let the chinch bugs kill your St. Augustine lawn and plant pennyroyal mint instead.

So put on your flip flops & Bermuda shorts, shoo those flamingoes from your back patio and sip mint tea in the shade of a magnolia!

kid stuff

Many kinds of plants will root and grow for a long time in plain water alone. One of these is the spiderwort, a variegated plant often seen in cottage windows, which will live and send out a lot of roots in a glass bottle. Sprigs of ivy can be made to do very much the same, and there was a lady who decorated her fireplace in the summer in this way. The shoots of ivy were placed in jars of water and sent out many roots.



A bed of cress growing on a wet sponge.

In January, if small branches of some of our flowering trees, such as almond or wild cherry, are gathered and kept in vases of water in a warm place, they will come into full blossom long before their natural time. In all these cases it is necessary to keep the water in the jars quite fresh, and this will be easier if a piece of charcoal is put into each.

An interesting curiosity, which will do well for our garden without soil, is the arum from India, called the Monarch of the East. Bulbs of this strange plant can easily be obtained from the florist at a small price. It is one of the most remarkable plants in the world, for it will produce its great flower not only without any soil at all, but without water either.

The only thing we need do is to place the bulb, when we get it, in a light position, and simply leave it. If the room is nice and warm, it will not be long before the bulb will send up a long shoot, which quickly grows into a most magnificent flower, sometimes two feet long. This is all colored crimson and yellow, and bears a long red spike. The best time to buy the bulb is about January.

If we want the bulb of this arum to live after it has flowered, we must plant it in earth, in a pot or out in the garden. After a while, in place of the great flower, will be sent up a giant leaf, which is really very handsome. At the end of the summer the bulb may be taken up and allowed to become dry, and then it can be put into a light place again, ready for flowering once more.

Spiderwort growing in water without any soil.

The Resurrection Plant, which seems to be dead and withered but comes to life again in warm water.

There are many other things that we might put in our garden in the house. Most children know that an acorn will grow into a fine little oak tree if it is placed in a narrow-necked bottle which is kept well filled with water. In the same way, snowdrops and the dainty little blue scillas may be grown, and give us some gay flowers for the indoor garden. When we are out in the woods we may gather portions of the bright green mosses, and these will live for many weeks if put into saucers containing a little water.

By getting together a collection of these different plants that do not require soil, quite an interesting indoor garden may be made, and this may become really pretty if the plants that form it are daintily arranged. It is surprising what a variety of colors can be obtained in the garden without soil. The flower-lover can choose the right color of flower to go with the house decorations, and can change the color to suit seasons and moods. That is an advantage.

WHAT IS THERE INSIDE THE JUMPING BEAN?

Jumping beans come from Mexico. It is not the bean that jumps, but a little insect inside. A tree which grows in the Mexican swamps near Alamos has curious three-cornered fruit divided into three parts, like little pods. In two of these pods are small black seeds; the third part contains a tiny worm and is what we call the jumping bean. Before the tree can have its fruit it must, of course, bear flowers. An insect visits those flowers, and in part of each deposits an egg. The part which contains the egg grows with the rest of the flower, but, instead of becoming a pod for the seed of the tree, it turns into a home for the insect which is coming from the egg. Later the flowers lose their petals and seed-pods form and ripen. In August the seed is ripe. The husk containing the pods of seed and the little pod with the worm inside drops to the ground and splits into three parts.

The worm has inherited the knowledge that if the bean lies where it falls it will be trodden upon or be eaten by an enemy; so it coils itself up, then lets itself go like a catapult and carries its house with it. It keeps on jumping till the bean is away from the tree on which it grew. In cold weather the insect lies still and sleeps; but as soon as the weather becomes warm it revives and starts jumping afresh. If a hole is made in the bean, the worm fills it up again.

HOW DOES FROST HELP THE FARMER?

Frost is one of the most valuable aids to the farmer, unless it happens too late or too early. The freezing of the ground and the subsequent thaw amount to a most useful cultivation of the soil. When soil freezes it is not the earth itself that becomes solid, but the water lying between the lumps and particles of earth. When the frost comes, therefore, we have a condition in which the particles of water lying in and around the pieces of soil, large and small, are changed into explosive bombs. That is because water, when it freezes into ice, increases in size. Imagine all the water in and between the bits of earth becoming larger as it changes into ice. The pieces of earth are thrust apart, and when the thaw comes the soil is more finely pulverized than before the frost. A natural cultivation has been at work on behalf of the farmer, helping him in the winter to make ready for the spring. This is important, because seed will grow only in a good seed-bed of well pulverized ground. The wise farmer helps the frost by plowing up his land so that the frost can get at it.

SHARING SECRETS

Try these natural dyes for Easter eggs or for food colorings. **YELLOW**- Boil the dry outer skins of 6 big yellow onions in 1 cup of water for 15 minutes till the broth is dark. Strain. The longer each egg is immersed in the dye, the richer the yellow. A bright yellow can be had by simmering 2 tablespoons turmeric in 1 cup water for 10 minutes. **RED**- Strain the juice from canned beets, or from fresh ones chopped and simmered in 1 part water, 1 part vinegar (for better color adhesion). Or dip eggs in indiluted frozen cranberry juice concentrate. **PURPLE**- Undiluted frozen grape juice concentrate gives a magenta purple..wipe excess off egg to avoid stickiness. Thaw frozen blackberries and mash with a spoon, then smear the paste on each egg; rinse off excess. **BLUE**- Simmer equal parts chopped red cabbage and water till the cabbage is tender and dark green; strain. Length of exposure to the blue dye determines shade. **GREEN**- Take a dry egg previously dyed yellow and dip it in the blue cabbage-derived dye. **KHAKI-GREEN**- Red onion skins, prepared the same as the yellow-skinned ones, yield a dye of a surprising color, as does the red cabbage. **ROBIN'S EGG BLUE**- Thaw frozen blueberries, blend, strain, and brush the juice onto hard-boiled eggs, wipe off excess (this last step is especially important if using the sticky juice of sweetened, canned blueberries).Like the other fruit-derived dyes, blueberry dye can be used to color frosting, yogurt, homemade icecream, milkshakes and creamcheese.

For a nearly continuous source of fresh greens grown INDOORS, fill a big hanging basket with compost and plant an organically grown Sweet Potato. Hang in a sunny south, west or east window. Keep lightly damp. When shoots appear in several weeks, give it 4 cups of water with 3 tablespoons fish emulsion added. Snip off the attractive vines as they cascade down and use as a cooked green or add to casseroles and soups. Rich in iron and vitamin A, sweet potato leaves have been a staple in Asian cooking. Gardenless apartment dwellers should give this easy "garden" a try, for this edible member of the morning glory family may also produce for you its beautiful white funnel-shaped flowers. After harvesting the leaves for 10-12 months, empty the hanging basket harvest any new roots that have formed and start all over again.

The Fava Bean (Vicia faba), also known as the Broad Bean or Horse Bean, is actually NOT a bean but a member of the Vetch Family. This legume is extremely cold hardy and grows best during wet, cool months, making it an excellent crop for the Northwest U.S. and England. One can plant the seeds the previous fall just before the ground freezes; they will emerge early the following spring. Unique white-and black flowers produce BIG FAT pods several inches long, which can be picked when very young and used like snow peas. If allowed to mature longer,the pods can be steamed and shelled to release the plump "beans". In Japan the ripe dry pods are harvested when the plant dies to yield the hard, dry beans which are then "popped" and salted like popcorn. Give the crop 90-120 days. Some people of Mediterranean descent have an allergic reaction to favas after eating them. Fava plants are good nitrogen-fixers and make a fine green manure if plowed under.

Water Cress (Nasturtium officinale) prefers cold, running water can be grown in pots of damp compost in filtered sun, in fishponds, or even in barrels of clean water on the patio. Apartment dwellers can consider growing it on south or east-facing window sills in fishbowls or pots of compost kept damp by keeping their drainage dishes filled with water. Gardeners with a creek, river or a natural pond on their land can grow it on the banks. The easiest way to get live watercress is to buy fresh, healthy-looking bundles of it in the produce section. A member of the mustard family, this perennial herb is rich in vitamin C and has a pungent, peppery taste.

Try using banana peels as an evening lure for snails and slugs, who should be found clinging and feeding on them at sunrise. Just pick them up and feed them to your chickens, or drop them into hot water... add their protein-rich bodies to your compost heap or beneath your mulch.

Some folks report that Aloe vera juice is a fine remedy for poison ivy.

Whenever you peel and eat a citrus fruit, save the peels and let them dry out on top of your refrigerator till stiff...store in a jar. For a decadent relaxing old-fashioned hot bubble bath, stuff an old sock with the dried peels, drop in a few cloves, tie a knot then drop it in the tub beneath the spigot. If you wish, add some shampoo, dishwashing liquid or bubble bath for those suds you played in as a kid. Slip into the hot, citrusy, spicy bath and relax. You can also fill the sock with fresh rosemary, basil, lavender, mint, fragrant rose petals, lemon verbena leaves, cinammon sticks, crushed nutmeg seeds, spruce needles, or ginger root.

When harvesting your corn each summer, be sure to save the silks and dry them in the shade; pack into tightly-sealed jars and store in a dark, cool cupboard. American Indians have long treasured corn silk tea for its delicate flavor and benefits to the urinary tract.

Fava Bean

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

READERS DIGESTED

Dear John,
I find the magazine absolutely wonderful - full of all the most interesting articles with the most amazing - and obscure facts - plus the great quotes! I think my information of subscription cost was from an old magazine so am enclosing the difference & a little extra to help - PLease don't give up - Thank you for what you are doing! Best regards, **Suzie Williams, Savannah, Georgia**

Dear Dr. John,
You ain't cheap but you've got the coolest most ALTERNATIVE mag out. Here is a gift subscription for a friend & also maniacal gardener.
Hot Pepper Dave, Fort Atkinson, Wisconsin

Dear John,
My husband & I both enjoy your mag - so I'd say we get our $s worth out of it. It's too bad you have to pare down to 2 issues...but maybe that' ll give you more time to make paper airplanes! Our 8-year old is the best paper airplane creator on the block! Keep up the great work - you DO have an appreciative audience out here!
Sincerely, **Rebecca**

Dear John,
..."THE GARDEN DOCTOR" will survive because of its excellence. I am enclosing a check for advance renewal. with love, **Anne Lathrop,Lebanon, Connecticut**

Hi John -
Thank you for the anise hyssop seed! And for your nice letter. The only "crude" tidbit that would offend my would-be subscribing friends is "Phukinay". I think they would find the political references right on target, as well as enjoy all the commentary you so eloquently do. Anyway, good luck. The fall issue is great-
Beth Crowder, Sparrow Hawk Farm, Bosque, NM

Dear John,
Here's a check for two more gifts and of course my renewal. Use the change for some biscuits for the "World's Best Dog" -- recipe enclosed. Don't lose heart...I am eagerly awaiting the next issue. **Maggie Brandt, Eminence,Kentucky**

Hi John...
...THANKS for the gift of celebration that is represented by each issue of THE GARDEN DOCTOR. I've been unemployed for the last six months, but if you let me know when I'm due, I'll find the money to re-up. It's worth it...Reading Richard Rew's article about your paper airplanes (Fall '92), I was struck by his description of your yard. May I come photograph you in it next summer?I've been wanting to make a series of pictures of people in their work environments. What a great place to start. **Lilla Woertendyke, Denver, Colorado**

Dear Garden Doctor:
Please don't despair! All things move in cycles, so subscriptions will grow again. You have probably noticed that the best music, films, literature etc. don't have the widest audiences. Volume is not necessarily an indicator of quality. Face it, there are slicker, more comprehensive magazines on gardening, but your publication is more than that. It is that blend of politics, philosophy, gardening and humor that make the GD unique. I recommend that you stick with your present format. That's what turned me on to it. So keep the cosmic stuff cumming, it's a real inspiration. **Terry Danner, Zephyrhills, FL**

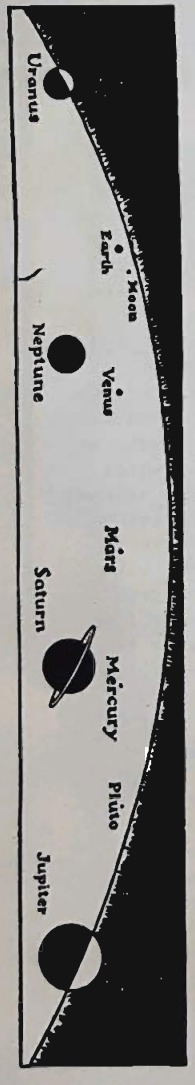
Dear John,
Please renew my subscription to THE GARDEN DOCTOR. I'm sorry you are publishing less often since I really enjoy your publication but I can understand your decision. Please don't drop "Good News" & "Bad News" or "Phukinay"; they are part of what makes TGD unique. Peace, **Tracy Rothwell, Cary, NC**

Dear John,
I love your magazine - Unfortunately, I didn't get the seeds planted before winter closed in on us. Hopefully I'll be able to remember where I put them next spring!
Please send a gift subscription to my cousin - the real organic in the family.
Thanks! **Suzanne Farver, Woody Creek, CO**
(Thanks Suzanne for your support of TGD... please DO remember to store your seeds in your produce drawer of your fridge to help keep them viable AND locatable! John.)

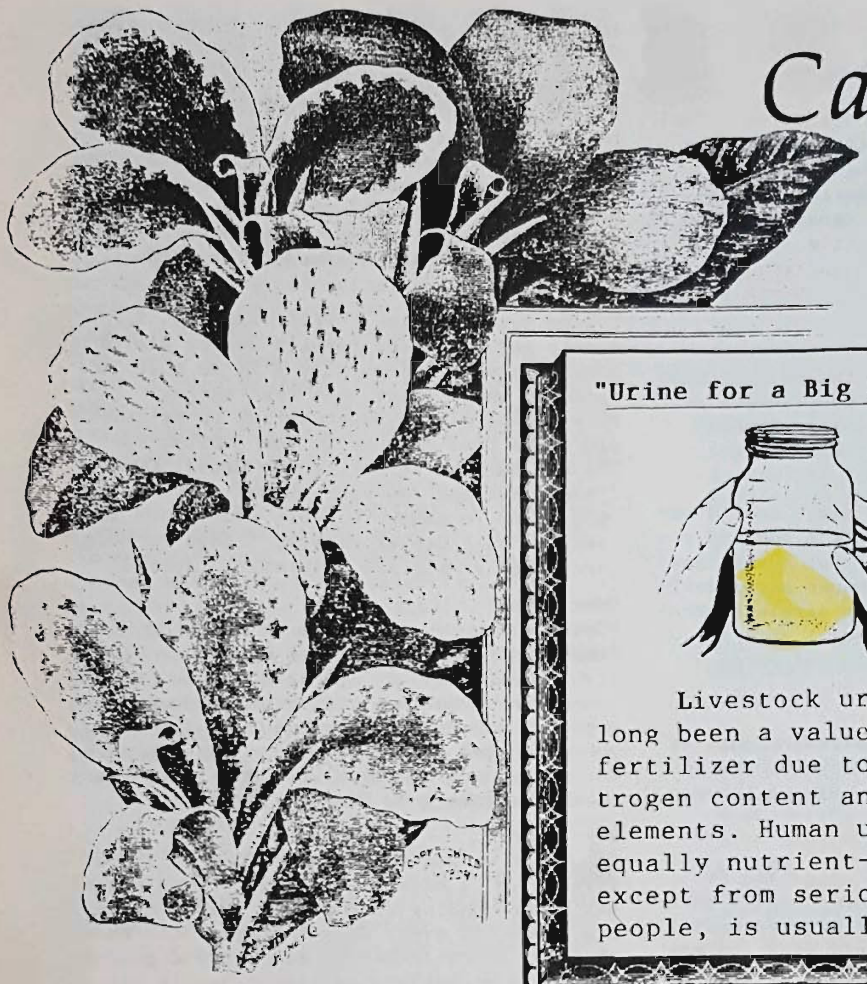
Dear John,
Please excuse my tardiness in renewing THE GARDEN DOCTOR. It's a great magazine! I liked "Good News" & "Bad News" - between the two - keep "Phukinay". Florida gardening is great to have - we're left out of so many zones in seed catalogues. Hope you can work me into your (landscape) schedule this year!
Sarah Kurzenberger, Largo, Florida

Dear John...
Of course we want more Garden Doctor in our lives - we'll miss seeing you 4 times a year but understanding economics - i.e. - times are tough all over. Hang in there- and know that for every letter of support you get there are probably a couple of people out there who would write if they could take 10 min. to sit down and do it - which I guess is what I just did. Enclosed in a check for $25 - it ain't much - but sign us up for another year - and use the rest however - I mean blow it all on a vegi burger or something. Thanks for doing what you do. **Pat Bush, Reidsville, North Carolina**

Dear John,
I was distressed to hear the news about THE GARDEN DOCTOR subscription stats. I love the mag and know there is nothing like it. Unfortunately, I don't think you can ever make it a big money maker if you do so much of the work by hand and do not take any ads. But you mustn't stop issuing it. Therefore, it seems to me that you will have to try a couple of other tactics: 1. Better publicity 2. Ads. I know this sounds crass, and it would change the appearance of TGD to have ads, but I don't think all ads are bad. For example, a classified ads section taking paid ads from people who want to sell their own saved seeds and/or trade seeds with others, and a "find kindred spirits" section for people who are feeling isolated because of being stuck in the middle of lots and lots of mainstream people and want to find others whose thinking is closer to theirs ("Green Fringe"?) living closer than 2-3 states away. Also, ads for products that truly are eco-friendly and not just yuppie trendie. In the meantime, here is my subscription renewal.
I have gone to the Iowa City public library and requested they buy a subscription also. If the ICPL does not do this, I will donate one to it. Good luck and do not lose heart. There are those of us who look forward to every issue. Sincerely, **Caroline deProsse, Iowa City, Iowa**



WE ARE VERY SMALL
The planets and moon compared in size with a segment of the sun.

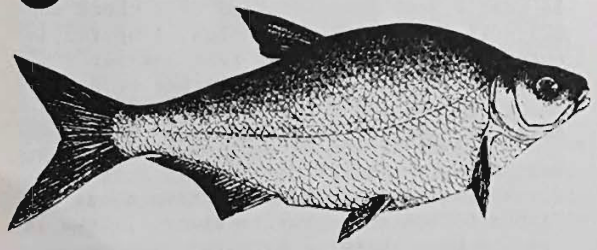


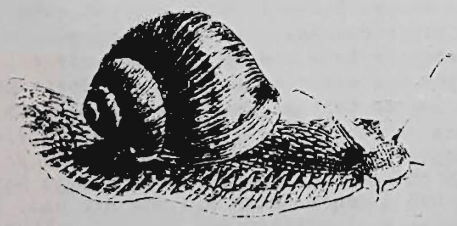
Canna Bliss

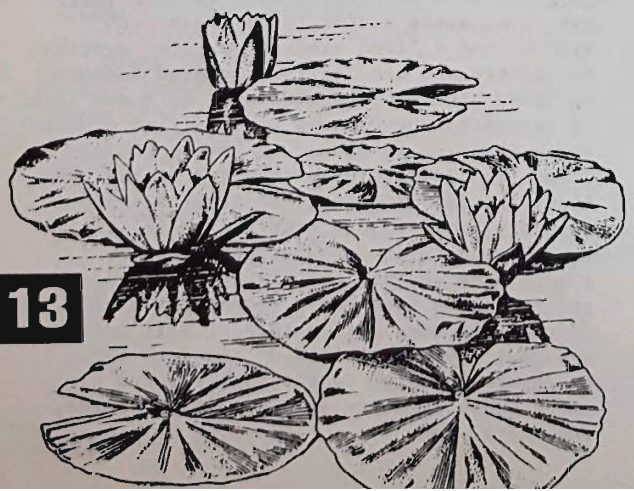
Modern garden cannas were bred from 'Canna edulis', a native of Central America long harvested for its fleshy roots. Try the pale new summer growth early each fall by digging them up. Eat raw or in soup.

"Urine for a Big Surprise"

Livestock urine has long been a valued organic fertilizer due to its nitrogen content and trace elements. Human urine is equally nutrient-rich and, except from seriously ill people, is usually so sterile it has been used to rinse battlefield wounds. But queasy souls may feel best using it on shrubs at first, flowers later. Saving urine in a jar by the john (easier for men) can cut inputs of fertilizers by recycling our own and also save water via fewer flushes. Use a lidded container to keep in odor & keep out flies. Daily pour your golden harvest around roses, shrubs, berry bushes, non-root crops like squash and water well.







fish emotion

For greater food self-sufficiency for non-vegetarians, a pond or tiresome old swimming pool can be turned into a residential fish farm. (Drain a swimming pool of its treated water, pour 8" of clean gravel on the deep end, refill and let age 2 weeks...then pour in 100 lbs. dolomite, 25 lbs. of Ringer Lawn Restore and either 5 lbs. of agricultural frit or 50 lbs. of kelp meal to supply calcium, magnesium, macro-nutrients, microorganisms and trace elements, respectively. Then toss bundles of aquatic plants rubber-banded to stones or bricks into the deep end to settle on the gravel and grow...in cool climates use hornwort, hardy water lilies, and natives...in warm areas like Florida use elodea, tropical water lilies, cabomba, duckweed, water hyacinths and natives....in all climates grow cattails and pickerel weed in gravel in the shallow end. All these plants, plus the algae that will soon grow on the sides, will oxygenate and purify the water while providing the base of your food chain. Put in a few dozen small brown aquarium snails to control algae, eat waste and feed fish, fresh-water clams and crayfish for bio-diversity and lastly, fish. In cold winter regions try local catfish, bream, carp, goldfish (hybrid carp which can weigh several pounds quickly!),or trout...in subtropical areas grow tilapias, local catfish, bream, carps, bluegill, or goldfish. They will feed primarily on insects, larvae, algae, etc. but once a week throw in a handful of dry dogfood nuggets as a supplement. Weekly bail out several buckets of the water to fertilize your gardens with, and add new water...this keeps soluble salts from accumulating. If the water plants get too thick, rake them out into your mulch or compost...this out-take of live plant tissue (plus the fish you catch) balances the slow, steady input of nutrients INTO the aquatic ecosystem. So on lazy summer days, toss a hook into your pond or pool and thus stride atop your own aquatic ecosystem foodchain!

Behold the turtle. He makes progress only when he sticks his neck out.
James Bryant Conant

THE GARDEN

In temperate areas where winters are cold and/or snowy, Spring is the time to start seedlings of frost-tender veggies and annuals in bright south windows 6-8 weeks before last expected frost. Thick organic mulches in vegetable and perennials gardens can be raked back to expose the soil to the sun's warmth and to the beaks of hungry birds looking for bugs.Lawns can be fed as soon as the ground thaws...dried manures, 'Ringer Lawn Restore', feed-grade cottonseed meal or dried brewer's waste can be sprinkled as heavily as you would Parmesan cheese on spaghetti....in acid pH soil zones (usually most soils east of the Mississippi) a light sprinkling of dolomitic limestone is a good idea,too, everywhere in your yard EXCEPT where you have acid-lovers like blueberries, rhododendrons or Timothy Leary. Remove winter-killed branches from your repeat-blooming roses (Teas, Hybrid Teas, Chinas, Bourbons, Hybrid Perpetuals, Portlands, Polyanthas, Floribundas, etc.) as soon as new growth reveals the extent of the damage...this a good time to do your hard annual pruning. Once-blooming roses (gallicas, damasks, albas, centifolias) should only be pruned IMMEDIATELY AFTER they have finished blooming in late spring. Over-grown perennials like daylilies, physostegia,heliopsis, Shastas or speedwell can be lifted, divided and re-planted as soon as the ground is thawed. 2 or 3 weeks before your last expected frost date you can plant the seeds of cold hardy annuals and vegetables directly in the garden & water them in, as they germinate best in quite cool, damp soil...a surprise snowfall shouldn't hurt them. When frost danger has passed, you can then plant those seedlings you started in your south window plus crops best directly seeded into the garden once the soil is warm, like beans, corn, sweet potatoes and peanuts. In very mild climates, like Florida, southern California or the Caribbean, just move the dates back into the winter months for these early spring chores, although you will not likely have to rake back mulches since your soil never really gets cold.

Mid-summer in temperate regions is a fine time to start seedlings of fast-growing cold-hardy crops for a second harvest in the fall. Taking bouquets from your perennials and annuals, as well as daily harvests of your fruiting veggies (peppers, okra, eggplant, melons, etc.) will encourage more growth, more blooming and more production....if you wish to save seeds (See "Questions & Answers" elsewhere in this issue) from certain varieties stop picking flowers and fruits in mid-summer so they will have time to produce ripe, viable seed. All summer long, feel free to dry, or blanch-and-freeze or can some produce once a week to slowly and easily build up a resevoir of good, safe food for the long winter ahead. If the clouds are stingy and the days are hot, give your heavily-mulched gardens 1" of water every 7-10 days...<u>much</u> more if you are a bare-soil gardener. To keep pest insects under control, lure birds to your garden with a ground-level bird-bath and food scraps (bread, rice, pasta, cereal). Use "BT" (Dipel, Thuricide) powder to control caterpillars, 'Nosema locustae' for crickets and grasshoppers, chickens for slugs, old-fashioned soap spray for aphids, thrips, mealy bugs and scale (cut up 1 bar of REAL soaps like 'Octagon' or 'Kirk's Castile' or 2 cups of Ivory Soap Flakes in 1 gallon hot water, let sit for 1 week until it is a gross 'soap snot'; store this concentrate in a milk jug. For general purpose control of small-bodied pests (aphids, mites, Neil Sedaka) mix 1 part 'soap snot' with 10 parts water in a spray bottle or tank...this is also good for mildew on squash leaves or black spot on roses. Try a ratio of 1 to 6 for tough-bodied beetles.

In subtropical regions August is a good time to <u>drastically</u> cut back tired, scraggly flowering perennials by 75% (cannas, pentas, allamandas, Nancy Reagan, ruellias) so that they can re-grow bushy and full of blooms. Just lay the pruned-off branches in an even layer on the ground around the plants, sprinkle your favorite organic fertilizer, then cover it all up with 8"-10" of local (likely 'coastal' hay) to hide the debris, trap moisture, cool the soil, and hasten humus formation. Cut back Tea & China roses 50%.

And in all areas, be sure to, throughout the summer, just stop and stand in the garden, eyes closed, heart and ears open, eating something you grew, and savor the 'now' of the living vitality you helped to create...this is the heart of gardening.

"Even mean men are often sweet when they are teaching".
Robert Bligh

A government which robs Peter to pay Paul can always depend on the support of Paul. George Bernard Shaw 1856-1950

VEGGIES

If you live in a region with cold or snowy winters, early spring is the time to plant the cool-weather, frost hardy vegetables; when the soil has warmed thoroughly a month later, you can plant the warm-weather frost tender veggies. If you live in a very mild winter area like peninsular Florida, the Gulf Coast shore line, or southern California, early spring is planting time for the frost tender crops; a month later you can plant tropicals. Below is a list of edible crops...an "H" signifies frost hardiness and a preference to sprout in cooler weather. A "T" signifies frost tenderness and a preference for warm soil and air. A "S" refers to heat-craving sub-tropical and tropical crops, which CAN be grown in temperate regions where growing seasons are quite long.

Beans (Pole,Bush)- T
Beans (Fava)- H
Beans (Yardlong)- S
Beans (Hyacinth)- S
Broccoli - H
Brussel's Sprouts - H
Beets - H
Bok Choy - H
Basil - T
Borage - T
Cabbage - H
Carrots - H
Cauliflower - H
Celery - T
Chicory - T
Cilantro- H
Ceylon Spinach - S
Chaya - S
Corn - T
Corn Salad - H
Cucumber - T
Chayote - S
Chard - H
Cranberry Hibiscus- S
Dasheen - S
Dock - H
Eggplant - T,S
Endive - H
Fennel- T
Field Peas - T,S
Gourd - T,S
Ginger - T,S
Horseradish - H
Kohlrabi - H
Katuk - S
Leek - H
Lemon Grass - S
Lettuce - H
Luffa - T,S
Melons - T,S
Mung Bean - T
Manioc - S
Malabar Spinach - T,S
Melissa - T
Mesquite - T
Milkweed - T
Millet - T
Mullein - H
Mustard - H
Okra - T,S
Onion - H
Parsley - H
Peas - H
Pigeon Peas - T,S
Peanut T,S
Peppers - T,S
Papaya - T,S
Potato - T
Pumpkin - T
Parsnip - H
Passionfruit - S
Pokeweed - T
Prickly Pear - T,S
Purslane - T
Rutabaga - H
Rue - T
Salsify - H
Surinam Spinach - S
Shallot - H
Soybean - T
Spinach - H
Squash - T
Sunflower - H
Sweet Potatoes - T,S
Tannier - S
Tomatoes - T
Turnips - H
Thyme - T
Taro - S
Urd - T,S
Watercress - H
Wax Gourd - T,S
Winged Bean - T,S
Wheat - H
Yam Bean - T,S
Yams - S

It is better to wear out than rust out.

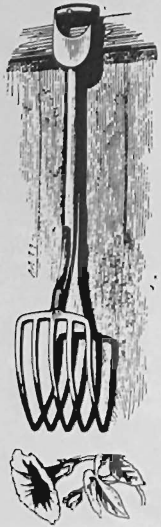
Richard Cumberland

ANNUAL FLOWERS

To cultivate annual flowers just follow the same basic guidelines provided above for vegetables. In regions with cold winters, many annual flowers (especially frost hardy varieties) will self-sow mature seeds each fall; these will sprout the next spring in the garden as the vital dormancy induced by the cold weather is broken by spring's warmth. Below is a list of annual flowers, each coded with "H" or "T" as are the vegetables above. Those that produce edible flowers are also followed by an "E". And remember; most annual flowers bloom longer if frequent bouquets are taken. (This delays seed formation, hence they keep blooming).

"A path is formed by laying one stone at a time..." The Giant

Adonis - H
Amaranth - T
Abronia - H
Bachelor Button - H
Basil, Purple - T,E
Beans, Scarlet
Runner - T,E
Browallia - T
Calceolaria - T
Calendula - H,E
California Poppy - H
Dimorphotheca - T
Celosia - T
Cephalaria - H
Cynoglossum - H
Clarkia - H
Cleome - T
Flax, red - H,E
Forget-Me-Not - H
Gilias - H
Gypsophilia - H
Heliotrope - T
Hunnemannia - H
Ipomoea - T
Jewelweed - T
Larkspur - H
Lathyrus - H
Lavatera - H,E
Linarias - H
Lobelia - T
Lychnis - H
Matthiola - H
Mignonette - T
Moonflower - T
Morning-Glory - T
Nicotiana - T
Nigella - H
Nasturtium - T,E
Navelwort - T
Nemesia - H
Nemophilia - H
Pennisetum - H
Phacelia - T
Phlox - T
Poppies:
(Shirley, Corn,
Somniferum,
Bread Seed,
Flander's Field)-T
Portulaca - T,E
Quamoclit - T
Ratibida - H
Ricinus - T
Rocket- H
Safflower - H,E
Scabiosa - T
Schizanthus - T
Sidalcea - H
Skullcap - H
Statice - H
Strawflower - H
Tarweed - H
Tithonia - H
Unicorn Plant - T
Ursinia - H
Velvet Bean - T,E
Venus's
Looking Glass - H
Verbesina - T
Virginia Stock - H
Whispering-Bells
(Emmenanthe pendu-
liflora) - H
Xanthisma - H
Xeranthemum - H
Zaluzianskya
capensis - T
Zinnia - T



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SEEDS

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.

On your seed packet with 1 Purple gentian extract fingerprint write: **Hesperis matronalis** (Dame's Violet, Sweet Rocket). This tall (3'-5') biennial to perennial member of the Mustard family is native to Europe, and grows best in temperate areas where winter chilling induces vital dormancy in both the self-sown seeds and the plant. While both shade and drought tolerant, it thrives best in full sun in fertile, moist soil; hence it prefers swampy , low-lying areas. Sow the seeds in late fall or early spring in freshly-turned, humusy soil of a neutral to slightly acidic pH: cover them with about ¼" loose soil and water in. For best results, keep the soil damp till the seeds germinate in a week or two. (Future self-sown seeds will come up like weeds in future seasons). The classic 4-petalled crucifer (mustard) style flowers are white, pink, or lavender on graceful spikes with night fragrance;pods draw finches

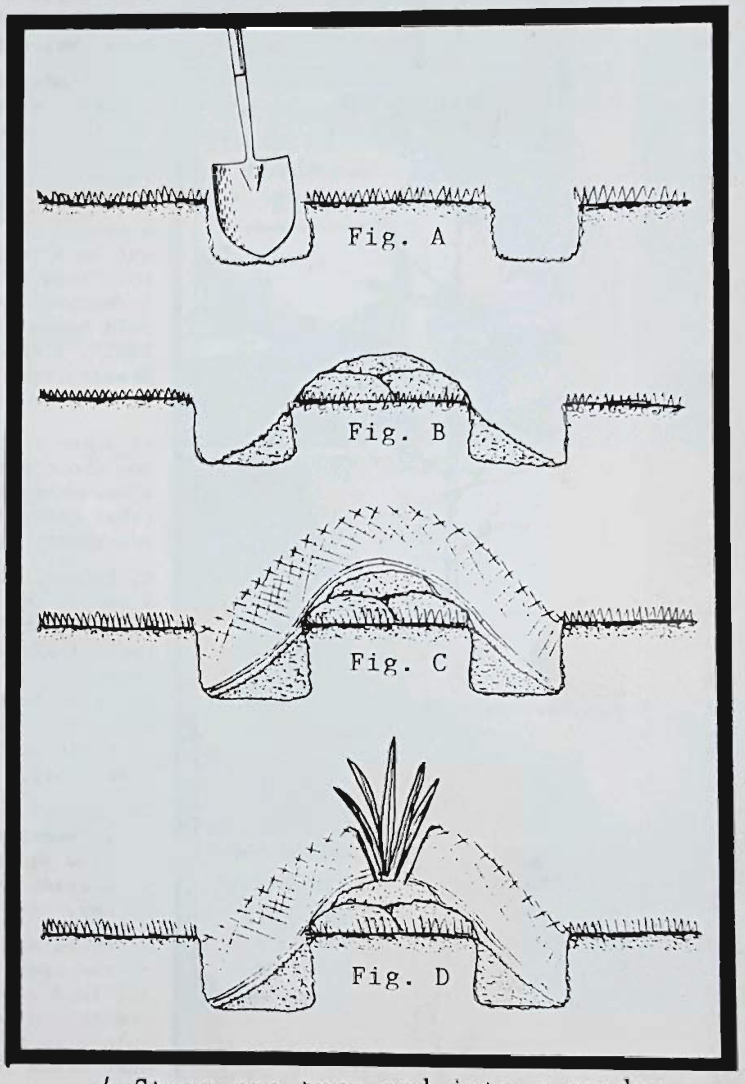
On your seed packet with 2 Purple gentian extract fingerprints write: **Linum rubrum** (Scarlet Flax). Also native to Europe, this cold hardy annual is similar to North America's native blue perennial flax but has larger (red) flowers and more ovoid-shaped leaves. Like other flaxes, it self-sows in regions with cool or cold winters, which provide the dormancy-inducing chilling the seeds require to germinate well. Also tolerant of dry, infertile soil, Scarlet Flax grows best in moist, sweet, improved soil...a few weeks before frost danger passes in spring, scatter the seeds on rich, loose soil and cover with ¼" loose soil. Snow melts or hand-watering will trigger sprouting as the soil warms. Somewhat shade tolerant, it prefers full sun. By early summer the plants should be 10"-12" tall...their slender, graceful forms waving in light breezes. The 5-petalled crimson flowers form at the top of the plant, with each lasting barely a day. But new flowers open each morning. Petals,seeds edible.

On your seed packet with 3 Purple gentian extract fingerprints write: **Ratibida columnifera** (Mexican Hat, Prairie Coneflower).This annual wildflower is native to North America's arid prairies, and is related to Black Eye Susans, Echinacea and other composites.It self-sows in the fall and sprouts in the spring, doing best in full sun and dry soil (perfect for xeriscapes, especially in cooler winter areas). Scatter the seeds in early spring and cover with ¼" soil: handwater or rely on snow melts and spring rains.This species reaches a height of up to 2½ feet with red, gold, or red and gold daisies. This excellent bee-flower IS perennial according to its donator, Beth Crowder, who gathered the seeds originally at a 6,500 elevation near Raton, New Mexico..."tolerates very dry conditions once established, but also responds well to watering." Thanks to her at Sparrow Hawk Farm,12 Sparrow Hawk Farm,Bosque, NM 87006 (505) 864-0520. Organic honeys, beeswax, bee pollen, beeswax candles (hand-dipped)

LaWn NuKiNg

It makes esthetic and ecological sense to shrink a lawn by expanding nearby beds, but who wants to dig up and haul away all that sod, then bring in new soil, etc. Here's a technique I've long used as a 1 man organic landscaping service. 1. Cut out a strip of sod in the outline of the bed-to-be (Fig A). 2. Place the sod strips UPSIDE DOWN in the center of the new bed, then slope loose soil against the inner wall of the trench you dug to outline the bed; a steep dome results. (Fig. B). 3. Broadcast all your soil nutrients on the dome, then cover it entirely with a ½" thick layer of wet newspaper, each peice overlapping the next by 4". This in turn is covered with 8"-10" of wet hay,which is settled into place with a hard, coarse stream of water from a hose with a thumb over the end to direct the flow. All these aspects of step 3 serve to choke out the grass (Fig. C). 4. Next, use your hands to to fashion an 8" hole in the wet hay layer all the way down to the wet newspaper layer; use a kitchen knife to cut out an 8" circle of wet newspaper to expose the soil and inverted sod beneath. Again, use your hands to fashion a planting hole in this, plant your plant, tucking soil up against it firmly. Then tuck the hay layer back up against the plant. (Fig. D). Then water the new bed deeply to settle it all in.

This technique has served me and my customers well for 10 years now, and is based on that initial "contour trench" that **A.** Establishes the size and shape of the bed **B.** Wastes nothing by killing the sod in place **C.** Serves to collect water all around the bed and soak it down deeply **D.** Creates the 'raised bed' look that so many people like **E.** Gives the bed a neat, manicured appearance by giving all that mulch a place to have its raggedy edges tucked into. I prefer to make that 'contour trench' as wide as is my shovel blade, and nearly as deep... the soil I excavate is used both to shape that inside edge of the trench (Fig B) and to bury the inverted sod. This simple technique will allow you, as it has allowed me, to quickly destroy vast areas of lawn and create gardens in their place.



4 Steps can turn sod into a garden.

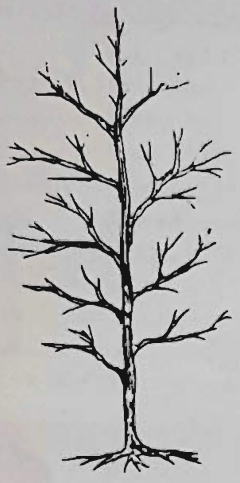
"I like to watch". Chance, the Gardener

DOG BISCUITS

1 package active dry yeast dissolved in 1 cup warm vegetable or meat broth, add 2 tbs. molasses, 1½ cups whole wheat flour, 1 3/4 - 2 cups unbleached white flour, 1 cup cracked wheat, ½ cup cornmeal, ½ cup dry milk powder or soy flour, 2 tsps. garlic powder. Mix it all together--add a little water if necessary. Knead. Roll out to 3/8" thick,cut into desired shapes with cookie cutters. Bake 300° 45 min. Leave in oven to dry overnight.

Maggie Brandt,
Eminence, Kentucky

Questions & Answers



Young fruit or shade trees with many low-growing limbs will have a more pleasing shape easier to mow and walk under if.....

ALL these branches are cut off up to a height of 6 feet, ideally leaving a 3-way split near the top of the tree at or near head level. Silly-looking at first, this results in a tree with a nice clear trunk sending up the growth energy into a balanced, full crown.

Dear John-
I would like to save seeds from various flowers and vegetables that I grow (especially from the seeds you send along with THE GARDEN DOCTOR) only I don't know how to do it. Please print my question, and your answer, in your new Ask The Doctor column! Hope you are doing well. Love, Melinda Menne, Grangeville, ID

Hi Melinda, thanks for initiating this new dialogue column. When I harvest seeds in Colorado, I generally do so in late summer or in the fall after a frost, whenever the fruit or flower head have become thoroughly ripe, brown and dry. Flower heads may be crushed to release their seeds, ears of corn twisted between two hands to strip off the seeds, and dry hollow gourds and squashes broken open (or cut open with a saw if you wish to use the husks as containers). I spread the seeds out on a tray and let them dry IN THE SHADE for 2 weeks or so, then I pout them into paper envelopes onto which I've wriiten identifying information i.e. "Second generation open-pollinated 'Kentucky Wonder' pole beans grown in the vicinity of 'Case Knife' pole beans, Summer 1992". I keep these envelopes in sealed freezer bags in my produce drawer; this cold storage and steady humidity keeps them dormant, which results in longer life and better germination. Thanks for asking! John

Hi John-
How about more on enviro/pest control? i.e. ridding of wasp nests in stove exhaust ducts...keeping wood borer bees from setting up shop (that chain-saw ambience is really distressing). Take Care, Dionne Pia, Southport, CT.

Hi Dionne,..Let's see....wasps in stove pipe duct?...how about burning a wad of used newspaper there. Or sprinkling in some tobacco snuff or spraying the nest with a strong tobacco tea (boil 1 pouch chewing tobacco in 2 quarts water for 20 minutes, strain, let cool, pour into a spray bottle), or perhaps suck them out with a vacuum cleaner hose. For the wood borer bees, a squirt of the tobacco tea in their tunnel should nuke them, as would a strong solution (1 tsp. to 1 cup boiling water) of boric acid, the eyewash ingredient that not only is an excellent fire-proofer but also is a source of the critical plant nutrient boron.
John.

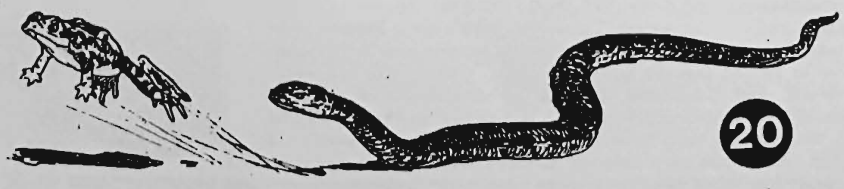
John,
I was visiting my friend Patricia in Hotchkiss, Colorado, I was telling her how you hipped me to straw & hay as organic mulch because they are unsprayed. She said that all the growers around her are big time sprayers of hay, even by airplane. What do you say? Bruce Worman,Southfield, MI.

Patricia and you both have a point, one that contributes a shade of gray to the spectrum of purity we can pursue in our gardens, one reason I use feed-grade alfalfa hay while gardening in Colorado...aerial spraying there is often of the beneficial organisms 'Locustae nosema' or BT. But unless we have a large property and can grow all our mulch organically, must urban folks simply don't have access to THE PERFECT mulch...wood mulches result from deforestation and do little for the soil, leaves nabbed in bags on garbage day may be from sprayed trees, neighbors' grass clippings are likely to be toxic. A bale of hay from a feedstore tossed into the car on the way home from work is a viable alternative for many of us. Gardeners in subtropical climates can grow cannas, banana, sugar cane and elephant ears for fast-growing home-grown mulch. In temperate areas try alfalfa, sweet clover, millet or sorghum. John.

LIST OF PLANTS TO ATTRACT BIRDS

NAME, DESCRIPTION AND FRUITING SEASON	KNOWN TO BE EATEN BY
Rose, Wild, *Rosa woodsi*, var. *fendleri* Low bush; flowers solitary, pink; fruit a red hip. *All year*	olive-backed thrush, solitaire, ring-necked pheasant, hermit thrush, sharp-tailed grouse.
Serviceberry, or Shadbush, *Amelanchier alnifolia* To 7 ft.; flowers white in erect clusters; fruit purple. *July-September*	evening grosbeak, cedar waxwing, hairy woodpecker, russet-backed thrush, solitaire, pine and black-headed grosbeaks.
Serviceberry, Cluster, *A. polycarpa* Large shrub or small tree; flowers white; fruit purple, very abundant. *August*	
Silverberry, *Elæagnus argentea* A bushy shrub or tree; fruit silvery; thicket-forming. *July-October*	hermit thrush, pine grosbeak, hairy woodpecker.
Skunkberry, *see* Sumac.	
Snowberry, *Symphoricarpos albus* Erect shrub; flowers pinkish; fruit white; thicket-forming. *All year*	evening grosbeak, ring-necked pheasant, pine grosbeak.
Squaw-apple, *Peraphyllum ramosissimum* An intricately branched shrub; fruit a pome, yellow tinged with purple; good cover. *July-September*	
Strawberry, Wild, *Fragaria glauca* Small perennials; fruit red. *July.*	cedar waxwing, house finch, mockingbird, sharp-tailed grouse, pine and black-headed grosbeaks.
Strawberry, other spp. *F. platypetala* *F. truncata*	
Juniper, Western, *J. occidentalis* Small or large evergreen tree; fruit bluish-black with a bloom. *September of second year. Persistent all year.*	solitaire, evening grosbeak, mockingbird, pine grosbeak.
Juniper, Rocky Mountain, or Red Cedar, *J. scopulorum* Large shrub or small tree; fruit bright blue with a bloom. *All year*	
Kinnikinnick, or Bearberry, *Arctostaphylos uva-ursi* Evergreen, trailing shrub; flowers white; fruit red. *All year*	solitaire, Rocky Mountain jay, band-tailed pigeon.
Manzanita, Pine nut, *Arctostaphylos nevadensis* Small evergreen shrub; flowers white; fruit red. *July-September, persistent.*	solitaire, Rocky Mountain jay, band-tailed pigeon.
Mountain-Ash, *Sorbus dumosa* Large shrub or small tree; fruit red. *July-December*	olive-backed thrush, evening and pine grosbeaks, sharp-tailed grouse.
Plum, Wild or Bitter Cherry, *Prunus emarginata* Large shrub or tree; flowers white; fruit becoming black. *May-September*	grouse.

I am an optimist. It does not seem much use being anything else. Sir Winston Churchill



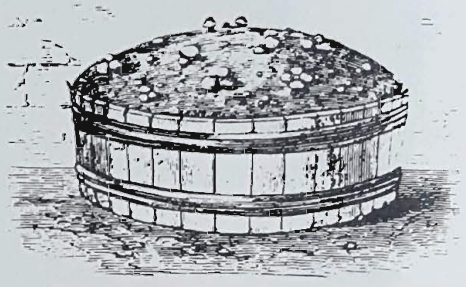
A cool basement, root cellar or crawl space averaging 55°-60° (usually in winter) can become a 'shroom farm with a little bit of effort and expense. First, gather up large free growing containers (whiskey or olive barrels, old sinks, bathtubs, etc.) and place them on the cool floor. Next, fill them with 6"-12" of compost, ideally that made from strawy horse poop. None of that lying around? Make artificial equine dookey by composting a blend of ground corn cobs, whole grains (wheat, oats,corn,etc.),hay, leaf mould, green sand, soybean meal, etc. Pre-compost these goodies in a big pile till it cools to about 75°, then fill your containers with it. Tamp the compost firmly in place, then distribute plum-sized pieces of mushroom "spawn" (from your favorite gardening catalog) every 10"-12" in each container, about 2" deep...dampen the mushroom garden with WARM water but not till soggy; you are trying to duplicate a damp, spongey old-growth forest floor.

If the air in your area is very dry, as in the desert southwest, cover each 'shroom garden with 2 layers of burlap kept a bit damp with a sprinkling of warm water now and then. In 2-3 weeks, remove the burlap and "case" (cover) each garden with 1 inch of good garden soil and dampen with warm water. If temperatures are right, in a few weeks your first few 'shrooms will appear as little white buttons. Harvest them when they enlarge into 'shrooms whose caps have just broken away from the stem...cut them off, don't yank them out. Try to harvest daily during the 6 months or so of production you'll enjoy.

Excess 'shrooms can be blanched and frozen. As a final bonus, you'll have all that spent mushroom compost, which can be used as a wonderful medium for potted plants, or added to your garden soil. As your skill improves, you can seek out the "spawn" of different varieties of 'shrooms to try your hand at, learning to modify your compost blends to suit the needs of each species. Mushrooms contain iron, niacin, riboflavin, protein and vitamin C. Permaculturists seeking a greater level of self-sufficiency while recycling organic wastes can add mushroom farming to their way of life...many such folks already raise poultry, and composted henhouse bedding is an excellent ingredient of mushroom compost.

'Shrooms can spruce up a drab meal, and require little care once planted, so consider cultivating them, just for the heck of it. Hopefully this article removes some of the mystery.

Mushrooms (natural size).



WEEDS AS SOIL INDICATORS

The value of weeds as indicators of soil conditions is a subject which has received relatively little attention. It is true that the soil preferences of many plants, such as Yarrow, are so generalized that no conclusions can be drawn from their occurrence. Other species, however, are more exacting in their requirements, and their existence in a given situation may convey a hint concerning the nature of the substratum.

This usefulness of plants as soil indicators is a matter which was understood empirically long before the study of soils had become a science. For example, toward the end of the eighteenth century we find John Bartram explaining how, by the addition of lime, ashes, horse-dung, etc., he improved a section of his land, adding, "By those simple means I mow, one year with another, fifty-three hundreds of excellent hay per acre, from a soil which hardly produced five-fingers some years before."[1] "Five-fingers," of course, refers to one of the trailing Cinquefoils (either *Potentilla simplex* or *P. canadensis*).

In addition to the Cinquefoils, the presence in a lawn or garden of such plants as Crabgrass, Slender Rush, Sheep Sorrel, Thyme-leaved Speedwell, Cranes-bill, Self-heal, Common Speedwell, Cat's-ear, Mouse-ear, Hawkweed, and a number of others, may be taken as an indication that the soil has become impoverished and would profit by the application of a good top dressing.

Indeed, in the case of lawns the mere digging or cutting out of such plants accomplishes little or no permanent good, since these or other species continue to appear. The explanation is, of course, that the soil has become too exhausted to support a good turf, and mere weeding will not rectify the situation.

Some plants, such as the sedges, Dwarf St. John's-wort, Pennsylvania Knotweed, and Beggar-ticks, are moisture-loving species and their occurrence in lawn or garden suggests faulty drainage. Others, like Mayweed, Pineapple Weed, and Groundsel, bespeak an abundance of nitrogen (which accounts for the frequency of their occurrence in the vicinity of barnyards). Still others, such as some of the mustards, Blueweed and Gromwell, are indications of a limy or alkaline soil, whereas the presence of Sandbur or Rabbit-foot Clover may be taken as evidence of acid condition.

As pointed out by H. C. Long, "the character of the land is not only indicated in some sense by the weeds which are present, but largely also by their manner of growth." Sturdy specimens of Buttercup, Thistle, Sow Thistle, Groundsel, and Dandelion are produced only on rich or loamy soils; the same species on poor land will develop in a weak or stunted manner.

These remarks are offered not with a view of presenting a comprehensive account of this subject, but merely to call attention to the interest and assistance which the gardener may derive from observing the soil preferences which weeds display on his own premises.

Soil Remedies:

ACID SOIL: Wood ash, eggshells, seashells, limestone or dolomitic limestone, bonemeal.

ALKALINE SOIL: Feed-grade cottonseed meal, ground sulfur, oak leaves, vinegar, iron sulphate, compost, green manures, chicken poop, anaerobically-fermented compost tea, thick mulches.

SALTY SOIL: Gypsum, compost

"Loyalty to, and sympathy for one's tormentor is the cornerstone of the prison of chronic abuse." Margaret Head

A BOOK REVIEW by Sally L. Newkirk: "SAVE THREE LIVES: A Plan for Famine Relief" by Robert Rodale

The late Robert Rodale, of 'Prevention Magazine' and 'Organic Gardening' fame, had written this book from a refreshingly wholistic point of view. He not only covers the historical reasons why the developing countries are faced with famine, he gives solutions which could help prevent hunger and famine while solving other problems, such as the decrease in firewood that is so essential to these countries. Although his suggestions could be applied globally, this book focuses on sub-Sahara Africa.

The irony is that many of these solutions are known to international relief agencies who continue to ignore them, seeing them as steps backward. Furthermore, according to Rodale, THEIR solutions (food aid) actually contribute to the problem.

THE PEOPLE AND PROBLEMS

Most people who listen to the news would think that famine is due to a failure of crops because of drought, and is often times exasperated by civil war. It is not quite that simple. The problem is deeply rooted in the history of these countries. Basically, Rodale says, that along with the colonization of Africa came the introduction of foreign crops--cash crops, such as coffee, corn and wheat. In order to survive in a foreign soil these crops needed large applications of chemical fertilizers and pesticides. With the help of further technology the crops did quite well for many years. In turn, with an increase in yield came an increase in population. More people meant scarcer resources, such as firewood for cooking. Trees became scarce and the desert began to expand. Simultaneously, the top soil began to erode, the ground water became contaminated, making these crops more vulnerable to disease, pests and drought.

Anyone with any compassion who has seen the footage of the victims of famine in Ethiopia and Somalia are compelled to want to relieve this situation somehow. That usually means sending money to some relief organization for food aid. What the viewers don't understand is the dynamics of famine and the "famine march".

Only ten percent of those who die from hunger die of famine. The other ninety percent die of constant, prolonged malnutrition. These people are rarely brought to our attention because they die from the diseases which accompany malnutrition, such as dysentery and influenza. People begin the "famine march" when they have lost everything...land,livestock, and money. These are the people we see on T.V. The sad truth about food aid is that not only does it not help these people, but it contributes to the famine problem. Why? Well, first of all there is a time lapse from when the food is shipped and when it arrives. Most of those people that we have seen on T.V. are by then already dead. If, by some chance, there are survivors to receive the food, then they are left to live a life of horrendous poverty. To complicate matters, the arriving food competes with the crops which are produced (during the time lapse) with the easing of the droughts.

The answer, Rodale says, lies not with food aid but prevention. Rodale's plan is based on "sustainable agriculture", which means simply growing food with local resources. He encourages the re-stablishment of the home garden with multi-indigenous plants. On a larger scale, Rodale suggests the cultivation of "famine plants", that is, native plants that can endure both drought and heavy rain. The "experts" have discouraged the cultivation of these plants because there is no market for them. However, they do use the eating of these plants as a sort of barometer, a sign of lack of other food. These plants, such as Amaranth, are not only more durable but more nutritious than corn and wheat.

The second solution is the use of leguminous trees in a growing system called "alley cropping". These miraculous trees serve a multi-purpose role. They enrich the soil by pulling nitrogen out of the air and "fixing" it into the soil. When interplanted with food crops they provide shade, fertilizer and help stop the erosion of the top soil. When the trees need pruning to allow more sunlight on the food crops, the leaves and twigs can be used as a cooling mulch and animal feed, while the larger branches can be used for firewood and building material. As previously mentioned, acquiring firewood in Africa is a major problem. Trees have become so scarce that women have to walk for days just to obtain firewood for cooking. Alley cropping will produce wood in their own backyards, and they won't have to kill the trees to obtain it.

Rodale's plan also includes organic farming methods, education of women to ease over-population, water harvesting, and fish farming. Even though this agenda is easily applicable, the "experts" have overlooked it.

Finally, he asks the reader to research relief organizations to see if their money is used for relief or sustainable agriculture.

There is one disappointing factor in this book: Rodale is very contrite when presenting the facts. He apologizes so much that I wonder how he ever got around to writing the book. Nevertheless, this is an important book. I recommend it to anyone who is interested in new farming methods, Third World politics or just because it makes for interesting reading.

The tropical food plants shown below may be grown year-round in frost-free areas in the garden, and in greenhouses or bright windowsills elsewhere.

TANNIER

Xanthosoma sagittifolium (Araceae)
South America

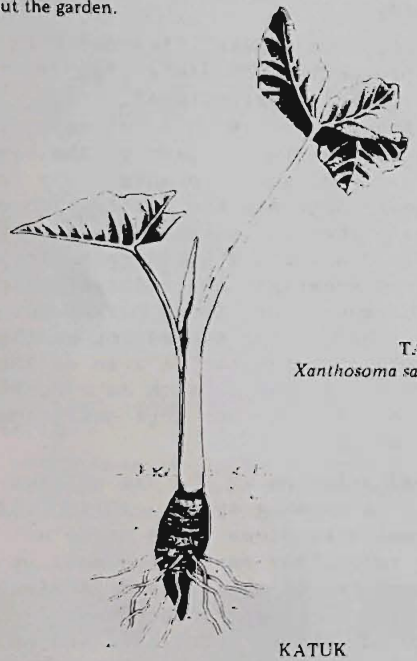
Additional common name: Yautia

Edible parts: Corms and young leaves boiled or baked.

Nutrition: High in calories and carbohydrates.

Propagation: Same as taro.

This species serves as the American counterpart to the Asiatic *Colocasia esculenta* (taro). Whereas the leaves of colocasia are peltate, xanthosoma leaves are saggitate as an arrowhead with the petiole attachment in the sinus of the two basal leaf lobes. Tannier is an attractive plant which may be used as a decorative accent about the garden.



TANNIER
Xanthosoma sagittifolium (Araceae

KATUK

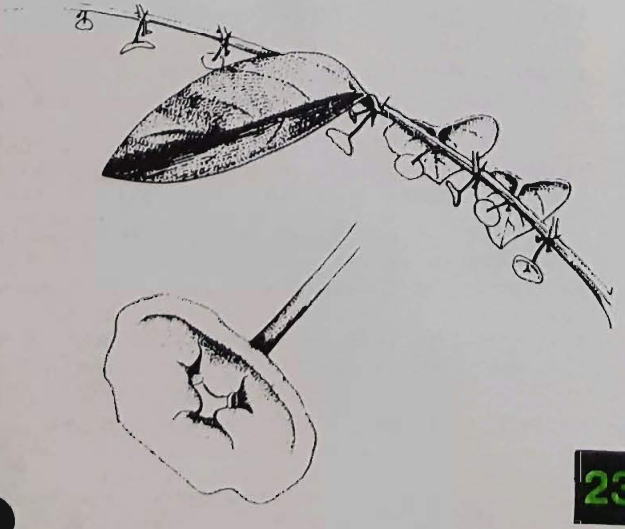
Sauropus androgynus (Euphorbiaceae)
Philippines

Additional common name: Philippine Weed

Edible parts: Leaves, young stems and flowers raw or cooked. The young leaves taste like green immature peas.

Nutrition: Leaves are very high in protein. Katuk apparently furnished a major source of food (along with shell fish) for a few Japanese soldiers hidden in Philippine caves for 25 years after World War II.

Propagation: From mature wood cuttings. If the plant freezes back, it usually sprouts from the base in the spring.



CHAYA

Cnidoscolus chayamansa (Euphorbiaceae)
Mexico to Brazil

Edible parts: Leaves are prepared and eaten as spinach. They must be boiled to eliminate hydrocyanic acid.

Nutrition: Leaves very high in protein vitamins A, B complex, C and iron.

Propagation: Easy from mature cuttings planted in the soil outdoors. Drought resistant.

The stem has small irritating hairs and gloves are recommended when working with it. Chaya is a very nutritious plant and contributed much to the diet of the Mayan culture in the Yucatan.

SURINAM SPINACH

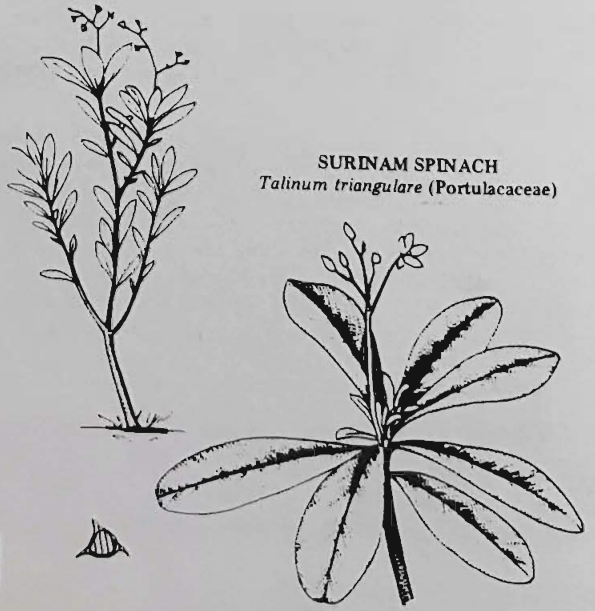
Talinum triangulare (Portulacaceae)
Tropical South America

Edible parts: Leaves, flowers and young stems raw or cooked as spinach.

Nutrition: High in riboflaven, lesser amounts of essential vitamins and minerals.

Propagation: By seed or cuttings. If frozen out, the plant will re-emerge in the spring from over-wintered residual seed. The plant needs to be plucked frequently of older growth for it to branch out and supply an abundance of "spinach."

Sunnam spinach is ornamentally desirable with attractive foliage and small pinkish flowers.



SURINAM SPINACH
Talinum triangulare (Portulacaceae)

"The only way to define the limits of the possible is by going beyond them into the impossible."
Arthur C. Clarke

Climbing Antique Roses

by Marsha Neal

SNOWY WINTER REGIONS:

"Henry IV", Hybrid Perpetual, 1862
"Adam Messerich", Bourbon, 1920
"Apple Blossom", Multiflora, 1932
"Shakespeare Garden Eglantine" ?
"Violette", Multiflora, 1921
"Russelliana", Multiflora, 1921
"Baltimore Belle", Setigera, 1843
"Felicite et Perpetue", Sempervirens, 1827
"Laure Davoust" Multiflora, 1834
"Zephirine Drouhin", Bourbon, 1868
"Alberic Barbier", Wichuraiana, 1902
"Veilchenblau", Multiflora, 1909
"Lady Duncan", Rugosa, 1900
"Nastarana", Moschata, 1879
"The Garland", Moschata, 1835
"Goldfinch", Multiflora, 1907
"Venusta Pendula", Arvensis, ?
"Polyantha Grandiflora", Multiflora, 1886
"Gardenia", Wichuraiana, 1899
"Thoresbyana", Arvensis, 1840
"Princesse Louise", Sempervirens, 1829
"Blairi No. 2", Bourbon, 1845
"Cl. Frau Karl Druschki", Hybrid Perpetual, 1906
"Souvenir du Docteur Jamain", Hybrid Perpetual , 1865

MILD WINTER REGIONS:

"Souvenir de Madame Leonie Viennot", Tea, 1898
"Marechal Neil", Noisette, 1864
"Sombreuil", Tea, 1850
"Lamarque", Noisette, 1830
"Cl. Maman Cochet", Tea, 1909
"Cl. Devoniensis", Tea, 1858
"Alister Stella Gray", Noisette, 1894
"Reve d'Or", Noisette, 1869
"William Allen Richardson", Noisette, 1878
"Desprez a Fleur Jaunes", Noisette, 1835
"Champney's Pink Cluster", Noisette, 1802
"Anemone Rose", Laevigata, 1895
"Belle of Portugal", Gigantea, 1900
"Paul's Lemon Pillar", Hybrid Perpetual, 1915
"Cl. Mme. Caroline Testout", Hybrid Tea, 1890
"Mme. Alfred Carriere", Noisette, 1879

Silent gratitude isn't very much use to anyone.
G. B. Stern

"DOUBLE DIGGING" is a labor-intensive method of creating loose, fertile specialty beds for asparagus, roses, peonies, etc. If nutrients are added to each layer (soybean or cottonseed meal, manure,"Ringer Lawn Restore", alfalfa pellets, lawyers, television evangelists, etc., maximum long-term growth and vigor can be achieved.

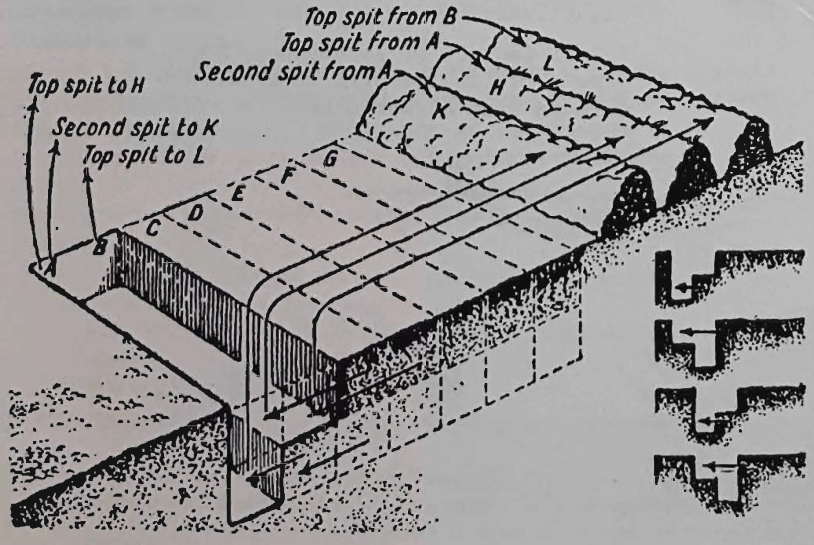


FIG 1.—TRENCHING—COMMENCEMENT.
The top spit of trench *A* is wheeled away to *H* and the second spit to *K*; the top spit of the second trench *B*, to *L*. The second spit of *B* replaces the second spit of *A*, and the second spit of *C* that of *B*; the top spit of *C* replacing that of *A*, and so on.

No passing of legal enactments can set free a woman with a slave mind. Teresa Billington-Greig 1911

PHUKIN AR!

Robert L. Morrison and others at the Lawrence Livermore National Laboratory in California have developed a lighter-than-air solid from a common, edible extract of kelp called agarose. This material is called SEAgel (Safe Emulsion Agar gel) and weighs 10% LESS than air. Whereas the super-lightweight "aerogels" require complex technologies in their creation, SEAgel, which is even lighter, is made by freeze-drying an agarose gel. Since this white, opaque solid can support THOUSANDS of times its own weight, it may have applications as a biodegradable packing material, sound barriers in planes and trains, or as a cheap insulation for refrigerators. **SCIENCE NEWS 7-4-92**

The smallest known flowering plant is the "Wolffia"....5,000 are required to fill a thimble. **Guiness Book of World Records**

Sharks NEVER get cancer. **Fascinating Facts**

Diamonds smaller than viruses, sometimes found in meteorites, have been found in the layer of sediment laid down 65 million years ago, when the long-successful age of dinosaurs suddenly ended. David Carlisle, who is the chief scientist at Environment Canada, says "There's no way the micro-diamonds could have been formed in a volcano" or some other geological process. Researchers suggest that the diamonds were contained in the debris settling back to earth after a massive meteorite impact.

Fossilized tree sap (amber) has truly remarkable capacities to preserve the fossils of insects, perhaps one reason the ancient Egyptians used it in powdered form to embalm mummies. Wings, antennae and other fine details can often be clearly seen inside the transparent resin. But now, researchers at the American Museum of Natural History in New York City have announced the discovery of DNA inside a 30 million year old fossil termite lodged in Dominican amber! Other researchers have obtained "positive results" in their efforts to extract DNA from the scales of fossilized freshwater fish about 200 million years old! **SCIENCE NEWS 10-24-92**

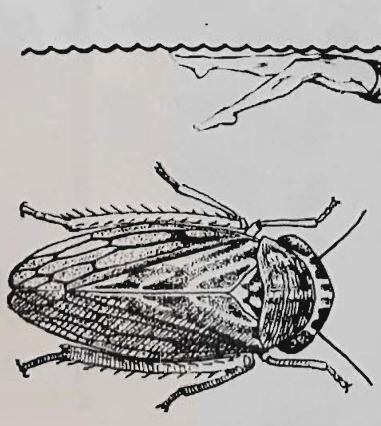
An Atlantic bluefin tuna weighing 715 pounds was shipped by air to a Tokyo market, where it was auctioned off for $90,000. **National Geographic**

Those folks at CHEMLAWN (what's in a name?) are now offering a "service" for homeowners called "EcoScape", a nice-sounding, environmentally-hip nomenclature surely a hit in their boardroom...even the big spray tank on the truck has big butterflies painted on the sides in a Big Bird-esque mural. But when questioned over the phone, representatives for EcoScape confessed that standard pesticides like Dursban, Benomyl, Sevin and others are used "when they have to". But they also said that "organic" fertilizer (?) can be requested but with a surcharge. Gee, does that mean the AEC can sell little vials of high level nuclear waste as "EcoGlow" nightlights?

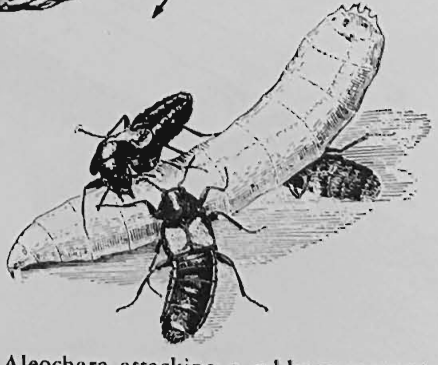
Robert Gancarz of Jacobstown, NJ, grew a 671 lb. pumpkin in 1986. **Guiness Book of World Records**

"I am a feather on the bright sky. I am the blue horse that runs in the plain. I am the fish that rolls, shining, in the water. I am the shadow that follows a child." name song of N. Scott Momady

Asparagus beetle.



Clover leafhopper.



Aleochara attacking a cabbage maggot.

Radical Plants

WAX GOURD

a.k.a. white gourd, ash-gourd, petha (Benincasa hispida)

Grown throughout the Asian tropics, the wax gourd* is little known elsewhere. Its melon-like fruit has a thick flesh that is white, crisp, and juicy. An outstanding feature is its resistance to spoilage. Preserved from attack of microorganisms by its waxy coating, the fruit can be stored without refrigeration for as long as a year. The plants are prolific, rapid growers (over a 4-day period one shoot grew an average of 2.3 cm every 3 hours†). Three or four crops can be produced each year. The wax gourd is now grown mainly as a household crop, but the market could be greatly expanded. It has important potential as a new vegetable for large areas of Latin America and Africa.

The fruit can be consumed during various stages of maturity. The mild-flavored, easily digested flesh may be used as a cucumber substitute, a cooked vegetable, or food extender. The Chinese use it in soup. In India and Cuba, a popular sweet is made by cooking the pulp in syrup.

The fruit contains 96 percent water, 0.4 percent protein, 0.1 percent fat, 3.2 percent carbohydrate, and 0.3 percent mineral matter. There are two distinct types: round and elongated. Hairy when young, they grow to immense proportions. They may measure as much as 2 m long and 1 m in diameter, and weigh up to 35 kg. The thin, tough skin is coated with white, chalky wax. (Some varieties have minute hairs even when mature.) The pulp has many flat, oval, light-brown seeds up to 2.5 cm long, which can be fried and eaten (like pumpkin seeds). They also yield a pale yellow oil, which has not been studied.

Young leaves, flower buds, and vine tips are boiled and eaten as greens.

The plant, an annual, creeping vine, resembles a pumpkin vine. It is reportedly easier to grow than any other cucurbit (pumpkin, squash, melon, etc.). Usually planted on mounds or ridges, the fruit is harvested in less than 5 months; in Sri Lanka, seeds sown in the rainy season produce wax gourds in 2 months. The plants can be grown on a trellis, but since the heavy, succulent fruit needs strong supports, the plants are sometimes grown over roofs and trees. In China the seed is planted on the banks of village ponds, and the plants grow over a bamboo framework erected over water. This method provides abundant water for the plant, and the framework over the water permits the land to be used for other purposes.

The wax gourd is relatively drought tolerant. In India, the furrows are flooded at weekly intervals during the dry season, but not during the rainy season unless there has been no precipitation for 10 or 12 days.

The seeds remain viable for 10 years and germinate in 1 or 2 weeks. Pest and disease problems are minimal. Young fruit is protected by its hairy cover, maturing fruit by its waxy coat.

The wax gourd is an ideal food for those with excess weight or digestive problems. Its only handicap is its mild taste. Those accustomed to richer fare may not like it without the addition of seasonings or other vegetables or fruits of strong flavor. It is similar in flavor and texture to the chayote (*Sechium edule*).

Wax gourds grow best in medium-dry lowlands. They do not grow well in high-rainfall areas.

Minimal research is needed to extend the use of wax gourds. The primary need is to acquaint farmers and consumers with its possibilities.

Food technology studies to develop its market potential could help its introduction to new areas.

Commercial seed sources are needed.

Possible Seed Sources:
Hawaii Agricultural Experiment Station, Honolulu, Hawaii 96822
Tropi-Pak, 3664 NW 48th St. Miami, FL 33142

At a certain age, some people's minds close up; they live on their intellectual fat. William Lyon Phelps

Everything in excess! To enjoy the flavor of life, take big bites. Moderation is for monks. Robert A. Heinlein

BAD NEWS

> The greatest gift of a garden is the restoration of the five senses. Hanna Rion

149 U.S. factories pose a "High Risk" of cancer to nearby residents. The EPA has asked only 12 of these to "voluntarily" reduce their toxic emissions. **U.S. House Committee on Energy and Commerce, Environmental Protection Agency**

"Weapons-design tests have made it possible to produce 200-kiloton cruise missile warheads that weigh only 270 pounds. By comparison early 20-kiloton atomic bombs weighed five tons." **THE DEFENSE MONITOR**

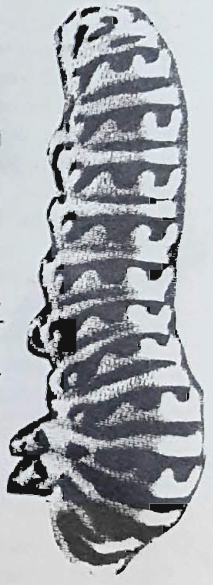
Since 1972, the California delta smelt has declined in number by 90%. Living almost exclusively in the Sacramento-San Joaquin River delta, it now numbers just 200,000. Giant pumps which suck water from the delta for use by 20 million urban dwellers and thousands of farmers may be a significant factor in the 3 inch long fish's drastic decline. **U.S. Fish and Wildlife Service.**

Since 1970, the population of adult bluefin tuna in the western Atlantic has plummeted by 90%. Only approximately 22,000 are still alive. **International Commission for the Conservation of Atlantic Tunas.**

Even though the use and toxicity of pesticides has increased by a factor of ten in the U.S. over the last 40 years, crop yields "lost to insects has almost doubled...". Over 500 insect species have now become resistant to artificial pesticides. **David Pimentel, Cornell University**

Alaska's population of spectacled eider ducks has dropped by 94% since 1971. **National Geographic 10-92**

Indra K. Vasil at the University of Florida at Gainesville has created a genetically- engineered wheat resistant to the herbicide "Basta" (phosphinothricin) to make it possible for wheat farmers to use the toxic compound in their fields. And Anthony J. Trewavas at the University of Edinburgh in Scotland has created tobacco plants that emit blue light by putting jellyfish genes in them. Due to a link between calcium levels within the plant and stimulation of the plants by wind, they glow brightest when a breeze passes through them. A few companies have already asked him if his techniques could be used to create luminescent lawns for airports, or glow-in-the-dark flowers for gardeners. **Science News 6-6-1992**



Potted cacti, unless given the desert conditions they evolved in (very bright sunlight, well-drained alkaline soil, balanced levels of all the plant nutrients,and an annual period of (usually winter) dormancy) will exhibit symptoms of decline including shrivelling, spindly pale new growth, rotting, sunken dark pits, or an overall sickly appearance. Repot cacti sold in potting soil in a simulated desert soil mix like: 2 parts coarse builder's sand, 1 part compost or composted manure, 1/10 part crushed dolomitic limestone (for alkalinity), plus several kelp tablets from the health food store (provides micronutrients).Handle the cacti with a rolled up towel to avoid being poked. Water the newly-potted cactus to settle it in, and set it in full sun (outdoors in summer, south window in winter. Feed spring & summer with 3 tblspns, fish emulsion in 1 gallon water. Keep soil dry in winter with 1 watering per month,triple that the rest of the year.

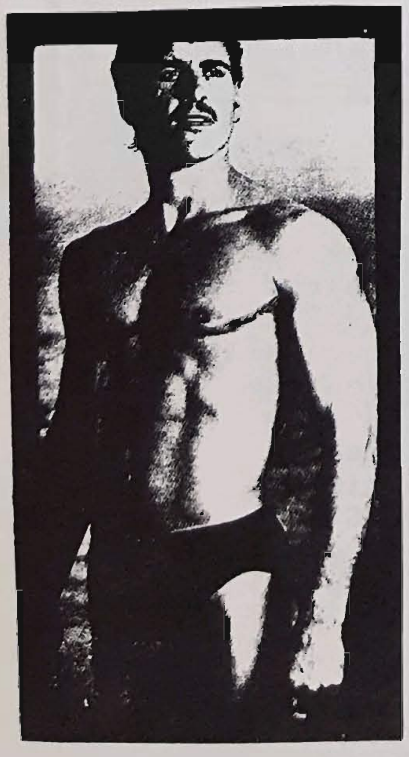
> Everyone is ignorant, only on different subjects. Will Rogers

THE Hybrid Perpetual Roses

A Hybrid Perpetual Rose pruned high in spring

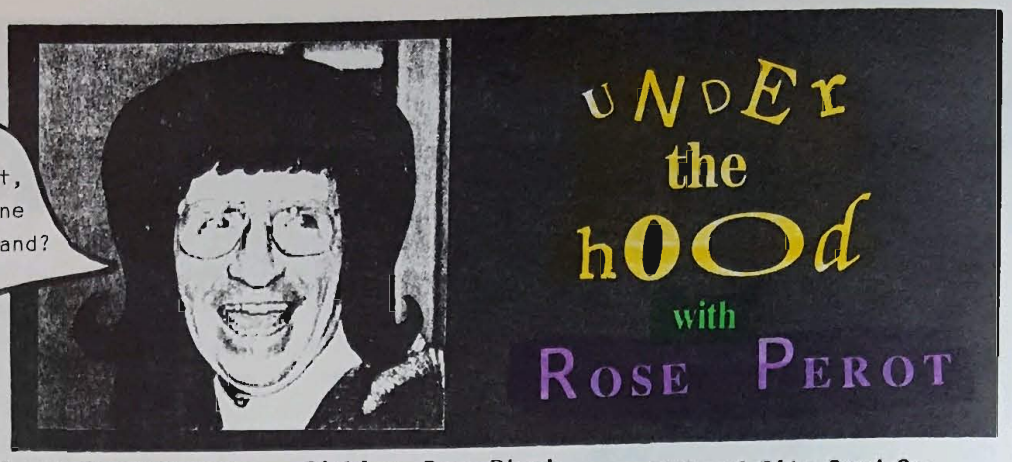
appeared in the mid 1800's, resulting from European breeders crossing repeat-blooming subtropical "China" roses with once-blooming cold climate European "Damask" roses. Hardly perpetually blooming compared to their China parents, they nonetheless re-bloomed somewhat while surviving cold winters. Most bore compellingly fragrant and complex blossoms at the top of the bush. They needed full sun, rich pH neutral soil, and at least SOME winter dormancy, and so mild winter regions like Florida and southern California are stressful to them. Many hundreds of Hybrid Perpetuals once existed; only a few dozen survive. Several can be ordered from **"Antique Rose Emporium"** at 1-800-441-0002.....

"Baronne Prevost" 1842, mixed pinks
"La Reine" 1842, light pink
"Anna de Diesbach" 1858, deep pink
"Reine des Violettes" 1860, purplish-red
"Enfant de France" 1860, pink
"Frau Karl Druschki" 1901, white,scentless
"Alfred Colomb" 1865, rich red
"Paul Neyron" 1869, rich pink
"Souvenir du Docteur Jamain" 1865 crimson
"Marchioness of Londonderry" 1893,pale pink
"Baron Girod de l'Ain" 1897, red,white edge
"American Beauty" 1875, dark pink
"Hugh Dickson" 1905, rich red



Hey bubba, don't drive across town to some pricey gym to stay or GET into shape..just make it a daily habit to use your surroundings for quick work-outs. Mowing the lawn?...drop down and do some pushups or jumpin' jacks. In your office or kitchen?...do 10 deep knee bends or toe raises. Got kids?...do some pull-ups on the top beam of the swingset. Pick 6 daily exercises for your whole body: I like sit-ups for a flat tummy, push-ups for a strong, lust-worthy chest, arms & shoulders; deep knee bends (squats) for thighs and glutes; toe raises for calves: touch toes and pull-ups for a toned back; and jumpin' jacks for an On-The-Spot aerobic, calorie-burning workout. Out of shape, weak and pastey-looking? Start out with 10 of each every day, work up to a "Nifty 50", then a "Sweet 100". Hey, 20 minutes a day of these Anywhere Anytime Exercises can keep you boinkably fit, fine, and trim!

GREGORY PECS EZ:



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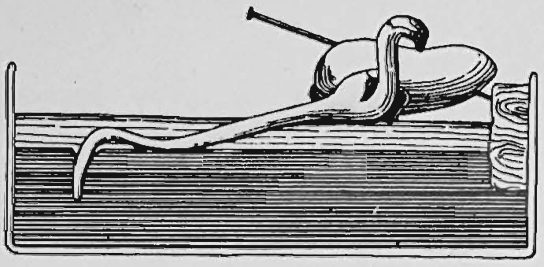
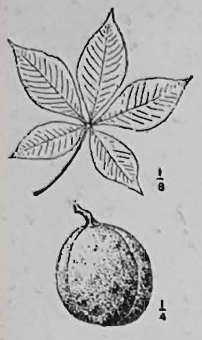
Risk little, live little.
Margaret Head

Flowers are the sweetest things God ever made and forgot to put a soul into.
Henry Ward Beecher 1813-1887



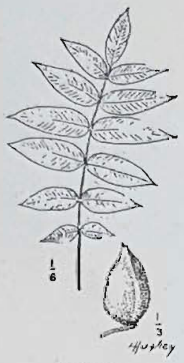
—Diagram showing penetration of mercury by a downward curvature of the primary root of broad bean (*Vicia fava*). This shows that the geotropic curvature is not a mere passive bending of the root-tip under its own weight. (Redrawn from Sachs.)



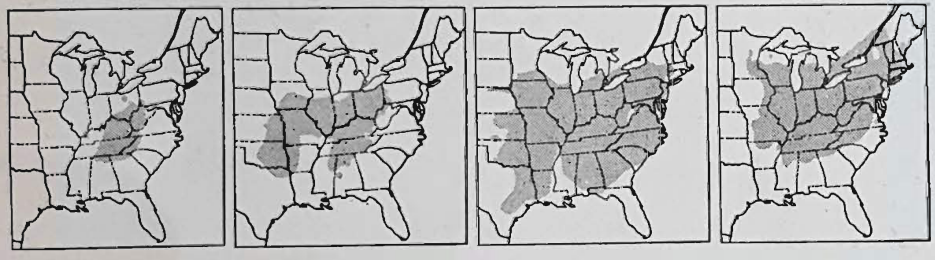
Yellow buckeye.

Ohio buckeye.

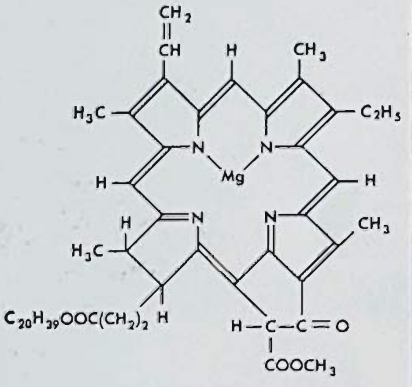
Black walnut.

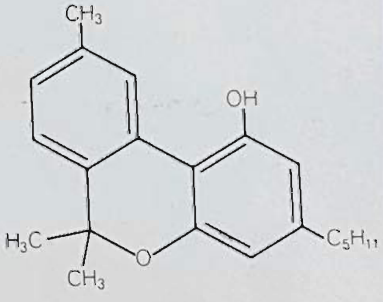


Butternut.

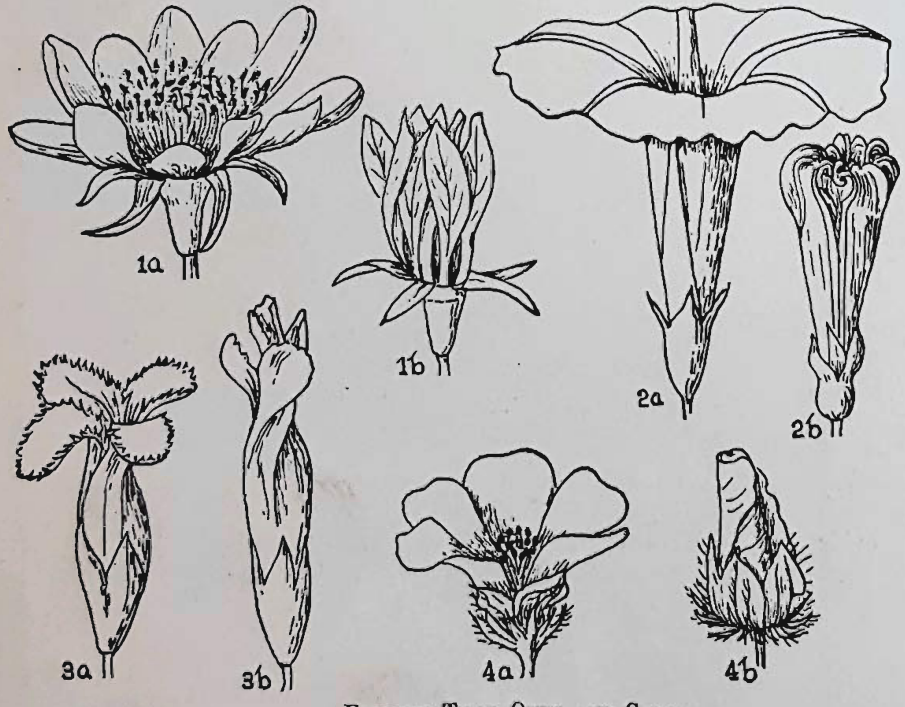


Chlorophyll



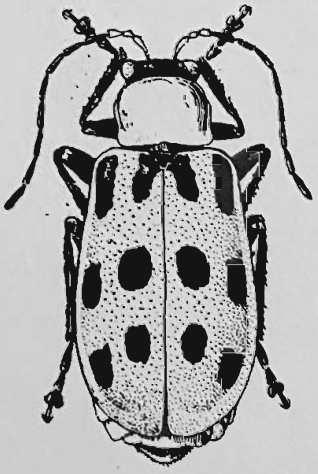


CANNABINOL



Flowers That Open and Close

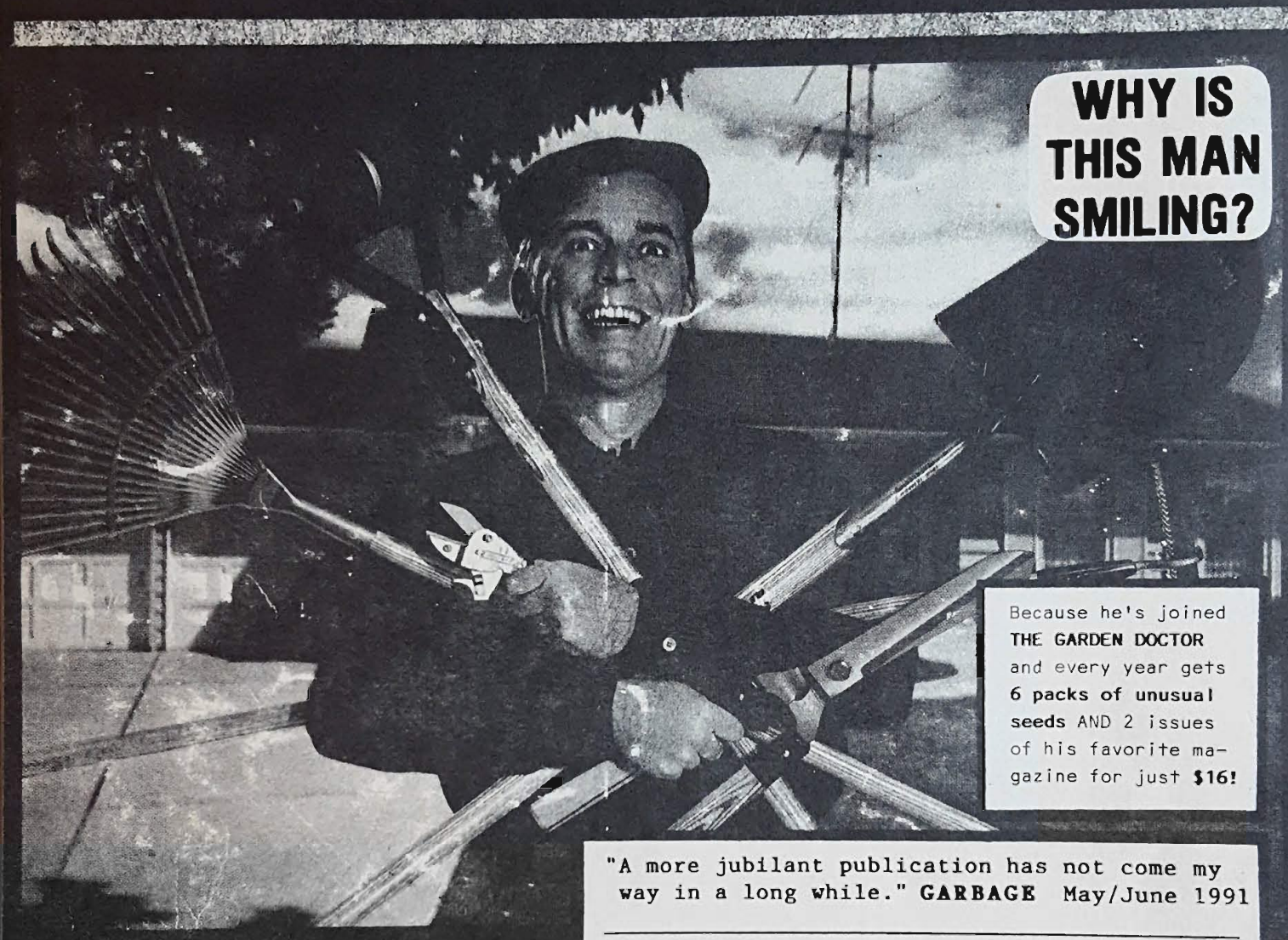
(1) Evening-star; (2) Morning-glory; (3) Fringed Gentian; (4) Flower-of-an-hour



Spotted cucumber beetle.

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

William Saroyan 1908–1981



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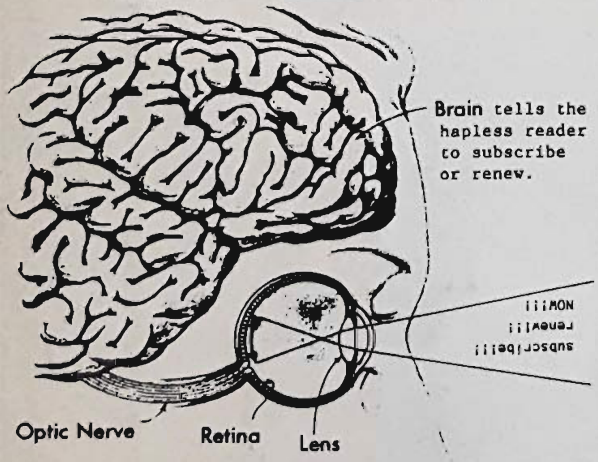

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