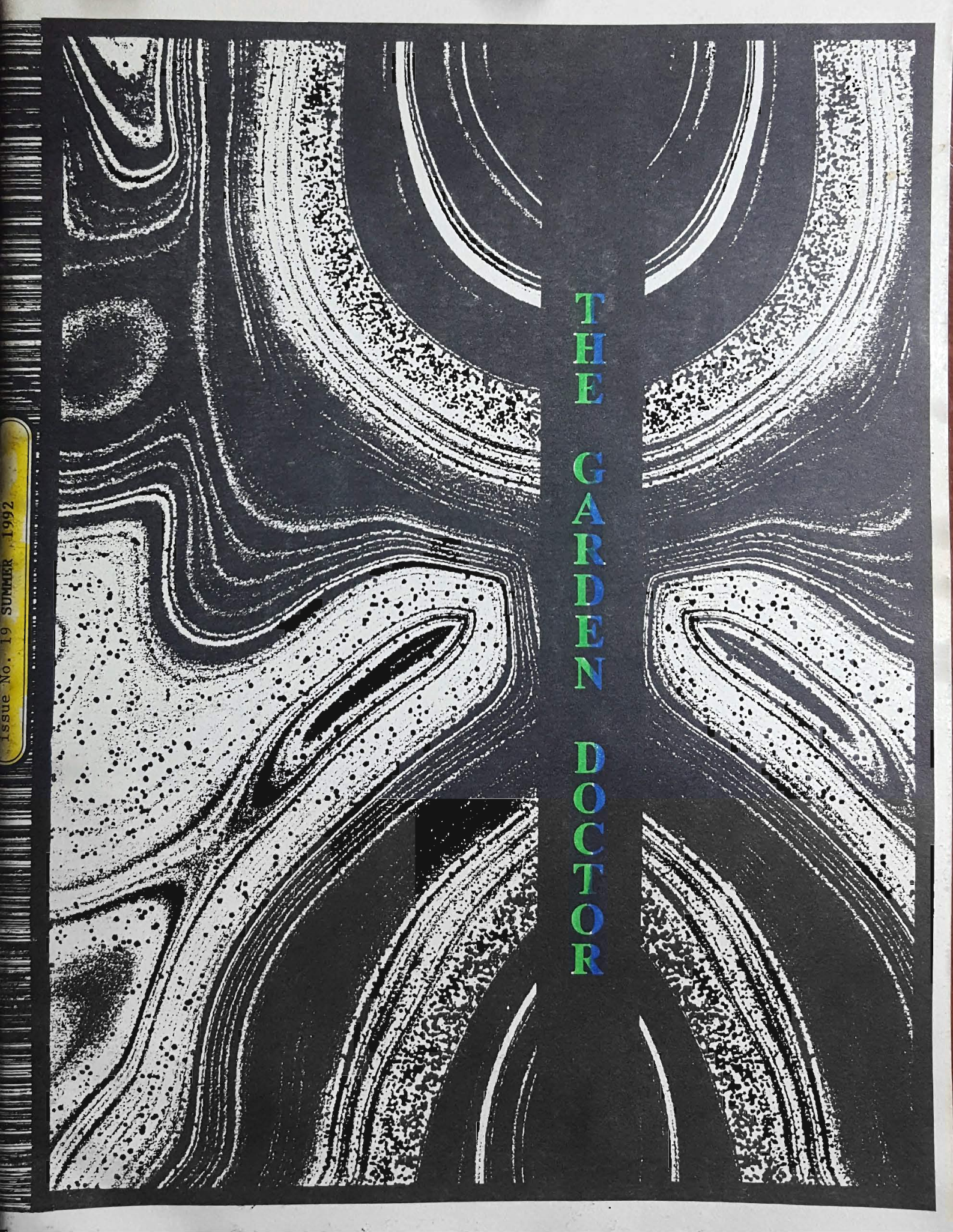
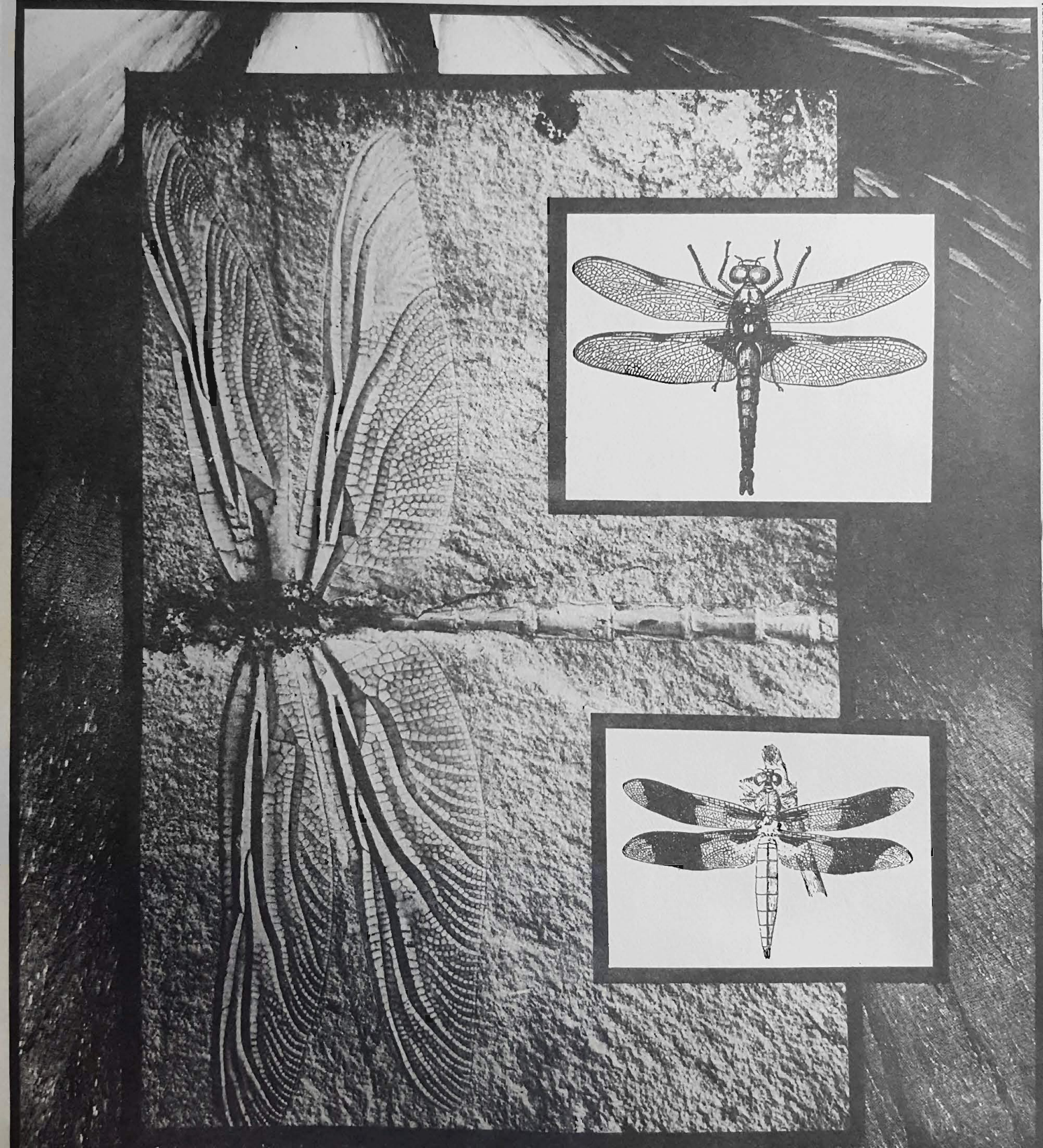


Issue No. 19 SUMMER 1992



The fossil above shows that dragonflies have changed very little since more than 100 million years BEFORE the dinosaurs...except in size. During the Age of Amphibians over 300 million years ago, some dragonflies had a wingspan of 3 FEET! Today they help us by catching in flight then eating mosquitoes, flies, and insects that damage our gardens. NEVER kill them!

I wish to apologize for this issue coming out late, but since this editorial has always been my forum for sharing openly with you, my readers, I must confess that for a few weeks my normally upbeat spirit was nearly broken. Because while I am a big believer in positive thinking, I do not believe in denial. And a number of glaring facts left me wondering if I was once again hard at work creating another somehow-flawed issue of THE GARDEN DOCTOR that would not meet my readers' needs and thus not inspire them to either subscribe or renew their subscription. As a publisher I must acknowledge these facts:

1. After doing my best on THE GARDEN DOCTOR for 4½ years, I have succeeded in gaining several favorable reviews in some fine publications BUT.... readership peaked at 260 in 1990. By mid-June of 1992 just 212 people currently subscribed, with over 60 getting ready to expire with this issue.
2. Subscription renewal rates frequently are well below 50%, as in the Fall 1991 quarter when nearly 90% of expiring readers never renewed, despite several mailed reminders (my old friend Mike Valdez correctly intuited my sense of personal rejection that quarter).
3. After I lowered the price of a subscription to a money-losing $18, readership DROPPED by 30%. The only thing to increase was my personal debt load, to the tune of $2,000.
4. Only 5% of my readers give gift subscriptions. (Although Donna Waller, Cindy Hennessy, Renee' Ashley, Melinda Menne, Anne Lathrop, Susan Taylor, Bernadette Sonefeld, Patty Carr, Mike Valdez and a few other folks have each generously given several gift subscriptions year after year).
5. Several expensive advertising efforts (magazine ads and direct mail) resulted in very few new readers...few of them renewed.
6. Every issue generates dozens of kind and congratulatory letters from my readers, yet less than half of those folks ever renew. I've gotten over 300 of those great letters, and just 4 somewhat negative letters with 4 criticisms...("too intellectual", "too unscientific", "too political" and "too crude"). As to the last criticism, the sanitized "clean language" version I published for 2 years, "THE GARDEN DOCTOR,TOO", bombed, with just 3 regular subscribers. I have hundreds of unsold polite versions in storage.

I started THE GARDEN DOCTOR in late 1987 to share my notions of planetary and personal healing and growth, to distribute interesting seeds to other gardeners, to promote positivism (versus the gloom-and-doom so prevalent in many publications), and to give myself an ongoing creative project after earlier life-phases as a potter, sculptor, poet, painter, and performance artist. Through this publication I have met many fine people and organizations I would have otherwise never known existed, and as THE GARDEN DOCTOR has evolved, so have I. It has put me "into the world" after working in isolation for 5 years as the sole proprietor of an organic landscaping business based in a 30 year old 8-wide trailer in a gnarly little trailer park in Tampa. In 1987 I felt certain that in a nation of 240 million, 5000 people by 1992 would wish to subscribe to a hand-crafted, ad-free, seed-filled alternative gardening publication. But here in the summer of 1992 I've achieved less than 5% of that goal. Clearly, THE GARDEN DOCTOR simply does not meet the needs of its readers. But since it proceeds directly out of me, its shortcomings and excesses are not visible to me...IS IT too intellectual, too crude, too expensive, too silly, too idiosyncratic, too political? Or is it not enough something. Dissatisfied readers, please let me know why you do not plan to renew so I can at last know the failings of this journal. And those of you who LIKE this quarterly, please express your approval by renewing or even giving a gift subscription, for those two acts are what keep periodicals alive. As always, feel free to make suggestions so that each new issue can be better than the last. I would dearly love for THE GARDEN DOCTOR to be a perennial feature of my life for years to come, but only if it is useful and enjoyable and viable to others.

John

COVER ILLUSTRATION: Magnified view of the natural patterns in the copper-rich mineral "malachite". Copper is a crucial plant nutrient whose function is not yet understood.

GOOD NEWS!

Japanese green tea, thyme, sage, and coriander contain oily, flavorful natural compounds called **HEXANES**, which in combination can kill 3 yeasts, 2 molds, and 8 bacteria, including some responsible for tooth decay, acne, and gastrointestinal diseases. **Science News, April 18, 1992**

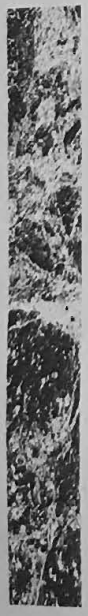
The ancient Egyptians used the wild carrot Ammi majus to cure diseases of the skin...the plant now yields compounds used to treat T-cell lymphoma. **Rocky Mountain News**

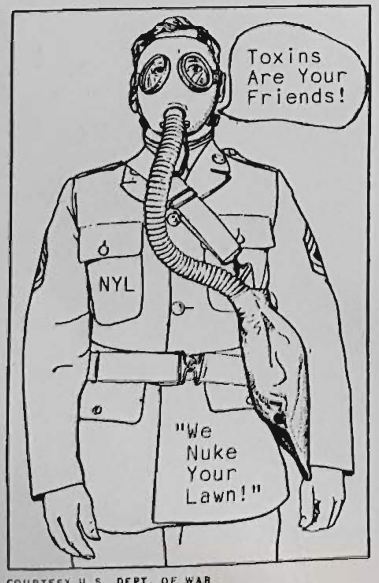
The **Tallon Termite & Pest Control Company** in Long Beach, California is prospering after trading in pesticides for liquid nitrogen, dry steam, and birth control. They use fiber optics to locate termite infestations, then freeze them to death with liquid nitrogen, which is hundreds of degrees below zero, is harmless, and is extracted from the air we breathe. High-temperature ("dry") steam is used to kill other pests in walls, etc., and natural hormones are used to control mating and egg-laying in yet other pests. In 1987 the company had 20 employees; today it has 140...and gross income is up by nearly 1,000% **A.P.**

The U.S. government recommends 60 milligrams of Vitamin C be taken daily. But a new study suggests that consuming 300-400 milligrams daily may add an average of 6 years to men's lives, and 1 year to women's lives.
James Enstrom, University of California at Los Angeles

"Just" 4.8 billion pounds of toxic chemicals were released by U.S. manufacturers during 1990, down 11% from 1989.
William Reilly, EPA

With only 1% of tropical plants having so far been examined by modern science, 25% of the medicinal drugs used in the U.S. are derived from tropical flora.
Rocky Mountain News





COURTESY U.S. DEPT. OF WAR

"ORGANIC Lawn care is for the BIRDS!!"

by **Hamilton Wright**, 1896

The Method

THE deepest and most inclusive impression which Nature conveys to us is that of exhaustless vitality; all other impressions are subordinate to this, and are, indeed, involved in it; for the life within every natural form is that which gives it interest and significance. And next in importance to the fact of life comes the method of life, — growth. Through an endless series of phases the life of the physical world has manifested and worked itself out; but in all times, so far as we know, in every sphere and stage, in every form and condition, the method has been the same. Wherever life holds its own in the world, growth takes place; life and growth are everywhere bound together so closely that it is impossible to see the one without seeing the other; for life appears to have no other way of manifesting itself. From the seed to the fruit in which the plant fulfils its nature and function, from the egg to the perfected animal, from the primordial cell to the complete man, the process by which life evolves its potency and discloses its aims is the process of growth. No other method is known to Nature; and the universality of this method, and the completeness with which, so far as we can see, life is limited to it and identified with it, puts it in importance on a level with the mysterious force to which it is bound in indissoluble union. So completely are life and growth involved in each other that we cannot conceive of either apart from the other; they are as thoroughly blended together as thought and style in the highest order of writing.

Growth is a vital as distinguished from a mechanical process; it partakes, therefore, of the mystery which envelops the essence of life wherever it appears; it is inexplicable and unresolvable. It cannot be understood, and it cannot be imitated; it has the perennial interest and wonder of the miraculous; there is an element of the divine in it because it is God's way of working in this world. As we study it the impression deepens within us that we are face to face with a power not ourselves; with a method which not only transcends our understanding, but from which our finest skill is differentiated not only in degree but in kind. Men have done wonderful things with thought, craft, and tools; but the manner of the unfolding of a wild-flower is as great a mystery to-day as it was when science began to look, to compare, and to discover. We can master the construction of Westminster Abbey or of the Cathedral at Amiens, but the primrose and the aster keep their secret inviolate. Between the thing that grows, however simple in organization, and the thing that is made, however complex and highly elaborated, there is a gulf set which has never been crossed. Mechanism is marvellous, but growth is miraculous; and the two are set in perpetual contrast.

The most obvious characteristic of

"The Woman's Movement means a new religion, or rather a return of religion to its source."
Emmeline Pethick-Lawrence, 1907

"Habit is a cable; we weave a thread of it each day, and at last we cannot break it."
Horace Mann

growth is the fact that it is an unfolding, an expansion from within, a development of some germinal form; it proceeds not by additions from without, but by evolution from within. The seed so entirely disappears in the process which it sets in motion that it would never be connected with the fully grown plant but for the reproductive function which binds the last stage to the first; the acorn is so swallowed in the tremendous life which is liberated from its tiny shell that no one would dream of its relation to the oak if the tree did not bear again the seeds of other trees as vast as itself. But, despite the disparity between the seed and the plant, the acorn and the oak, all the possibilities of these marvellous unfoldings are wrapped up in the insignificant germs. There is nothing in the massive structure of the oak which was not potentially in the acorn, nothing in the delicate loveliness of the rose that was not in the bit of hard stuff from which it grew. There has been no change of nature, no addition of foreign substances; there has been simply the complete unfolding of all the possibilities of vitality, magnitude, form, and beauty which were folded up in the germ. There is perhaps nothing more incredible in Nature than the development of the oak from the acorn, when one takes into account the almost incomprehensible disparity of size between the two and the force put forth in lifting so vast a mass to such a height in the air, and anchoring it so firmly in the ground that the rage of the elements leaves it unscathed. Before such a mystery of vital expansion science stands silent; for the result has been achieved so silently, with such ease, with such absence of tools and implements, with such continuity of action, that the tree, like a great work of art, gives no hint of the process by which it was made. It was not made, it grew; and that is all we can say about it.

The perfection to which it finally comes in type, form, and color is conditioned on the completeness with which the potentialities of the original germ are developed. Nature makes distinct and highly organized types; she does not make incongruous aggregations of unrelated materials. She does not artificially bring together materials which have no deep affinity; she starts from a living germ, and that germ takes to itself the substances which are vitally related to it, and rejects all other substances. It does not enlarge itself by addition, but by expansion; and the result is not a mechanical combination, but a new and independent creation, symmetrical, harmonious, and complete. Through a thousand forms, in the greatest apparent confusion and complexity of condition, Nature unerringly perfects her types; a host of living things grow together out of the same soil, in the same atmosphere, under the same sky; but these living things never lose their individuality. On the contrary, they intensify and clarify it.

This type is determined by the germ; but the germ reaches out and fulfils its potentialities of growth and life only as it is nourished and enriched by the elements which surround it. The process involves two

It is better to understand little than to misunderstand a lot.
Anatole France

great factors: a vital germ at the centre, which has the instinct or faculty of selection; and soil, air, light, heat, and moisture, which minister to and make possible this unfolding. The seed, the blade, the fully developed tree, shrub, or grain need nourishment, and so they take freely from the soil, the atmosphere, and the sky; but what they take they incorporate into themselves. The germ expands a thousand-fold, taking to itself material from without, which, in bulk and weight, dwarfs it into insignificance; but it is not overwhelmed and lost; on the contrary it recasts the mass which it appropriates, masters it, shapes it to new ends, and subordinates it wholly to its own purposes. So completely does it possess itself of that which it takes out of the elements that all trace of the distinctive form and existence of these elements disappears. The most searching analysis cannot separate the different substances which have gone to the making of a rose; the delicate and sensitive flower, whose life is a bloom and a breath, seems like a spiritualization of the particles of matter which have entered into it, a fragrant soul escaping from the body of earth which imprisoned it. In that final synthesis of growth we are confronted with the universal miracle of harmonious and independent creation out of a mass of material which gave no hint either of the form of the final product or of its captivating loveliness. The secret of this preservation of the type in such a vast complexity of conditions is found in the law under which each living germ selects and appropriates those elements only which are vitally related to its own structure and quality. Each germ takes those elements which it can assimilate and rejects all others. Surrounded by countless other germs, in a world which presents the greatest variety of those foods which nourish plant life, each germ, without hesitation, uncertainty, or pause, unerringly takes what belongs to it, and is as indifferent to all foreign substances as if they did not exist. So the type preserves its integrity in a world full of substances which, but for the law which governs its development, would mar its individuality and make its perfection impossible.

"Certain it is that minds, like bodies, will often fall into a pimpled, ill-conditioned state from mere excess of comfort." **Charles Dickens**

"The one who dies with the most joys, wins."

Margaret Head

PLANT PORTRAIT - **TRAGOPOGON SINUATIUS**

Common Name: Salsify, Purple Goat's Beard

by **Frances Rew**

Did you ever wonder what it must have been like to find out which plants were edible, poisonous, or medicinal 2,000 years ago?

Salsify is in the Composite Family. Does that make it edible or toxic? It could be either. It's picturesque reddish-purple flowers may belie a hidden danger. This blue-green, hairless plant reaches 12-18 inches high with narrow, lance-shaped, parallel-veined leaves. Who wants to be the first to run an old-fashioned trial and error taste test?

About 100 years after Christ, a Greek physician born near Tarsus (in modern Turkey)- Dioscorides - compiled a pharmaceutical guide, De Materia Medica. The original manuscript was circulated over the next 1,600 years throughout the West and the Middle East before it found a publisher. Just guessing, but I think, the 1,600 years of publisher rejection slips might have read something like this, "Sorry, major technology lag! Keep trying."

One of the earliest print editions was published by the great Renaissance botanist-naturalist Pietro Mattioli in Venice in 1544. The Mattioli edition of Dioscorides' edible and medicinal plant guide is regarded as a cornerstone of modern botany.

Alta Dodds Niebuhr in her book Herbs of Greece quotes Dioscorides, "The roote long, sweet; it is an edible Herbe." Well, Dioscorides, Mattioli, and Alta made short work of our potentially dangerous taste experiment.

1900 years after Dioscorides (during a time when publishers, technology and writers could almost keep up with each other), Readers Digest's Magic and Medicine of Plants says that the edible taproot of this biennial herb tastes "more like parsnip than oysters ("vegetable oyster" and "oyster plant" are 2 more of this plant's nicknames).... Cooks roast or boil the taproots as a vegetable, or they treat the stalks like asparagus and the crowns, or leaf bases, like artichokes and gently simmer them. They also use the tender leaves in salads or cook the leaves as a green vegetable."

"Although goatsbeard has fallen out of use medicinally, the plant was recommended in the Old World as a diuretic and for treating kidney stones and heartburn. Its use for heartburn was favored by the American Indians after settlers introduced the plant to them."

I can't help wondering if the settlers brought indigestion first and then a remedy second. Although, a good case of serious indigestion could come from the old-fashioned trial and error taste-testing of thousands of plant species.

The next time you look at your rock garden, try to guess what's edible. Bon appetite!

Margaret Head's View of the News

As I rub this icy lemonade across my sweaty forehead, I'm realizing that as the heat rises this summer, so will the prattle of political chameleons aiming one eye at the White House while rolling the other towards the latest poll...if we're lucky they'll at least aim the third pineal eye at REAL issues. But from what I've heard so far, they'll again offer the masses the mirage deemed tastiest at the moment...one menu selection I keep seeing on the Conservative platter is the savory, wholesome sounding morsel called "Traditional Values". The fact that this phrase usually spills from the lips of a rich white man reveals far more than the intended image of Ozzie & Harriet basking in the glow of new major appliances and the smiles of their obedient children...it reveals that once again, Conservatives generally react to the future with fear or neglect, and so instead focus on cultivating in the taxed masses a nostalgia for either a time that never was, or worse, a time when our society was brazenly stratified into power holders and their obedient human footrests. So when Ronny, and now George, wax eloquently for "the way it was", let's remember (and remind them) that in the good ole' days, an industrial tycoon could flatten a forest, flood a canyon, or dump factory waste into "his" river with little public outcry. And let's not forget, that in those glowing, golden bygone days, female people, black people, and gay people "knew their places" (the kitchen, the back of the bus, and the closet, respectively) and were kept there by "Traditional Values." Victims of rape and childhood sexual abuse were threatened and shamed into silence and denial, hence there was "no problem here". Keeping problems unmentionable is one of those "Traditional Values" that comes in very handy when window dressing a society.

Citizens rarely (publicly at least) questioned their religious,military, or political leaders in this atmosphere of subliminal fear, and so a Joe McCarthy could flourish and plunder the soul of the nation for years while ruining countless lives. Now all of this might be worth longing for the return of IF one happened to be rich & white & male & powerful & straight & Christian, but let's remind these good ole' boys that very few of us meet all those criteria. And let's remind them too that, while the oppression in the Soviet Union and Eastern Bloc was more brazen that that of the Military Industrial Complex that governs our economy and shapes many of our perceptions of our "freedom", it WAS cast off by a fed-up populace. That COULD happen here too....perhaps in the form of a nationwide boycott of the primaries, or Election Day itself. Such a brave collective action would no doubt convince the power brokers (and ourselves) that we are ready to acknowledge and tackle the serious challenges that prime time TV and demographically-researched sound bytes can no longer mask....little things like global ecocide, our debt-based economy, and the vast S & L ripoff of all of us and our children.

Lemonade, anyone?

"Why must we learn it the hard way, and play the game of life with our hearts?"
Yoko Ono, "Walking on Thin Ice"

For ten years, Renee' Ashley was my friend, and for two years she was literary editor for "THE GARDEN DOCTOR". I'm sorry to tell you all that in the pre-dawn hours of April 23, 1992, Renee' took her own life after battling schizophrenia for twenty years. She was astonishingly creative, intensely honest and ethical, and possessed such empathy that often, the collective hurting around her became her own hurting. Her haunting poems and short stories were being published more and more widely, and she also took on the task of being poetry editor for the Tampa Bay Review. I have never known anyone like Renee', and loved her, and am still coming to terms with the sheer finality of her last act. A number of you enjoyed her charming short story "Sunflower" that appeared in TGD two years ago, and the works of other writers she selected. She was a fervent supporter of TGD, and gave an incredible number of gift subscriptions. She LOVED the cover of the Spring 1992 issue, helped me decide how to color it, and urged me to market a T-shirt bearing that image...she hung the cover in her hallway two weeks before she died. This issue is dedicated to her creativity, and to the courage she mustered for so very long. She will be missed. John.

THE ARTIST

Slippers of water
leave footprints over the sky.
This room is half a prison.
I hear my eyes on the radio.

I am trying to tell you something
very specific.
Please listen and I will pay you
my poor little penny.

Last night a boy was in this room.
His thin shoulders drooped
beneath my glance.
His eyes fluttered.

He talked about his winter garden:
cabbage and snow peas,
turnips, garlic,
roses.

He talked about a sacrifice:
Dark rings have taken his mother's
blue blue eyes into a grayer heaven.
He stays home now to care for her or her memory.

Listen because I am trying to tell you something
very particular. His hands were skeletal.
He told me his secret heaven: columns of ivory,
sunflowers, no pain.

He told me his impossible desires:
hands dissolving into skirts,
evolving into snowy panties. And I dreamed
of him even in his presence.

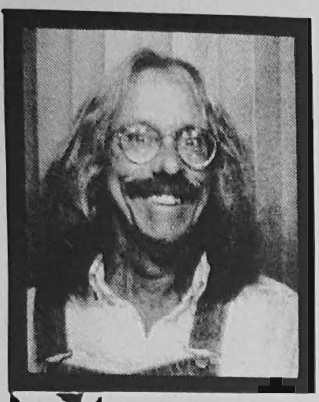
But then I think, not how much I like him,
but what a brilliant creation he is,
the slim shoulders, hollow mother,
winter garden, white underpants.

Do you not see what I mean?
I cannot see him,
cannot love him,
can only paint his picture.

This distancing of mine is but one branch
of a far-too-heavy cross, this tantalizing
pain;

My beautiful agony hangs in a distant grove.

Joele Renee Ashley
1947-1992



Floridata

by

John Starnes

This column is usually written by Sally Hassy, but she and Margaret Head splurged and flew to California to go binge shopping at Frederick's of Hollywood...I'm gonna feel like two Madonnas are on the staff. Besides, Sally was right in saying that since it was I who realized that Chinese-derived roses are great for Floridians, not her, I should write the article. So as those two slip in and out of black lace, I'll tell you of my botanical odyssey in Tampa, Florida, last winter, and of the serendipity and good fortune I enjoyed.

For years, one of my greatest joys in life has been plant identification, not in the dry, soul-less sense that was decried in the Zen-influenced 70's, ("to label something is to limit it") but as a way to better infer, then understand, the similarities in form, culture, and origin of related plants. For example, many Florida gardeners have tried valiantly to grow roses in the heat and humidity and sandy soil, only to lose them to an endless parade of fungus diseases. Even on rootstocks, like "Dr. Huey" or the fabled "Fortuniana", hybrid teas, Floribundas, climbers, and most polyanthas all succumb to pestilence. Use of toxic fungicides like Benomyl or Daconil then seem the only hope. But soon, the fungi are immune to these chemicals. But for all this century, a few Floridians have grown a charming pink rose known generically as "Cracker Rose"...no matter how hot and humid, how bad the soil, despite years of neglect at an abandoned home site, "Cracker Rose" stands tall and all year long sends up strong canes topped by loose clusters of lightly-fragrant, tea-form buds that open into cup-shaped 3" diameter flowers with up to 60 petals. Give it mulch, and good solid nutrition, however, and it performs magnificently. As an organic landscaper in Tampa,I used it in the yards of souls who'd given up on roses. Since the mid-70's I'd wondered why "Cracker Rose" thrived where all other roses would die at a glance.

In 1983 I gave samples of bud, blossom, new and mature growth of "Cracker Rose" to a representative of the Florida Rose Society...a few weeks later I was informed that all the Cracker Roses in Tampa were likely descended (via easily-rooted cuttings) from some roses sold on Mother's Day in 1932 by the then renowned "Holmes Nursery" north of town. They told me that the reddish new growth, flower structure, and incredible disease resistance indicated a genetic content of at least 50% Chinese rose, which originated in southern China and thus could tolerate the heat and humidity of Tampa. Oddly few people knew of it. And it only seemed to come in pink. But we few were thankful it even existed at all.

But while landscaping in Tampa in the winter of 1991, I began to suspect that other roses of Chinese origin might be found. This vague hope became a joyous detective story for my intellect due to a truly remarkable book I found at the tiny Odessa branch library..."Classic Roses" by Peter Beales. This Englishman is a GOD when it comes to roses and writes in a delightfully British manner. (Such as referring to a certain rose variety's blossoms as "somewhat vulgar"). His thick, colorful book opens with a history of the "modern rose", making it clear that the plant is the result of dedicated humans crossing, over and over, many differing rose SPECIES from several continents in a quest for improved form, color, fragrance, duration of bloom, and disease resistance. He then describes the basic classifications of human-made rose varieties...those labelled "Chinese" and "Tea Roses" (immediately derived from Chinese roses by European breeders in the 1800's) caught my eyes and mind, for a few of the photographs in that chapter were strongly reminiscent of "Cracker Rose". But it was Mr. Beale's historical comments that were so exciting. From them I re-affirmed that the European roses (Damask, Gallica, Cabbage-flowered, etc.) for all their fragrance and many-petalled splendor, nonetheless had for centuries bloomed only once a year... in the spring...their new growth is generally green, and their canes are VERY VERY thorny.

CRACKER ROSE

continued ->

But during those same centuries, growing wild in China (which had isolated itself from the world) was "Rosa chinensis", which carried the gene for REPEAT BLOOMING! (This characteristic is called "remontant flowering" by the true rosehead, I learned). This Chinese rose is unique in having reddish new growth, thorns that are flattened, downward curving, and relatively sparse, and in its remarkable resistance to heat, humidity, and thus fungal disease. In fact, its natural range extends down into Vietnam and the rest of S.E. Asia. So when China opened its doors to the world in the late 18th century, it shared a few specimens of various breeds of "Rosa chinensis" that had been hybridized in the Emperors' gardens over those centuries of isolation. First stop for them was India, where the red hybrid came to be known as "Bengal Red". By 1792 both it, and a pink form the Europeans called either "Parson's Pink" or "Monthly Rose" or "Old Blush" had made it to Europe...both were nearly legendary by that time. So I can just imagine Old World rose breeders salivating euphorically over this new breeding stock that bloomed repeatedly. They immediately began crossing these Chinese roses with damasks, etc. and soon had created the "Hybrid Perpetuals", which repeat-bloomed (sort of) but still required a cooler drier climate and a period of genuine winter dormancy. But other growers simply refined and expanded upon "Rosa chinensis" by crossing it with other Asian roses, or by just crossing the many differing varieties of chinensis that trickled out of China (the chinensis species is genetically unstable and is thus highly variable)...this resulted in the "Tea Roses", which Mr. Beales and others consider the direct ancestor of the modern "Hybrid Tea" rose, (which is often sadly vulnerable to blackspot fungus due to a decision by 19th breeders to cross Chinese roses with disease-prone Middle Eastern roses in their quest for the then-impossible color yellow). But as I read, then re-read, then re-read again the chapter on Rosa chinensis, then flipped to the encyclopedic, photograph-filled section set aside for "Chinensis" and "Tea Roses", a system for seeking out Chinese-derived roses easy to grow in Florida began to gel in my mind. For example, I remembered seeing and smelling a pinky-red rose with cupped petals and fine, white radiating striations in the centermost petals during the early 1980's called "Louise Phillipe" being sold grafted onto Fortuniana rootstock...I felt certain it was of Chinese origin, for it strongly resembled pictures of "Slater's Crimson China", a red species called "Rosa semperflorens". Europeans also called it "Old Crimson China" after it arrived in 1792. By 1834 it had apparently been used in France to breed "Louise Phillipe"! So it seemed I COULD correctly suspect the "Chineseness" of a rose. But good ole' Louise never seemed to do that well on fabled Fortuniana rootstock, so I began to wonder if it would do better on its own roots, like Cracker Rose. Soon after, I met Gus and Dottie Butler of Tampa after giving a presentation on organic landscaping to their Sertoma Club. Their invitation to visit their gardens sent me into a virtual intellectual cascade when I arrived, for there, thriving on their own roots, were HUGE "Louise Phillipes" the Butlers had propagated from cuttings. They also had the legendary "Red Cracker" rose us growers of the pink had long lusted for. But what blew me out of my socks was a magnificent 7 foot tall rose "tree" that not only bore 4"-5" diameter, fragrant yellow blooms with pink on the exterior of each petal, but was 100% THORNLESS! They got it as a cutting from plants that had been passed northward through Florida from Key West (my birthplace) after originating in Cuba. It's reddish unfolding leaves, flower form, and the Butlers' joy at its disease resistance convinced me that it too was of Chinese heritage. Mr. Beales' other book I read, "20th Century Roses", has a brief chapter that tells of mysterious roses of Chinese origin that were established in the Bermudas late in the 19th century, where they thrive in the tropical climate. He also spoke of a legendary "Park's Yellow Tea-Scented China" that left China in 1824...is that towering thornless wonder in the Butlers' back yard a descendent? It will be fun trying to find out.

By early spring 1992 my excitement could barely be contained, (I never thought I'd become a "rose head") for it seemed that each new week I encountered yet another old "Florida Rose" that seemed to be Chinese. While landscaping the home of Eugenie Foret and Jacob Trager of St. Petersburg, I spotted a red Chinese rose in the garden across the street. Through her thick eastern European accent, the elderly woman growing it told me she got it as a rooted cutting many years ago from a then old man. A week later, as I drove 2 blocks south of my fellow rosehead friend Cindy Hennessy's home, I found what I believe to be a "Slater's Crimson China" growing just 4 houses north of a home on Suwanee Street I'd rented in the 70's. I had an engaging conversation with the man who grew it with affection, saying it had been passed down through the years AS CUTTINGS since his family had settled in Florida in the late 1800's! Like the Butlers, he generously gave me many cuttings for my experiments...I felt virtually blessed

CONTINUED->

CRACKER ROSE

by this sudden flood of Chinese roses, like I was in some benevolent episode of "The Twilight Zone"! A week later, a decade-old rose mystery that had lingered at the back of my mind was solved, again due to serendipity.

In 1982 an elderly Cuban man gave me a tiny rooted cutting of a rose that he said had been smuggled out of Cuba by a friend who had hidden several canes in the lining of his coat before fleeing. In a few weeks it began taking off beside my trailer, so I built it a trellis using pipes and wire. Soon it began sending out an endless stream of charming, petite, very fragrant silvery pink blossoms grouped in clusters at the ends of long vigorous canes. Each tea-form high-centered bud would quickly open into a flattened, many-petalled blossom, with the crinkled center petals bearing a slight yellow flush. Nearly immune to blackspot,it soon became a huge mass up against the trailer. Each March I brutally cut it back; all my attempts to root those severed canes failed. Visiting friends were always charmed by the fragrant monster beside my front door, and when I moved to Denver in 1987 I thought I'd never see it again.

But beginning in the winter of 1990, I began caring for the condominium gardens of Flonnie Grant, mother of Senator John Grant, as I did winter landscaping in Tampa. That winter she entrusted to my care a tiny rooted rose cutting she called a "polyantha" or "Sweetheart Rose" she'd grown as a young woman in Tampa in the 1930's. She hadn't seen it since selling the family property decades ago; but a few months prior she spotted one branch of it in a bouquet and asked the person if she could have it to try to root it. Flonnie has been gardening for 6 decades, so for her IT ROOTED, without rooting hormones, no less! So I was honored when it became my ward in her front garden. A few months later it was 4 feet high and started to bloom... it was my old "Cuban Rose"! When I looked at it in the new light of my quest for Chinese-derived roses, I saw the reddish new growth, the sparse, flattened downward-curving thorns, the repeat blooming factor, and the remarkable disease resistance and was convinced. I felt sure I found it in both of Mr. Beales' books under the names "Cecile Brunner" or "Maltese Rose" or "Sweetheart Rose". I excitedly called Flonnie, and as soon as I said "Cecile Brunner" she cried out "That's it!"....she hadn't heard that name for decades. As Mr. Beales mentioned, she said it was a favorite lapel rose in her day, and that she used clusters of the tiny flowers and lace to make Easter Bouquets for the girls at Sunday school. Both of Mr. Beales' books said that it was developed in 1881 by crossing an unknown polyantha with a Chinese-derived hybrid called "Madame de Tartas". It's coquina shell-pink petals had been one of my favorite herbal teas for years, and at last I knew why it grew so well in Tampa. Further research here in Denver has now convinced me that both Flonnie's and my roses were (and are) actually a climbing "sport" (mutation) of "Cecile Brunner" more appropriately called "Bloomfield Abundance" or "Spray Cecile Brunner" released in 1941, for the original Cecile Brunner was a very small dwarf. So when, in the winter of 1991, I gave Flonnie's "CB" the hard late-winter cut back that Chinese roses love in Tampa, she told me to take the canes and try to root them, so there would be more than just one bush...two of them rooted! Just before I migrated back to Denver, my friend Mike Valdez and his mate Patty Carr hired me to plant posies beside their driveway, and in went "Bloomfield Abundance", a big "Cracker Rose", the Butler's rooted "Red Cracker" they gave me, a rooted "Louise Phillipe" from another Sertoma member. And my friends Mark Scaglione and Gianna Russo volunteered their fishpond garden I'd made them the previous winter as safe haven for the unrooted cuttings I had of "Red Cracker", "Slater's Crimson China", "Louise Phillipe", and the Butlers' yellow thornless wonder. And all those neat rose people said I was welcome to more cuttings during my next winter in Tampa, in case these first ones did not take...it seems that most gardeners are inherently generous with their living treasures.

Here in Denver the adventure continues...in rose books I've found several hopeful-for-Florida roses from the 19th century...if they still exist, tracking them down will be a whole new adventure...here are some of my rose lusts in case you wish to find them for yourself: China roses-"Hermosa" (1840),"Old Blush" (1792),"Sophie's Perpetual",& "Comtesse du Cayla" Tea Roses- "Dr. Grill" (1886),"Perle des Jardins" (1874), "The Bride" (1885), "Madame Bravy" (1846), "Madame Lombard" (1878), "Souvenir d'un Ami" (1846), & "Solfaterre" (1843) plus "Rival de Paestum (1863) & "Marie van Houtte" (1871). Happy Hunting!

BAD NEWS

Due to industrial chlorofluorocarbons (CFC's) entering the atmosphere, a 10% reduction of the protective ozone layer is expected before the end of the decade. This may result in an additional 300,000 cases of skin cancer, and 1.75 million cataracts PER YEAR, while also reducing the yields of certain food crops.
United Nations Study

In the last 50 years, 45% of Britain's forest cover has been destroyed.
Associated Press

Due to human activities like development and poor farming techniques, three fourths of the world's bird species,plus hundreds of species of other animals AND plants are threatened. "An unprecedented biological collapse has begun worldwide, and only unprecedented effort will curtail the massive wave of extinctions".
Worldwatch Institute

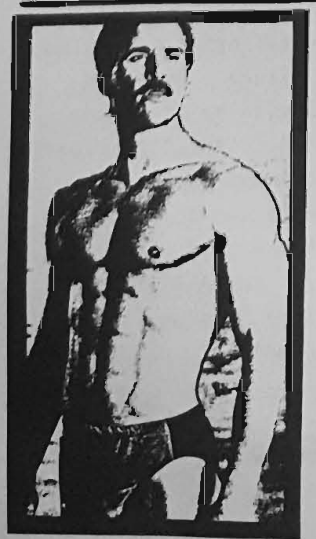
Potent herbicides like alachlor, metolachlor, and atrazine, all suspected human carcinogens, have been detected in the RAIN throughout the northeastern and midwestern U.S., with the highest levels being found in the rain falling on Nebraska, Illinois, Kansas, Iowa, and Indiana. **Donald Goolsby, U.S. Geological Survey**

In the years since World War II, over 3 billion acres of agricultural land - an area bigger than India and China COMBINED - has been so damaged as to require reclamation efforts either very costly to implement or not likely to heal the land. 22 million acres no longer supports vegetation at all. 24 BILLION tons of topsoil are now lost annually.
Science News April 4, 1992

Officials in Florida have begun a study to determine the origin of a highly-acidic mist that has turned up to 20% of the leaves on citrus trees in the Tampa Bay area brown and dead. Resembling freeze damage, the acid burns occur after the heavy fogs that come to central Florida each winter.
Rocky Mountain News

Once the population of prehistoric humans in North America exceeded 12 million, it only took a few decades for them to render extinct the great mammoths, which once ranged over the continent in great herds.
Cambridge archeologist Steven Mithen in
New Scientist magazine

"You're going to be dead for a very long time, so just enjoy life!"
Janet Burgdorfer



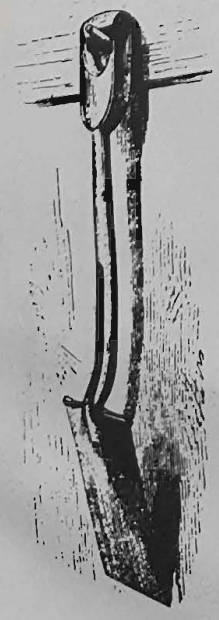
GREGORY PECS EZ:

Many of us find a tanned, in-shape physique a fine thing to behold and hold. But with the ozone layer above us thinning as I speak, skin cancer is something us tanning freaks should think about. Health food stores sell sunless tanning creams made from the unripe husks of walnuts or pecans, which contain a natural rich brown dye that stains the skin. Make your own by harvesting the green nuts in early summer, smashing them with a hammer, then boiling them in a stainless steel or enamelled pot till you have a coffee-colored liquid. Test some on an obscure patch of skin. Make the right shade, smear it all over, wait an hour, then shower. Freeze up some of the dye for winter use. You'll be the tannest jock on the block! Yo!

"Victory is no longer a truth. It is only a word to describe who is left alive in the ruins."
Lyndon Baines Johnson

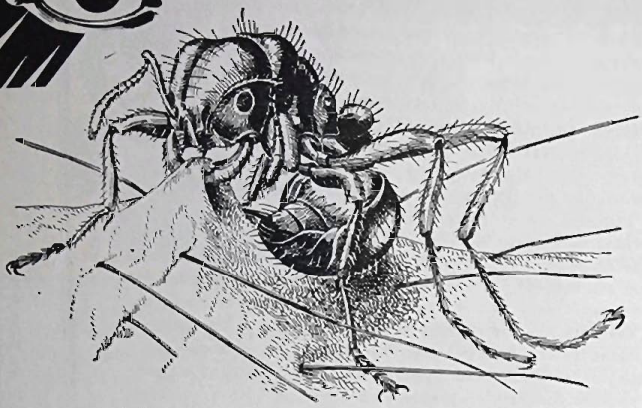
As our gardens progress into summer, different tasks and opportunities await us, depending upon where we live.

In the great bulk of North America, where snows comes each winter, summer is the time of peak growth for most annuals and perennials, be they flower or food plants. The organic gardener is thus wise to respond by feeding the soil that nourishes the living mantle above it. Tall, rapid-growing annuals like corn, sunflowers, okra, and sorghum especially need nitrogen, so non-vegetarians can use either "Alaska Fish Emulsion" (5-1-1), or guano (12-8-3), or blood meal (15-1-1), or feather meal (12-0-0), or leather dust (10-0-0). Vegetarian gardeners can choose from cottonseed meal (8-4-3), or castor pomace (5-1-1), or freshly-cut organic grass clippings applied 4 inches thick all over the garden, then watered deeply to rinse out the nutrient-rich juice. Elevated summer temperatures will accelerate the loss of soil moisture via evaporation, so keeping both food and flower gardens mulched with at least 4 inches of vegetative materials will help to keep the soil both cool and moist while providing food and habitat for the beneficial soil organisms that are the ultimate source of true soil fertility. If you are comfortable with commercially produced hay or straw (alfalfa has the highest protein content, which translates into nitrogen when decomposed), use that all over the garden. Alfalfa pellets or alfalfa horse cubes are especially esthetic for the flower garden, lending a neat manicured look once they are watered down and thus swell and break up into a uniform layer on the soil. (Be sure that alfalfa pellets are free of the antibiotics like tetracycline, or the controversial animal food preservative ethoxyquin...also be sure to not mass the pellets at the base of each plant, for it can get hot as it breaks down and cook the stem!). Other mulch materials include freshly-cut sweet clover, alfalfa, millet, red clover,or other locally available plant tissues. This is the time of year when pest organisms can thrive, especially in newer gardens that have not yet reached a biological balance....thus it's a good idea tointroduce beneficial predatory organisms like Bacillus thuringiensis (kills caterpillars, like corn earworm and tomato hornworm), Bacillus thuringiensis var."San Diego" (kills elm leaf beetles and Colorado Potato Beetle), trichogramma wasps (which don't sting humans but kill many pest insects), praying mantis, predatory nematodes, toads, lizards, predatory mites, plus the usual step of using an elevated bird bath in the center of the garden to lure in insect-eating birds, which prefer the mild-tasting herbivorous insects to the nasty-tasting predatory ones. If it fails to rain, you can use an oscillating sprinkler to duplicate the downward fall of rain....a four hour watering generally gives the garden the ideal of 1 inch of water weekly.....water in the early morning or at dusk to reduce losses to aerial evaporation. This is also the time of year to remove spent blossoms from annual and perennial flowers ("dead-heading") to encourage further blooming. Some temperate-climate gardeners use the month of July to sow cool-weather crops that will hopefully mature in the fall before the freezes come. Brassicas, lettuce, peas, chard and root crops are candidates, as are biennial flowers like Sweet William, foxglove, and Hesperis matronalis.

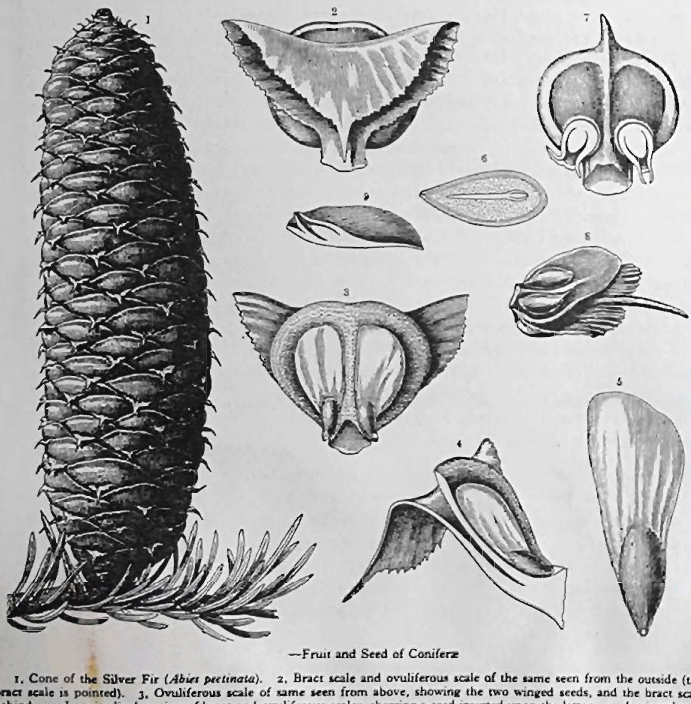


Gardeners living in hot, humid, subtropical and tropical areas should also feed their soil, then mulch it with hay, banana and canna leaves, palm fronds, rinsed seaweed or any available leafy materials. A pinch of Bacillus thuringiensis var. "Israeliensis" in the centers of bromelliads will keep mosquitoes from breeding there. Cut big bouquets of your tropical flowers, and add hibiscus petals to salads, or brew them into colorful iced teas.

Wherever you live and garden, be sure to occasionally retreat to the shade of your favorite tree and just be.

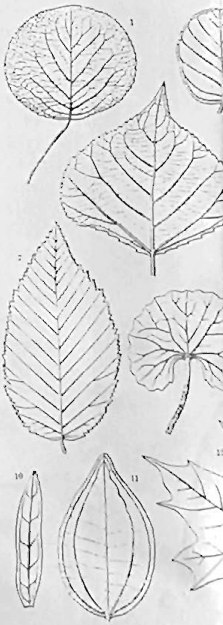


A Fire Ant (Solenopsis spp.) biting and stinging human skin.



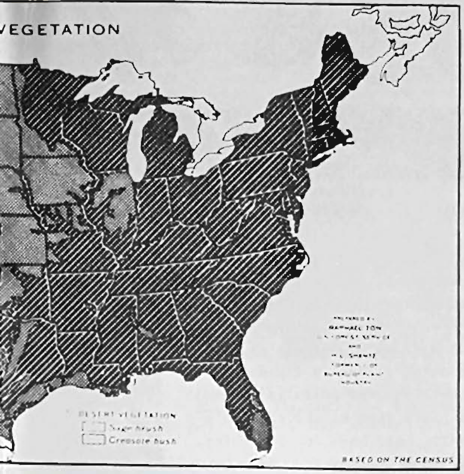
—Fruit and Seed of Coniferæ

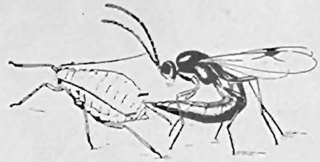
1. Cone of the Silver Fir (*Abies pectinata*). 2. Bract scale and ovuliferous scale of the same seen from the outside (the bract scale is pointed). 3. Ovuliferous scale of same seen from above, showing the two winged seeds, and the bract scale behind. 4. Longitudinal section of bract and ovuliferous scales, showing a seed inserted upon the latter. 5. A winged seed of the same. 6. Longitudinal section of the seed. 7. Ovuliferous scale of the Scotch Pine (*Pinus sylvestris*) seen from above. It bears two ovules. 8. Single ovuliferous scale of Larch (*Larix europæa*) showing two ovules on its surface and bract scale (with bristle) below it. 9. Longitudinal section of the ovuliferous scale of the Larch.



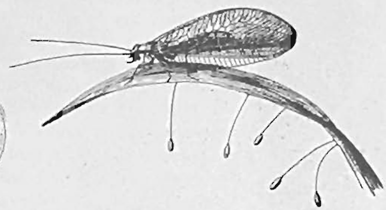
—Arrangement of Strands in th

5 Reticulate (*Pyrus communis*). 8 Looped (*Rhamnus*
strands much stronger than the others (*Loasa*
strands, ending in the incisions of the crenate
projecting teeth of the margin (*Ostrya*). 6 Retic
peltate leaf (*Hydrocotyle vulgaris*). 10 Looped (
and undivided (*Aloe plicatilis*). 12 Looped (*Asp*





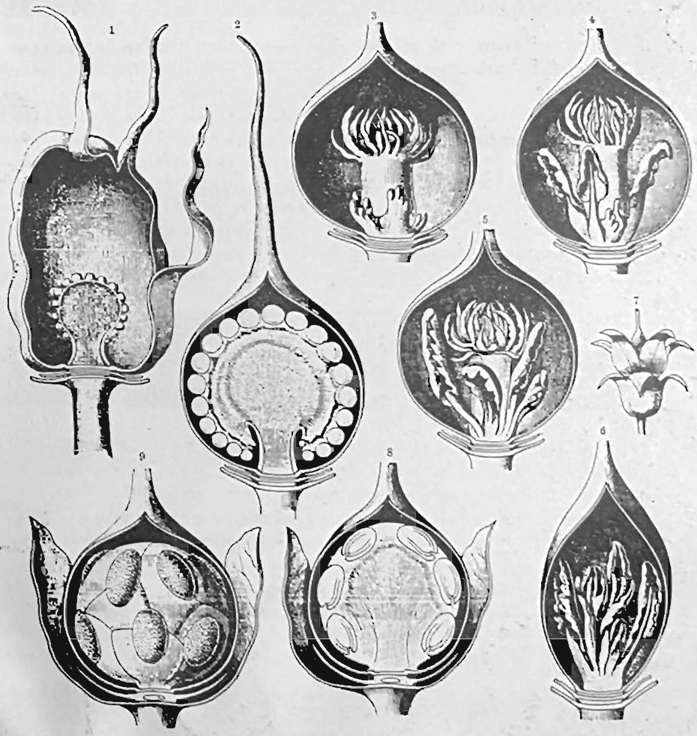
Lysiphlebus testaceipes ovipositing in an aphid.



Trichogramma minutum female stinging a moth egg and placing its own egg within it.

e blades of Foliage-leaves. Forms with one main strand.

Wulfenii). [1] Arched (Cornus mas). [3] Arched: the two lowest lateral Camphora). [5] Reticulate-pinnate (Populus pyramidalis). [6] Undivided leaf margin (Rhinanthus). [7] Undivided strands, terminating in the culate (Hydrocotyle asiatica). [9] Reticulate strands in the blade of a Myosotis palustris). [11] Arched (Phyllagathis rotundifolia). [12] Radiate gens).



Antholysis and Structure of the Ovary.

Longitudinal sections of the ovaries of "monstrous" flowers of *Primula japonica*; the outer carpels form the ovarian cavity and are destitute of ovules; the inner carpels show all transitions between ovuliferous cushions, concrescent with the extremity of the axis, and isolated leaf-structures, the marginal teeth of which correspond to ovules. [7] A single "monstrous" flower of *Primula japonica*. [8] Longitudinal section through the ovary of *Glaux maritima*. [9] View into the ovary of same after removal of the front wall.



SEEDS



On the blank side of your seed packet with 1 GREEN QUINOA LEAF-JUICE FINGERPRINT write: **"Quinoa"**. This member of the huge Chenopodium (Goosefoot) Family was grown centuries ago in the cool, dry, high-altitude regions of South America, where it is native. Related to Orach, Good King Henry, and Lamb's Quarters, (their leaves are eaten as cooked greens), Quinoa also offers edible seeds, which are now being re-discovered as a "new" grain. The outer layers of each seed contain much saponin, a bitter-tasting soapy compound, so the harvested seeds must be vigorously rinsed before using. In snowy winter regions, quinoa may be planted either in the early spring or late the preceding autumn; in mild winter areas, sow the seeds in December. The plants get up to 3 feet high and 2 feet across, so space them accordingly in a full sun location. Yellow,ripe seed heads may be cut into paper bags for threshing.

On the blank side of your seed packet with 2 GREEN QUINOA LEAF-JUICE FINGERPRINTS write: **"Blue Flax"** (Linum perenne). Native to the drier western half of North America, this sky-blue wildflower is related to the annual flax plant that gives us linen fabric, linseed oil, and edible flaxseed. Perennial blue flax is a tough and reliable perennial in snowy-winter regions; sow the seeds in spring and summer there. In mild winter regions it may perform as a weak perennial; sow the seeds in early winter in Florida, St. Croix, and other snow-free areas. This species of flax likes full sun, and thrives in dry, infertile soils, hence its usefulness in xeriscapes. If given good, rich soil, and some supplemental watering. however, it is spectacular at sunrise with hundreds of delicate, blue flowers...there is a white version, too. Perennial flax reseeds itself easily wherever the ground freezes each winter.

On the blank side of your seed packet with 3 GREEN QUINOA LEAF-JUICE FINGERPRINTS write: **"Foxtail Millet"** (Setaria italica). This fast-growing relative of rice, corn, wheat, barley, oats and rye contains more amino acids than any of those familiar grains. Thought of as a hay or birdseed plant in the U.S., the various millets have been staple human grains for centuries on other continents. In snowy-winter regions, millet can be sown about ½ inch deep in rich soil in a full sun location in late spring or early summer; in mild climate regions mid winter is best so as to avoid intense heat and/or high humidity.Space the plants about 6"-8" apart either in rows or in block plantings. When the seed heads begin to yellow, harvest them, tie into bundles and let dry for a few weeks. After handthreshing the seeds, use as any grain.

ALWAYS store your seeds in the meat or produce drawer of your refrigerator, NOT a kitchen or garage shelf...Cool temperatures and stable humidity will keep seeds viable for many years.

All green plants contain vitamins, minerals and trace elements from infinitesimal to plentiful proportions. Seaweeds are a far richer source of iodine than any land grown plant. The root of a common wayside weed (Yellow Dock) offers one of the plant world's richest source of plant-iron. Farmers in the United States grow more than 16 million acres of Alfalfa because of the variety and abundance of natural vitamins, mineral and trace elements found in this plant.

MINERALS

All life on earth depends upon the transformation by plants, of the inorganic earth minerals to organic plant minerals. Inorganic substances may disturb the proper functioning of the organs of assimilation and elimination. Organic substances, however, such as are found only in plants are easily and quickly assimilated and do not as a rule disturb the system .

The following plants are richer in such organic salts, than many other known botanicals. Botanicals marked with an asterisk (*) are reputed to be exceptionally rich in the element under which the botanical is listed.

CALCIUM: Needed for the formation of good teeth and strong bones. Children need calcium if bones and teeth are to grow strong and well formed. Both men and women need adequate amount of calcium every day. During periods of pregnancy and lactation, women require much more calcium than normally, as they must furnish calcium for the baby.

Botanical sources: *Arrow root; *Carrageen; Chamomile; Chives; Cleavers; Coltsfoot; Dandelion root; Flaxseed; Horsetail grass; Meadow Sweet; Mistletoe; Nettle; *Okra pods; Pimpernel; Plantain; Rest Harrow; Shepherd's Purse; Silverweed; Sorrel; Toad Flax.

CHLORINE: Present in salt as sodium chloride.

Botanical sources: All plants contain more or less Chlorine in the form of Sodium Chloride.

FLUORINE: Botanical sources—Garlic; Watercress.

IODINE: Essential mineral for thyroid gland. Lack may cause simple goitre.

Botanical sources: *Bladderwrack; *Dulse; Iceland Moss; Irish Moss; *Kelp.

IRON: Most important of the blood salts; the vehicle of oxygen in the blood. Gives vitality, builds red blood cells. Lack may cause blood-iron deficiency, paleness, rundown weakened condition.

Botanical sources: Burdock root; Devils Bit; Hydrocotyle Asiatica; Meadow Sweet; Mullein leaves; Parsley; Rest Harrow; Salep; Silverweed; Stinging Nettle; Strawberry leaves; Toad Flax; *Watercress; *Yellow dock.

MAGNESIUM: Naturally present in body.

Botanical sources: *Bladderwrack; Black Willow bark; Broom tops; Carrot leaves; Devils Bit; Dulse; Dandelion herb; Hydrocotyle Asiatica; Kale; *Kelp; Meadow Sweet; Mistletoe; Mullein leaves; Okra; Parsley; Peppermint; Primrose; Rest Harrow; Silverweed; Skunk Cabbage; Toad Flax; Walnut leaves; Watercress; Wintergreen.

PHOSPHORUS: Essential mineral needed for bones and teeth.
All seeds and many fruits have a small percentage of phosphorus.

Botanical sources: *Calamus; Caraway seeds; Chickweed; *Garlic; Licorice root; Marigold flowers; *Meadow Sweet flowers; *Okra pods; Sesame; Sorrel; Watercress.

POTASSIUM: Naturally present in body.
Nearly all vegetables and legumes are well supplied with Potassium.

Botanical sources: American Centaury; Birch bark; Borage; Calamus; Carrageen; Carrot leaves; Chamomile flowers (German); Coltsfoot; Comfrey; Dandelion; Eyebright; Fennel; Mistletoe; Mullein; Nettle leaves; Oak bark; Parsley; Peppermint; Plantain leaves; Primrose flowers; Sanicle; Summer Savory; Walnut leaves; Watercress; Waywort; Yarrow.

SILICON: Naturally present in body. Is found in all plants and plant foods. However, Horsetail Grass is probably the richest source in the entire kingdom. This plant is one of the few surviving plants that grew on earth some 280 million years ago.

SODIUM: The largest source is sodium chloride or table salt.

Botanical sources: Black Willow; *Carrageen; Chives; Cleavers; Devils Bit; Fennel seed; Meadow Sweet; Mistletoe; Nettle; Okra Pods; Rest Harrow; Shepherd's Purse; Sorrel; Stinging Nettle; Watercress; *Waywort.

SULPHUR: Naturally present in body.

Botanical sources: *Asafoetida; Broom Tops; Calamus; *Carrageen, or Irish Moss; Coltsfoot; Eyebright; Fennel seed; *Garlic; Meadow Sweet; Mullein; Okra; Pimpernel; Plantain leaves; Rest Harrow; Scouring Rush; Shepherd's Purse; Silverweed; Stinging Nettle; Watercress; Waywort.

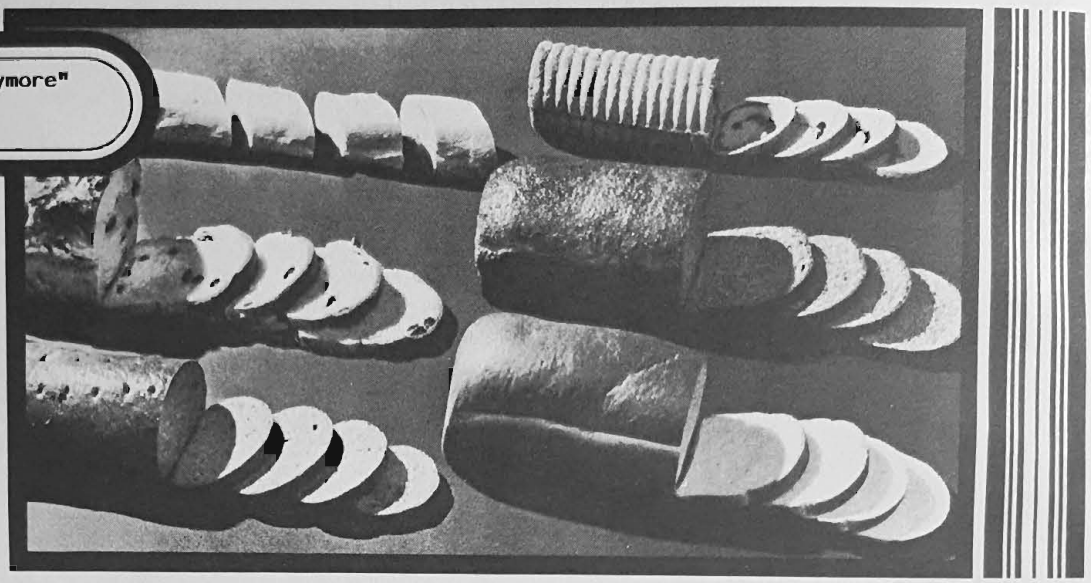
Lavender.

Lavandula spica. NATURAL ORDER: *Labiate—Mint Family.*

EUROPE produces immense fields of Lavender, grown for the sake of the flowers, from which is obtained the perfume that is sold by all druggists and perfumers. It has a very pleasant, agreeable odor. The Latin word from which it is derived is *lavare*, to bathe, and brings to mind the marble baths of the early Greeks and Romans, when the most exquisite of sculpture, the most beautiful productions of art and nature, were gathered together for their adornment, and flowers and spices were rifled of their sweets to add to the sumptuousness and luxuriousness of their ablutions. It is a perennial of easy culture, about eighteen inches high, delightfully aromatic, and bears purple flowers. The oil possesses tonic and stimulative properties, and is used in medicine.

"You don't bring me flour anymore"

by BARBARA STRIDENT



There's a place for us to create colorful and healthy "flours" from garden produce; it's the kitchen and our blender, plus our food dryer or food drying racks if we live in a dry climate. Neighbors think I'm a funny girl for hanging mustard and spinach leaves on my clothes line, or for setting out screen trays bearing thin layers of veggies that have been blanched in the sun and fresh air to dry, but at that point I'm only halfway there. For once these homegrown goodies are dry and brittle, I buzz them in my blender until I have a coarse "flour" which I then store in jars in a dark, cool cupboard. Why?

One use is to create fine winter soups of varying flavors depending on which flour is used. I also use them to thicken and flavor gravies and sauces. Powdered dried red chard leaves improve the color, taste and texture of spaghetti sauce while sneaking in some vitamins and fiber. Vegetable flours, especially the bulky, starchy ones like pumpkin, zucchini, or plantain flour, are fabulous added to bread and biscuit dough, pancake and muffin batters, and once again offer new tastes in familiar dishes while being a covert source of nutrition. Sweet potato or carrot flour can be a way to sneak some vitamin A and carotene into a finicky eater if added to meat loaf or a casserole.

Lastly, dried fruits can make tasty flours, too. Add them to yogurt for a tasty, low-fat spread, or brew into hot winter teas. Grind away!

Vegetable	Preparation	Blanching Time* (mins.) Steam	Water	Dryness test**
Asparagus	Wash thoroughly. Halve large tips.	4-6	4-5	Leathery to brittle
Beans, green	Wash. Cut in pieces or strips.	2-3	2	Very dry, brittle
Beets	Cook as usual. Cool, peel. Cut into shoestring strips ⅛" thick.	Included in cooking.		Brittle, dark red
Broccoli	Trim, cut as for serving. Wash. Quarter stalks lengthwise.	3-4	2	Crisp, brittle
Brussels sprouts	Cut in half lengthwise through stem.	7-8	5-6	Tough to brittle
Cabbage	Remove outer leaves, quarter and core. Cut into strips ⅛" thick.	3	2	Crisp, brittle
Carrots, parsnips	Use only crisp, tender vegetables. Wash. Cut off roots and tops; peel. Cut in slices or strips ⅛" thick.	3-4	4	Tough to brittle
Cauliflower	Prepare as for serving.	5-6	4-5	Tough to brittle
Celery	Trim stalks. Wash stalks and leaves thoroughly. Slice stalks.	2-3	2-3	Very brittle
Chili peppers, green	Wash. To loosen skins, cut slit in skin, then rotate over flame 6 to 8 minutes or scald in boiling water. Peel and split pods. Remove seeds and stem. (Wear gloves if necessary.)	None	None	Crisp, brittle, medium green
Chili peppers, red	Wash. String whole pods together with needle and cord or suspend in bunches, root side up in area with good air circulation.	None	None	Shrunken, dark red pods, flexible
Corn-on-the-cob	Husk, trim, blanch until milk in corn is set.	3-5	3	Brittle
Corn, cut	Prepare as for corn on the cob, except cut the kernels from the cob after blanching.	3-5	3	Brittle
Eggplant	Wash, trim, cut into ¼" slices.	3-4	3-4	Leathery to brittle
Horseradish	Wash, remove small rootlets and stubs. Peel or scrape roots. Grate.	None	None	Brittle, powdery
Mushrooms Warning: (see below)	Scrub. Discard tough, woody stalks. Slice tender stalks ¼" thick. Peel large mushrooms, slice. Leave small mushrooms whole.	None	None	Dry and leathery
Onions	Wash, remove outer "paper shells." Remove tops and root ends, slice ⅛ to ¼" thick.	None	None	Very brittle
Parsley and other herbs	Wash thoroughly. Separate clusters. Discard long or tough stems. Dry on trays or hang in bundles in area with good circulation.	None	None	Flaky
Peas	Shell.	3-4	3	Hard, wrinkled, green
Peppers and pimientos	Wash, stem. Remove core and seeds. Cut into ¼- to ½-inch strips or rings.	None	None	Tough to brittle
Potatoes	Wash, peel. Cut into ¼" shoe-string strips or ⅛" thick slices.	7-9	6-7	Brittle
Spinach and other greens (kale, chard, mustard)	Trim and wash very thoroughly. Shake or pat dry to remove excess moisture.	2-3 (until wilted)	2	Crisp
Squash, winter	Cut or break into pieces. Remove seeds and cavity pulp. Cut into 1" wide strips. Peel rind. Cut strips crosswise into pieces about ⅛" thick.	3	1-2	Tough to brittle
Squash, summer or banana	Wash, trim, cut into ¼" slices.	3	1-2	Leathery to brittle
Tomatoes	Steam or dip in boiling water to loosen skins. Chill in cold water. Peel. Slice ½" thick or cut in ¾" sections.	None	None	Crisp

*Blanching times are for 3,000 to 5,000 feet. Times will be slightly longer at higher altitudes, or if the quantity of vegetable is large.

**Dry in thin layers on trays to desired state of dryness.

***WARNING: The toxins of poisonous varieties of mushrooms are not destroyed by drying or by cooking. Only an expert can differentiate between poisonous and edible varieties.

SHARING SECRETS

Empty 35 mm film containers make excellent seed-saving containers: they are waterproof, and the tight-fitting lids make for an airtight seal. A 1"-2" strip of white medical tape applied to the side of each film container provides a fine place to use a pen to record the name of the seed, date of harvest, etc.

Hens need frequent dust baths to keep mites out of their feathers. An old wash tub or similar container filled with cold wood ashes is the perfect "dust bath" material. And since it is rich in potash and trace elements, it is a fine thing for the chickens to work into the valuable organic litter that accumulates in the hen house for later incorporation into your soil.

To keep fine-textured potting soil mixes from being rinsed out of the drainage hole, cut a circular patch of fabric out of an old skirt, shirt, pair of blue jeans, etc., and place it at the bottom of the empty pot. Then add a few inches of hay, dried grass clippings, leaf mold, etc., THEN add your sifted compost. This multi-layered soil mix will not only NOT leak out of the pot, it will be biologically active as the bottom layer decays.

For an easy drip irrigation system based on recycling, just save up those 2 gallon water jugs with a little spigot at one end. Cut out a 1 inch diameter hole at the top for easy refilling with a hose, then set the filled jug next to seedlings, etc., and barely pull out the spigot...just enough to allow for a slow drip. If you wish, you can periodically add fish emulsion, manure tea, etc., to the jug for slow, gentle feedings.

To create your own "wall of water" to protect tomato and other tender plants from early spring frosts, just take a number of the 2 gallon water jugs mentioned above, fill them with the spigot closed, and stack them around each plant. Being transparent, they will admit light to the seedlings, and stacked in this manner they will create a multi-gallon solar mass around each plant for greater heat retention each evening.

Try planting low-growing legumes beneath and between your corn, wheat, sorghum, or spelt to create a "second tier" of plant life that will add nitrogen to the soil to replace that taken up by the grain crops. This will also create a very nutritious and pleasant forage for chickens who might be a part of your home ecology, for they will not only nibble the protein rich clover, but also insects. Plus they will poop as they eat, further feeding the soil. This second tier can be a food producer like soybeans, lentils, garbanzos, bush beans, or black eye peas, or a groundcover legume like white or red clover, or annual vetch or bird's foot trefoil.

Sweaty,dirty shirts "ripe" with B.O. can be placed around the garden as a possible deterrent to deer and racoons.

Organic gardeners ultimately rely on microorganisms to create fertility and to control many pest organisms. "Ringer Lawn Restore" is an effective way to purchase 6 valuable microcritters (5 bacteria & 1 actinomycetes) to either begin or to balance out a biocommunity on your property. And even though the product bears the word "Lawn" in its name, it is an excellent innoculant of these organisms for the vegetable and perennials gardens. Vegetarians should note that "Ringer Lawn Restore" contains slaughterhouse by-products.

Boiled linseed oil from the hardware store is a fine, natural preservative for wood surfaces exposed to the elements. Benches, rake and shovels handles, birdhouses, etc. all benefit from an annual application of boiled linseed oil (extracted from the flax seed) thinned with a bit of turpentine.

To keep blackbirds from tearing open ripening ears of corn, wrap a rubber band around the tip of each ear just as the silks start to brown. The bands slip on quickly and keep the birds from easily pilfering the corn.

To deodorize your car on hot stuffy days, stuff a sock with fresh mint, knot it, and tuck it beneath your car seat. Twist it to renew the scent.

COSTA RICA

by

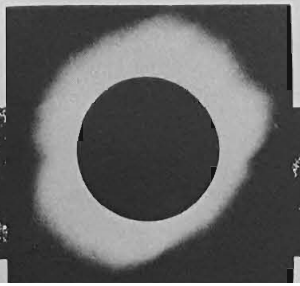
John Starnes

Part III

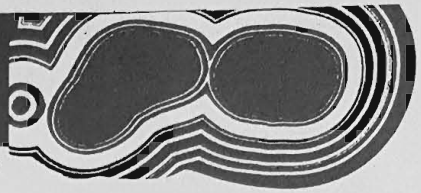
In the last issue, this Costa Rica travelogue closed with the total solar eclipse of 1991 moments away... I was sitting in the Plaza of Democracy in downtown San Jose with Anna and Fokko of Holland, whom I had met shortly before. Like me, they had not known of the eclipse when planning their trip, and so we felt incredibly lucky at just happening to be in this beautiful tropical country when the century's longest and best total solar eclipse was going to be seen there. The three of us got acquainted as we took turns using my diopter lense and their portable binoculars to project images of the early stages of the eclipse onto paper...they were warm likable people hitch-hiking their way through the Americas. At first, there was no apparent darkening of the sky, even when our projected images revealed that the moon had covered more than 25% of the sun. Pedestrians continued pouring into the plaza, talking excitedly, pointing at the sun, many peering at it through assorted filters, some homemade, some sold by inventive street vendors. But soon we could all feel darkness descending RAPIDLY, second by second, and not just on one side of the sky as during a normal sunset, but all 360 degrees at once...this had a powerful emotional effect on everyone present it seemed. Traffic came to a standstill in the streets, just like in those 50's science fiction movies...people stood outside their cars in the street and looked skyward. Street lights came on, and suddenly flocks of birds fled the city for the eerily darkening mountains. The usually noisy capital city was nearly silent as everyone everywhere breathlessly watched a huge storm cloud approach the near-total eclipse. There was a giant, collective city-wide groan as the cloud obscured the haunting sight above us. For the next minute or so, San Jose got even darker...goosebumps swarmed over me as stars came out at 1:30 in the afternoon....the Costa Rican man next to me sweeped his arms over himself as he too got goosebumps. Almost no one spoke during those agonizing seconds of staring at the cloud, hoping for an opening that would offer us even a glimpse of the eclipse. Suddenly, a great gap appeared, revealing a starkly beautiful black hole in the sky..the sun's shimmering corona was plainly visible. Tears filled my eyes, and I saw many others wiping tears away, too.I swear the entire city shouted and clapped and laughed in unison as the startling vision appeared...gratitude and awe swept through us in a shared singularity of emotion I could never adequately describe.

Anna and Fokko and I looked at each other, then back up just as the storm cloud re-swallowed that incredible sight floating in the starry sky above us. But seconds later the clouds broke again, and again the city cheered as countless cameras, including mine and Anna's, clicked away in the darkness. Totality lasted 5 wonderful minutes, and it was easy and safe to look directly at the eclipse. But soon many of us noticed a VERY odd orange wall of light in the distance northwest of the city...it seemed to be rapidly approaching. As soon as it was readily apparent that it WAS headed our way, it swept a tide of daylight first over the mountains, then us, and just like that totality was over. That orange wall of light had been the backside of the moon's shadow speeding southeast over Central America! As daylight quickly returned to normal, the three of us, plus a man from California who had joined us, excitedly conversed about the miracle we had just lived through...we all agreed that none of us had anticipated that a celestial event would so profoundly and powerfully affect our emotions, evoking feelings seemingly reserved just for those few precious moments of our lives. The dance of the planets had blessed our hearts with magic, but we CLEARLY understood why ancient peoples would have been terrified by a total solar eclipse. We all bid goodbye and parted ways, and I plucked a monstrous targua leaf as I left the plaza, and began my search for a high-quality xerox machine in that Third World city in hopes of using that leaf pattern on a future cover of THE GARDEN DOCTOR. On the way back "home" to my cheery little hotel room, I bought some pejibayes to snack on, and visited the Neotropica Foundation, which seeks to preserve what remains of Costa Rica's rainforests. A friendly young woman there not only gave me a tour of the compound, but also passed on some tips on avoiding pickpockets and scam artists in that seedy part of town where I stayed...she felt I was a bit TOO trusting.

Next issue: Discovering paradise on the Pacific Coast at Manuel Antonio.



READERS DIGESTED



Dear John:
I love THE GARDEN DOCTOR. What a great job you are doing. Your Costa Rica saga is so much fun to read, it brings back memories of my many years of travel through the southern hemisphere. I admire the dedication and commitment that soaks every page! Say hi to your chickens for me.
Anne Lathrop, Lebanon, CT

Dear John:
Thanks for some truly exquisite and heartfelt editorials. You share so much of yourself... Anyway - Here's my overdue postage payment - (I thought I mailed it) * and a renewal. And thanks again for your wonderful work. With love, **Dionne Pia, Southport CT**

John,
Thanks for making such an interesting magazine. TGD makes the perfect gift! Plan to receive more requests from us in the future. Have a great Spring/Summer! We miss you!
Love, **Patty Carr, Tampa, FL**

Dear John,
Somehow, renewing my sub to the G.D. seems like renewing a personal commitment to be gentle, aware, frugal (but only in terms of money), sometimes goofy, intelligently critical (but still hopeful) about The Big World, and connected with all of life, (just like the G.D.) for another two years--or at least to aim myself in that direction.
Thanks again for your efforts on our behalf. I bet spring in Denver will be gorgeous this year- after reading about your seasonal migration. I thought about our major sighting this week of a large green parrot sitting, according to my friend, in our oak tree in Mill Valley, in the middle of Redwood country....just like you with your forest and tropical aspects-- it's good to be able to do both....Anyway, best wishes - I'm thinking about the chin-up pole as a possibility.
Sue Burrell, Mill Valley, CA

Dear Doc,
Is there a way/place to buy those nifty vinegar-based color felt-tipped markers you use? Thanx. **Vikki Johnson, Elbert, CO**
(Hi Vikki... Over the last 4½ years I've purchased 2 sets of Crayola Washable Markers; I use my molar teeth to pull off the tube's cap, pour in a blend of vinegar & food coloring, then pop the cap back in. Years of use from just 2 sets of markers; years to go! Thanks for asking. John)

Thanks for all your wacky news!
Blake Forrest, Big Sur, CA

Dear John -
Thanks for the magazine, which is always a big treat. By the way - I do plant your seeds and they do grow. Have enclosed a few poems for you to look at. "Perfect Glass" was included only because I thought of it when I read the last paragraph in your nice story about spiders (pg. 3) Spring 92. Thanks for the smiles. **Joan Maloof, Quantico,MD**

Dear John,
I must have a strange smile on my face as I read The Garden Doctor. So many articles are so familiar that as I read them I drift away to Tampa and am lost in my "John Starnes; Gardener to the Rescue" days....Back to Beyond Frugal-- I remeber the day you rescued a white pull on shirt from my garbage can, and it looked great on you...my light bulb went on and I must admit I have rescued a few things myself since then and it feels great to give a new life to something that was once garbage! Also- love the "some guys say..." quote!! I was so pleased to read about your chickens - such a John thing to do! Drove by my Tampa house this past summer and the yard still looks good. "The proof is in the pudding" is true this time;those plants got a good start and it shows. You look great by the way! Look forward to hearing more about Costa Rica. The "nanci" experience reminds me of "Boiled Peanuts" in Tampa - yuk - must be a native thing! Take care John, say hello to "the girls" for me. Enclosed is postage- fondly,
Jane Bowling, St. Louis, MO

Hi John -
Here's our renewal for another year.
George & Linda Griffin, Golden, CO (Thanks much to you both for loyally subscribing to TGD for 5 years running! John)

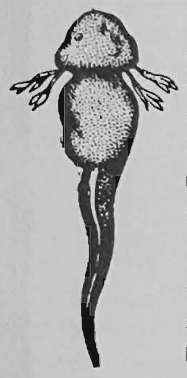
Dear John-
This is a B-day treat for my friend Roger. with love, **Dionne Pia.** and thanks for your great publication & vitality. (Thanks Dionne, for your kind letters, your faithful renewals AND for giving gift subscriptions to your friends.... that's what TGD needs to stay alive and grow! John.)

Dear John,
Your unique magazine is a gold-mine of useful & useless, hum-drum & humorous, informative tid-bits. Only your magazine gets read cover-to-cover. My wife reads it to me at 4 am when I am in the bathtub. When my ears get dry enough to hear, I chuckle at your writing. The mood lasts the entire day. Thanks a bunch. **Richard Rew,Denver**

"It is said that there is no creature as wise as the human being. By applying this wisdom, people have become the only animals capable of nuclear war." **Masanobu Fukuoka**

by
Dr. Anne
Phoebe Young

Bog Gardens

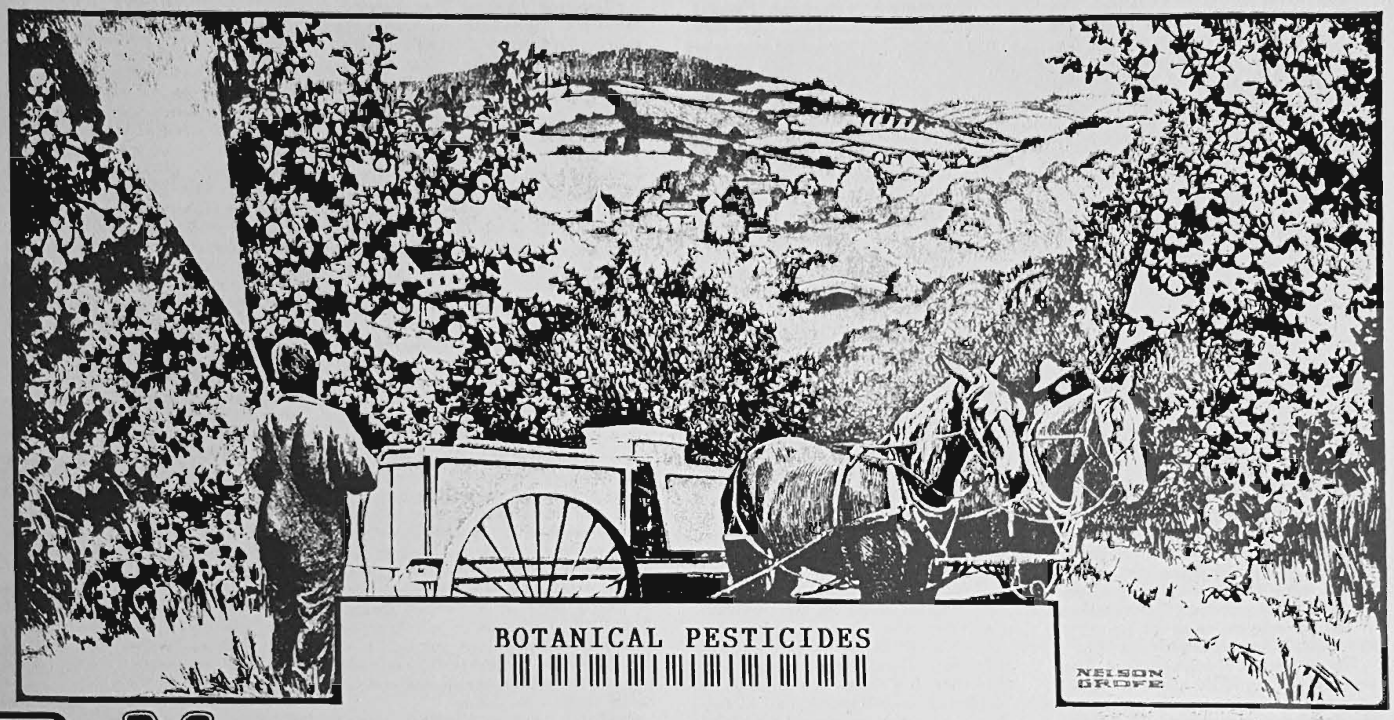


During the 1980's, much of North America's population of amphibians, including frogs, toads, salamanders and newts, vanished, due perhaps to a combination of the draining of wetlands, acid rain, water pollution, and broadscale pesticide use. As a scientist, I value the bio-diversity these creatures provide. As an organiculturalist, I treasure the insect control they render, especially frogs and toads. And since I lean towards an animal rights-based empathy, I find their sudden plunge in numbers saddening. So I've devised simple ways to create urban life islands, moist oases for amphibians to thrive in.

All amphibians require water to lay their eggs in, and most require damp, shady habitats to keep their oxygen-absorbing skin wet and cool. And since many homeowners have a shady "trouble spot" in their landscape, it can be modified with a shallow pool, a few big decaying logs, and a lush cover of shade-loving perennials into an amphibian preserve.

The simplest way to make the pool is to sink into the ground, nearly flush, an old sink or bathtub...the plug makes for easy draining in winter where the ground freezes. For esthetics, disguise the lip of the sink or tub by covering it with flat pieces of flagstone, or slather concrete mix on it...sprinkle the mineral iron sulphate on the concrete when it has set to stain the unappealling gray color a rusty sandstone color. To make the pool out of concrete just excavate a shallow depression in an oval shape about 3 feet long and 8"-10" deep...fill the hole once with water to settle the soil, then line it with 2" of concrete mix...about 3 bags, ninety pounds each, should do it. Cover the newly-formed pond shell with a damp blanket, and keep it damp for three days to allow for a slow, strong cure of the concrete. Then sprinkle the entire pond shell lightly with iron sulphate (sold as "copperas" soil acidifier at many nurseries) to create a more natural color. Let that sit for a day. Then, fill the pond, bail it out, fill it, and bail it out again onto the surrounding soil to rinse the pond shell out. Then fill it. To keep mosquitoes from breeding in it, sprinkle in some "Ringer Mosquito Attack" from a nursery...this "Israeliensis" strain of Bacillus thuringiensis (Dipel, Thuricide, etc.) kills their larvae in standing water. Then, try to find some frog eggs (like you did when you were a kid) in a local pond or stream. Or capture some tadpoles and transfer them to the pond. Or even capture a few adults and transplant them to the bog garden. Be sure to have the area around the pool thickly planted with shade-loving plants, preferable those native to your area...this gives the adults shady places to hide and keep cool in, and provides habitat for the insects they feed on. It's also a good idea to bring in a few, big, soft decaying logs, like you see in the forest, to provide shelter for amphibians and their prey...when watering the bog garden, water the logs too to keep them soft and damp, or to help new hard logs start decaying. A thick mulch of tetracycline-free alfalfa pellets (from a feedstore) will help keep the soil damp,too.

To create a boggy area, dig a 6'X6' slope-sided 8" deep depression, line it with a sheet of plastic,prick it in the center with a pin, replace the soil, water well, then plant swamp plants. This bog-and-pond garden will be home and haven for many creatures.



BOTANICAL PESTICIDES

"We have declared in favor of a government of the people, for the people, by the people, the whole people. Why not begin the experiment?" **Elizabeth Cady Stanton 1872**

Many new organic gardeners briefly pass through a phase during which they feel okay about the frequent and extensive use of "natural" pesticides. But a fundamental principal of organiculture is relying on carnivorous arthropods like spiders, lacewings, trichogramma wasps, praying mantis and many others to keep herbivorous insects under control. But the botanical pesticides, like tobacco tea or rotenone, can't tell the difference between the aphids on a head of cabbage and the small herd of ladybugs feasting on them. At the top of all the food chains on Planet Earth are carnivores, preceded by the plant-eaters who feast on the first rung of the food chain, the plants (our gardens, for example!). So everytime the gardener or farmer sprays a broad-spectrum insecticide, be it natural or not, all over the cultivated area, he or she is once again wiping out SOME pests (many of whom are now resistant to artificial pesticides) while killing off many of the predators crucial to a biologically balanced. So without these predators to control the surviving pests, those pests have a population boom, and cause yet another wave of crop damage that triggers more spraying from the gardener...on and on it goes. Since predators are always the last creatures to enter the fragile beginnings of a healing ecosystem, the wise gardener not only withholds wide scale pesticide use, he or she also introduces beneficial insects, lizards, wild birds and domestic fowl, plus certain fungi, nematodes, bacteria, and protozoa.

But during the year or two it can take for a landscape or farm to make the transition to biological diversity, SPOT APPLICATIONS of botanical pesticides can be helpful in keeping problem pests from escalating to plague proportions...aphids on new growth, caterpillars on brassica crops, slugs in rows of seedlings....these and other situations can be managed without harming the soil, the atmosphere, groundwater, you, or significant numbers of beneficial insects and spiders, or birds and frogs. Most botanical pesticides quickly oxidize after use, or are broken down by sunlight and microbes, so they have very little residual effect IF they are used only on spot problems. As your garden's biocommunity matures and diversifies, even these spot applications will be needed less and less often.

To make a botanical bug spray, stuff freshly-cut leaves and stems of a chosen plant into a blender, add a bit of water, buzz till liquefied, strain through a fine cloth into a spray bottle and keep refrigerated to add a few days of "life" to the raw tea. In the early 1950's, the USDA was still researching botanical pesticides, despite the sudden onrush of highly toxic newfangled pesticides like diazinon and chlordane. Following is an intense compilation of possible botanical pesticides as reported by Mr. Harry O'Brian in 1952. Some grow wild and may be harvestable in your area. Others may be grown in the landscape as a side crop. Used sparingly, they may well be valuable tools in the garden.

"Do you see creamed corn on that plate?!" **Mrs. Tremont**

(continued)

Cucurbitaceae (*Gourd Family*). The cucumber family is often called the gourd, melon, or squash family. *Cucurbita pepo* commonly is called pumpkin. Freshly cut pumpkin leaves rubbed on cattle and horses reputedly repel flies. Acetone extracts of pumpkin seeds killed mosquito larvae in experiments conducted by A. Hartzell and F. Wilcoxon of Boyce Thompson Institute.

Euphorbiaceae (*Spurge Family*). *Croton tiglium* contains croton oil. The plant is cultivated in China, where the seeds are the source of a homemade insecticide. The plant has insecticidal value against aphids. J. R. Spies, a chemist in the Department of Agriculture, reported that an acetone extract of the seeds was more toxic to goldfish than derris extract and that croton resin was more toxic than rotenone.

Ricinus communis, the castor-bean plant, is said to have some insecticidal value. If that is true, the insecticidal principle is present only under certain conditions with respect to variety, cultural practice, and environment. A valuable synergist is prepared from isobutylamine and undecylenic acid, which results from the chemical decomposition by heat of castor oil. By the action of sulfuric acid on castor oil, we get a useful emulsifier for insecticidal oils.

Flacourtiaceae. *Ryania speciosa*. The active principles of the plant are alkaloids and are effective in the control of the European corn borer. The roots and stems contain the insecticide, which is commercially prepared for use as dusts and sprays.

Fagaceae (*Beech Family*). *Castanea dentata* is called the American chestnut. F. W. Metzger and D. H. Grant found that a commercial dyeing and tanning extract of the American chestnut was a good repellent against the Japanese beetle.

Labiatae (*Mint Family*). *Ocimum basilicum* is known as common basil or sweet basil. Its oil killed 95 percent of the mosquito larvae tested at a concentration of 50 parts per million, but an extract made from the whole plant killed none. H. D. Hively obtained a patent in 1940 for the use of the plant as an insecticide. It is successful as a contact poison against flies, Colorado potato beetles, and many other insects.

Salvia officinalis, or garden sage. Salvias are grown for their flowers and for their leaves. The leaves of some species are used for seasoning. Hartzell and Wilcoxon found that acetone extracts of the leaves killed 80 percent and extracts of the roots killed 95 percent of the mosquito larvae they tested.

Leguminosae (*Pea Family*). The pea family is one of the most important group of garden plants in the world. *Haematoxylon campechianum* is called logwood. Hematoxylon is from the Greek for blood and wood, in allusion to the red wood. Metzger and Grant reported that two commercial extracts were good repellents against the Japanese beetle.

Millettia pachycarpa, fish-poison climber, is worth further investigation. The ground seeds kill several species of insects. Alcoholic extracts of the roots from China paralyze the bean aphid. The plant contains a large amount of saponin and rotenone. The plant acts as a contact and stomach poison when it is mixed with soap.

Mundulea sericea, or *M. suberosa*, is a promising insecticidal plant. It was discovered in the 1930's. It is a rotenone-yielding species. The plants from India are toxic, but those from various locations in Tanganyika and Zanzibar fall into two main divisions, those with smooth barks, which are toxic, and those with rough, corky barks, which are nontoxic.

Pachyrhizus erosus, or the yam bean. In some tropical countries the seeds of the yam bean plant are used as an insecticide and fish poison. Tests in the United States by R. Hansberry and C. Lee gave promising results against the bean aphid and the Mexican bean beetle.

Apocynaceae (*Dogbane Family*). *Haplophyton cimicidum*, the cockroach plant, has been used to combat cockroaches, flies, mosquitoes, fleas, lice, and other insects in Mexico. The dried leaves are toxic to the Mexican fruit fly. The water extract of the stems of plants grown in Arizona is toxic to adult house flies. The crude alkaloid from this plant is effective against most insects. It is as toxic as pyrethrum to the squash bug.

Boraginaceae (*Borage Family*). *Heliotropium peruvianum*. The borage family contains many well-known garden plants and often is called the heliotrope family. The compound heliotropine was one of the best chemicals tested against the body louse, being apparently nontoxic to the skin and lasting more than 168 hours when used in cocoa butter.

Tournefortia hirsutissima is used as a general insecticide in Haiti.

Cannaceae (*Canna Family*). Members of this family mostly have tuberous rootstocks, stately, broad leaves, and showy flowers. The leaves and stems of canna plants contain an insecticide that gives results similar to tobacco in greenhouse fumigation.

Celastraceae (*Staff-Tree Family*). *Tripterygium wilfordii*, the thunder-god vine, is a common insecticidal plant in southern China. The poison in it has been found in the root bark. Its chemistry has been investigated by M. Beroza, who reported that wilfordine is a mixture composed mainly of two similar alkaloids, α- and β-wilfordine. Both are insecticidally active ester alkaloids. Powdered fresh small roots are toxic to first-stage larvae of the codling moth, the diamondback moth, and the imported cabbageworm. Alcoholic extracts of the roots are more toxic. Small roots, powdered, are about half as toxic as pyrethrum to the American cockroach. The large and medium roots are nontoxic.

Chenopodiaceae (*Goosefoot Family*). *Anabasis aphylla* contains the alkaloid anabasine, closely related to nicotine. It is the only commercial source for the alkaloid. It grows mainly in Russia and is not available in the United States. *Anabasis aphylla* is related to the American tumbleweed.

Aesculaceae (*Horsechestnut Family*). *Aesculus californica* is called the California buckeye. The horsechestnut is a highly prized street and lawn shrub and tree. The common horsechestnut casts the densest shade of almost any cultivated tree. George H. Vansell and his coworkers in California found that bees feeding on buckeye blossoms became paralyzed and died. Reports of other investigators, however, show that the insecticidal value of species of the horsechestnut family varies.

Annonaceae (*Custard-Apple Family*). The genus *Annona* includes some 90 species of trees and shrubs, mainly in tropical America. S. H. Harper, C. Potter, and E. M. Gillham in England extracted *Annona reticulata* and *A. squamosa* seeds and roots with ether. The petroleum ether solution of this extract at 0° C. precipitated out an insecticidal material that was 50 to 100 times more potent than the original ether extract. Against some insects the concentrate had about the same toxicity as rotenone. More work should be done with the custard-apple.

Coriandum sativum, or coriander, contains an oil that repels screwworms. Applied in a 2-percent oil emulsion spray, it kills spider mites and cotton aphids. Coriander oil repels house flies, green bottle flies (*Lucilia sericata*), and black blow flies.

Pimpinella anisum is anise. Clothing treated with a soapy emulsion of anise oil protects wearers from the sting of gnats. Anise oil repels black blow flies, house flies, and green bottle flies.

Clusiaceae (*Balsam Tree Family*). *Mammea americana* is known as mamey, "mamey de Santo Domingo." Harold K. Plank of the Federal Experiment Station at Mayaguez, P. R., believes that this indigenous West Indian tree has greater insecticidal potentialities than any other plant he examined. The active principle in the mature seeds, the most toxic part, is a type of substance somewhat similar in composition and effect to pyrethrins. Plank found that six of the nine parts of the plant were appreciably or highly toxic to one or more insects. The bark has little toxic material.

Cochlospermaceae. *Cochlospermum gossypium*. Kutira gum increases the effectiveness of nicotine sulfate sprays. The kutira appears to be a synergist to nicotine sulfate in its action against the bean aphid.

Compositae (*Thistle or Aster Family*). This large family of plants includes thousands of herbs, vines, trees, and shrubs. The dahlia, chrysanthemum, coreopsis, marigold, aster, cosmos, and many other garden flowers are composites. To the dried flowers of *Chrysanthemum cinerariaefolium* the name pyrethrum is applied. Pyrethrum, a safe and effective insecticide, is widely used in household sprays. Four compounds exist in pyrethrum—pyrethrins I and II and cinerins I and II. Pyrethrins are practically nontoxic to warm-blooded animals and can be safely used in the home.

Heliopsis scabra is called oxeye. M. Jacobson, at the Agricultural Research Center, discovered that these plants contain compounds toxic to the house fly. Nearly all the toxic material is extracted by petroleum ether. Jacobson purified the petroleum ether extract and named one of the toxic materials scabrin. W. A. Gersdorff and N. Mitlin, entomologists in the Department of Agriculture, reported that scabrin compares well with pyrethrum in killing value.

Liliaceae (*Lily Family*). The foliage and rootstock of most species contain a poisonous juice. *Amianthium muscaetoxicum*, crowpoison, shows promise as an insecticide against the house fly, cockroaches, grasshoppers, and bees. It is inefficient against tent caterpillars and aphids. The powdered bulbs and leaves are used as dusts. Water extracts show a slow but considerable insecticidal effect against Colorado potato beetle larvae and cockroaches.

Melanthium virginicum, bunchflower. L. H. Pammel in 1911 stated that the bunchflower had long been used to poison flies.

Schoenocaulon officinale is commonly known as sabadilla. R. J. Dicke in a thesis submitted to the University of Wisconsin in 1943 reviewed 76 references on this plant, which has been used as an insecticide since the sixteenth century. The University of Wisconsin has patented a method for increasing the toxicity of sabadilla: Heating the powdered seed in kerosene or other solvent to 150° C. for 1 hour. Sabadilla is effective against squash bugs, chinch bugs, harlequin bugs, and lygus bugs. Scientists in the Department of Agriculture in 1949 began a chemical study of the constituents of sabadilla seed.

Veratrum. Three plants are popularly called hellebore—*Veratrum album*, *V. viride*, and *Helleborus niger*. The term hellebore is incorrect when it is applied to the first two plants. The last, which is the true hellebore, grows in Europe and is not a commercial product in the United States. *V. viride* is the American plant. Powdered roots of the first two plants prevent the emergence of house flies from horse manure.

Tephrosia virginiana is known as devils-shoestring. It is a pretty little native plant, which prefers dry, open, somewhat sandy places. It has long been known to possess insecticidal properties. The most toxic samples of devils-shoestring were slightly more poisonous than pyrethrum, but less poisonous than derris. Against five species of insects the plants showed promise as a contact spray. Technical Bulletin No. 595 of the Department of Agriculture outlines studies of the possibilities of devils-shoestring as a commercial source of insecticides.

Solanaceae (*Nightshade or Potato Family*). The potato family, often called the tobacco or tomato family, includes vegetables of world-wide cultivation, narcotics, drugs, tobacco, and a large number of garden flowers. *Duboisia hopwoodii*, called pituri, is an Australian species and often is mentioned in discussions of nicotine. C. V. Bowen, a chemist in the Department of Agriculture, analyzed the dried leaves and larger stems and found the leaves to contain 3.3 percent and the larger stems 0.5 percent of nornicotine. H. H. Smith and C. R. Smith of the Department studied 29 wild species of *Nicotiana*. They found that 5 species contained the alkaloid nornicotine only and 18 a mixture of nornicotine and nicotine. Against some insects, nornicotine is superior to nicotine. Nornicotine is more toxic to a nasturtium aphid and the pea aphid; about equally toxic to the cabbage aphid, the citrus red mite, and other spider mites; but less toxic to the celery leaf tier, the large milkweed bug, and larvae of codling moth.

Nicandra physalodes is also known as the Peruvian groundcherry or shoofly plant. It repels insects. In India it is used as an insecticide. Stories told about it are many: The plant distributed around a room repels flies; in a greenhouse it causes the whitefly to disappear; a few hundred planted near a barn apparently keep the animals from being bothered by flies.

Physalis mollis is commonly known as smooth groundcherry. Thomas A. Nuttall described it in 1834. It grows throughout Oklahoma. Before the development of prepared fly sprays, the fresh plant was used to control house flies. The bruised leaves and stems, mixed with a little water and sugar, killed flies. L. E. Harris of Ohio State University isolated a glycoside in an impure form; it was toxic to flies. He also isolated an alkaloid, but it was not toxic to flies in the small dosage used.

Nicotiana spp. Tobacco and its chief alkaloid, nicotine, have been used since 1690 as insecticides. Nicotine forms salts with acids and most of the nicotine used for insecticidal purposes in the United States is in the form of the sulfate. More than 29 species of *Nicotiana* have been analyzed for their alkaloid content. Some American tobaccos used in making cigars of low nicotine content contain as much as 0.7 percent of nornicotine. One-eighth of the total alkaloids in certain samples of commercial nicotine sulfate solutions was nornicotine. Most species of aphids may be controlled with concentrations of 1 part nicotine to 1,000 parts of water. Nicotine is recommended against only those insects that have soft bodies and those that are minute in size, such as aphids, whiteflies, leafhoppers, psyllids, thrips, spider mites, and some external parasites on animals.

Stemonaceae. *Stemona tuberosa*, or paipu, has long been known and used in China as an insecticide. Decoctions of the dried roots are said to be toxic to crickets, weevils, and the caterpillars of moths and butterflies. A 50-percent alcoholic extract of the plant is effective against lice and fleas.

Umbelliferae (*Carrot Family*). *Carum carvi* is called caraway and contains oil of caraway, which will help cure scaly-leg of poultry. Hartzell and Wilcoxon found that acetone extracts of the seed killed 90 percent of the mosquito larvae they tested.

Conium maculatum, poison hemlock, contains an alkaloid, coniine, which is related to nicotine.

LUNATIC GARDENING

by
Anne Lathrop

Our first recorded knowledge about solar/lunar cycles dates from the Mesopotamian era. It was in the "fertile crescent" that man came to understand their importance in connection with agricultural practices.

Today our calendar represents the earth's yearly revolution around the sun with its 365 days. Most calendars show the moon's phases in its monthly travel around the earth. These are the only visible remnants of this ancient body of wisdom. The festivals which once marked each change of season have been supplanted by religious and secular holidays. Outside of the astrological community, perhaps only commodities traders still depend on these cycles to earn their living.

The diurnal rhythm—the effect of the earth's daily rotation on its axis—has fallen even further down the memory hole. We burn electric lights around the clock in our large cities. The idea of retiring with the setting sun has disappeared from our western culture.

Now and then we hear of research which suggests that there *is* a diurnal rhythm in the human body. Many of us are able to identify times of the day when we are "on," when our brain and coordination seem to be at a peak, and other times when we are just barely dragging through the necessary routine. Some of us are "night owls," some are early risers.

These two cycles—lunar and diurnal—dovetail with the seasons to create the backdrop to our gardening activity. We unconsciously adhere to these natural rhythms or we don't succeed. Becoming *conscious* of these rhythms—being a *lunatic* gardener—is fun and intellectually stimulating; the exhilaration of success spills over into other facets of life. The economy of avoiding false starts is another significant benefit.

Other than the garden space itself, only two things are required to launch lunatic gardening. First the mind must be quieted; stress and hurry laid aside, and instinct or "feeling" relied upon as the timing signal. Second, and just as important, careful records must be kept.

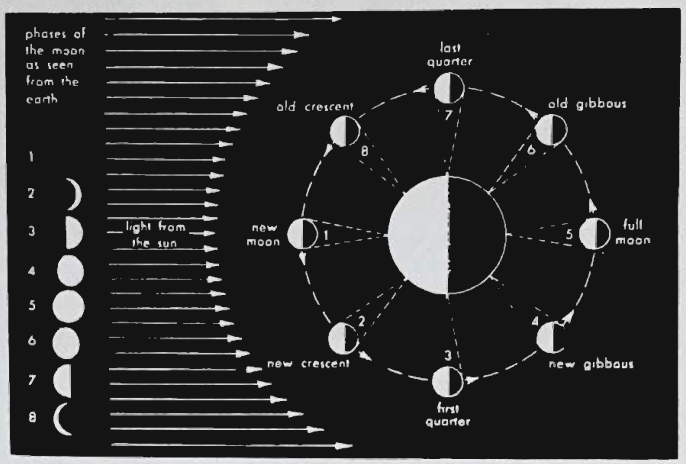
While it may sound easy to quiet the mind and lay stress and hurry aside, it can be a very challenging task. Try being relaxed about gardening in "left-over" weekend time when weather systems seem to make a fetish of being disagreeable! The "feeling" for being out in the garden, working the soil, or raking up leaves is more likely to come in the middle of a board meeting, or just as thirty kids roar in from recess.

Start by observing the lunar cycle in its waxing (from New to Full Moon) and waning (from Full to next New Moon) phases in the nighttime sky. During the first half of the cycle, the Moon is increasing in size, during the second, it is decreasing. A similar "rising and falling" or "up and down" breathing rhythm takes place in each twenty four hour period as the sun culminates at noon and then descends.

To stimulate growth through trimming, do it during the morning hours and the first half of the lunar cycle. To cut something back or prune, do it late in the day and the second half of lunar month when plant fluids are descending.

To get leaf and flower production, or a seed to germinate, plant during the morning hours and during the first half of the cycle. For root development, or underground crops such as potatoes or carrots, plant during the descending half of the diurnal and lunar cycles.

To set a pole or post, wait until the Moon is waning. Transplant at the end of the day to give the plant a comfortable night's rest while it adjusts to its new environment. Plea bargain with garden pests and eradicate unwanted growth during the waning phase of the cycles when regenerative forces are slackening.



Harvesting likewise has a very specific rhythm. Pick lettuce early in the morning as the leaf is filling with water. Dig potatoes for storage at the end of the lunar cycle when they are nearly dormant. The herbalist chooses specific seasons, signs and phases of the moon, and even hours of the day, to collect medicinal specimens designed for different end uses.

Mowing the lawn is the easiest way for your Skeptic to test cyclical principles. If he enjoys riding around on a garden tractor, he should cut early in the morning while the Moon is waxing. The grass will grow like gangbusters. If he discovers that other leisure pursuits suit him better, he should mow around sundown in the waning half of the lunar cycle.

Experiment at will. Follow your instinct. Ignore the lunar phases; work at night if you want. The important thing is to pay attention and do what you *feel* like doing. Who knows, perhaps you'll be the first to discover a new celestial rhythm in its formative stages!

This brings us to the second part of the program—record keeping. A simple system established early in the game makes this job easier. A small loose-leaf notebook is good, because pages may be inserted or rearranged at will. Three by five inch index cards and a date stamp are also flexible and convenient. Make daily notations including date, time of day, and weather conditions for each step in the seed-to-harvest process.

During the long winter months analyze these records. Note successes and failures. Have a calendar with the lunar phases at hand to make this summary. Identify patterns you discover, and draw up guidelines for the next season, based on YOUR experience. This completes Stage I of the lunatic gardening experiment.

For Stage II and the next season, buy a yearly guide to lunar gardening to enlarge upon your experimental base. *The Old Farmer's Almanac* is the most readily available. It contains complete astronomical information on the moon and planets, sunrise and sunset tables, tidal ranges, and page after page of interesting tid-bits. It is an invaluable resource. Another yearly publication, geared strictly toward the gardener and full of practical suggestions, is the *Moon Sign Book and Lunar Gardening Guide* [Llewellyn Publications] available in most large bookstores. The two books work well in tandem.

As you become enthused about working with solar/lunar cycles, you can start combining the signs of the zodiac and the four elements (fire, air, earth and water) with lunar phases. Learning to predict the weather by admixing planetary aspects comes next. Planetary correspondences with plant life opens another door; with body parts and disease, yet another. The array of possibilities expands exponentially, each adding to a greater awareness of the organic whole in which we are privileged to live.

Special thanks to Patti Harris of Cleveland, Ohio, for donating $200 to THE GARDEN DOCTOR, and for her verbal vote of confidence in it!

HARRY KRISHNA'S karmic relief RESOURCE REPORT

Pinetree Garden Seeds
Route 100
New Gloucester, ME
04260
(207) 926-3400:
Their free catalog offers a fine selection of vegetable & flower seeds plus books, tools, and bulbs.

Tischler Peony Garden
1021 E. Division St.
Faribault, MN 55021
(507) 334-7242: Their free catalog contains many peony hybrids, all well-described.

Plumtree Nursery
387 Springtown Road
New Paltz, NY 12561
(914) 255-0417: Send a long SASE for a free list of unusual fruits and vegetables like chuffa, clove currants, musk strawberries and skinless garlic. Organic pest controls and soil testing kits also sold.

Rocky Mountain Insectary
P.O. Box 152
Palisade, CO 81526:
A supplier of beneficial insects.

Nematec
P.O. Box 93
Lafayette, CA 94549:
Beneficial nematodes to control various pests.

Johnny's Selected Seeds
Foss Hill Road
Albion, ME 04910
(207) 437-9294:
Their free catalog is a wealth of vegetable seeds, especially heirlooms.

Pony Creek Nursery
Tilleda, WI 54978
(715) 787-3889:
Their free catalog offers a good variety of nut and fruit trees, plus beneficial insects, berries, flowering shrubs, flower and vegetable seeds, books and gardening supplies.

Torbay's Plant World
St. Marychurch Road
Newton Abbot, Devon,
England (08047) 2939:
Their free catalog has the seeds of alpines plus meconopsis, primulas, aquilegias, violas, silenes, saxifragias, lewisias, gentians, and digitalis.

Calamus root is chewed to "clear the voice" and sweeten the breath, by rustics in Europe and America.

Whole Cloves have been chewed to sweeten the breath for more than 4000 years. The flavor of Cloves is long lasting. According to "Preventive Medicine and Hygiene" Cloves have "very marked antiseptic powers and are valuable preservatives. The active antiseptic constituents are the aromatic or essential oil which it contains."

OLD TIME CHEWING GUMS

Take 4 parts Balsam Tolu, and 1 part each of Gum Benzoin, White Wax, Paraffin, and powdered sugar. Melt together. Mix well and roll into sticks.

1 # Sugar	2 oz. Spruce Gum
6 ½ oz. Glucose	1 pint water

Dissolve gum in small amount of water, then add remaining water to sugar and glucose, and boil the syrup up to a strong crack degree. Remove pan from fire, and gently stir the dissolved gum into the syrup, replace the pan on fire, boil sharply for two minutes, then pour out the liquid on an oiled slab.

12 oz. Oatmeal	¼ # Confectioners sugar
½ # Balsam of Peru	¼ # Gum Arabic

Dissolve gum in sufficient warm water to make a thick solution. Mix the sugar and oatmeal, make a bay in the center, turn in the gum, add flavoring and coloring, and work the whole to a stiff pliable paste.

Spruce Gum

Before the days of sweet flavored chewing gum, country boys gathered their gum from Spruce trees. City "kids" could buy this old-fashioned gum in drug stores, at candy counters, and general stores, at a penny a stick. Spruce gum is tangy, purple-hued, and long lasting.

Early woodsmen also chewed Spruce gum, as well as the gums of European Larch and Sweet-gum trees—not so much for the flavor, but in the belief it would harden their teeth. The gums had to be carefully chewed for about 3 days, before it was just right. If too soft, it would stick to the teeth, if too hard, it would disintegrate into a powder. These gums to-day are used for medicinal salves, incense and perfume.

Chewing Balls

The following combinations were taken from a very old apothecary book:
Equal parts of Gum Mastic and Ginger
Equal parts of Cubebs and Nutmegs
Equal parts of Ginger, Rhubarb, Mastic, Pellitory and Orris
Angelica root alone.
The powdered ingredients were added to white wax, and formed into balls. As most of these botanicals are strong flavored, very little is needed for the chewing balls.

Woodpecker's Nest.
(Dotted lines indicate inside of nest and eggs).

"Lesbianism is too near the bone for many women, and too disorientating to the arrogance of most men." **Ibid circa 1850**

RHUKIN AT!

For the first time in 38 years, scientists have confirmed that higher plants require yet another element: Nickel. Ross M. Welch and his team at the ARS Plant, Soil and Nutrition Laboratory in Ithaca, New York found out several things: Viable seeds usually contain enough nickel to last a plant its entire life; the plant enzyme urease needs nickel to process urea into nitrogen; nickel must be present for plants to absorb iron, and seeds must contain from 10 to 100 parts per billion of nickel in order to germinate.
Science News 4-25-92

When bitten by a bug, a tomato plant produces a chemical "signal" in the form of a polypeptide that quickly (90 minutes) circulates through the entire plant. This signal causes the plant to form a protein that blocks the insect's ability to digest protein...it soon sickens and dies.
Associated Press

The Talipot Palm of Sri Lanka (Coryphaumbra culifera) flowers only once. But that plant's branched inflorescence is 20 feet tall, up to 42 feet across, and can produce 60 MILLION fruits, each 1 inch in diameter
Reader's Digest Book of Facts

Orchids are named after the Greek word for "testicles".
Fascinating Facts

In 1984,K. Lloyd of Kydwelly, Wales, grew a parsnip that measured over 142 inches in length.
Guiness Book of World Records

Fossil dinosaur poop suggests that microscopic plants (algae & bacteria) lived in the guts of herbivorous dinosaurs and helped the giants digest their food by fermenting it, as is the case with modern cattle. This in turn suggests that dinosaurs, like cows, farted the potent Greenhouse gas methane. **Associated Press**

Hirota Fujiki of the National Cancer Center Research Institute in Tokyo found that green tea contains a powerful antioxidant called EGCG (for short) that apparently destroys free radicals. The Japanese drink an average of 10 small cups daily; mice given the equivalent of this dose developed substantially fewer lung,skin, liver, and intestinal tumors.**Science News**

FIRE ANTS? WALK WITH ME!

by Lawrence Palmer

Think of me as a friend...the things I tell you will not be wrong. Don't let yourself be hurt this time by biting,stinging fire ants (see illustration on page 15) for if you are hypersensitive to formic acid (their venom) you will require medical attention. Now, Bob (he's my cousin) and I both love birds (especially owls) and where we're from they sing a pretty song and their music is always in the air; so toxic granules on ant nests is out of the question. But under the sycamore tree he confided " You may think I've gone insane, but I WILL kill fire ants again with repeat applications of boiling water or tobacco dust!" Those of you fond of boric acid mixed with bait to kill roaches...I've got good news! That gunk you like is going to come back in style! Boric acid in canned pet food kills fire ants fine. Put a dollop of the blend on the nest and cover it with an inverted milk crate to keep out pets. One more thing...if you do get bit, dab ammonia or baking soda for the pain. If your kids get bit, their howls are not what they seem (childish wimpering).Fire ants HURT!

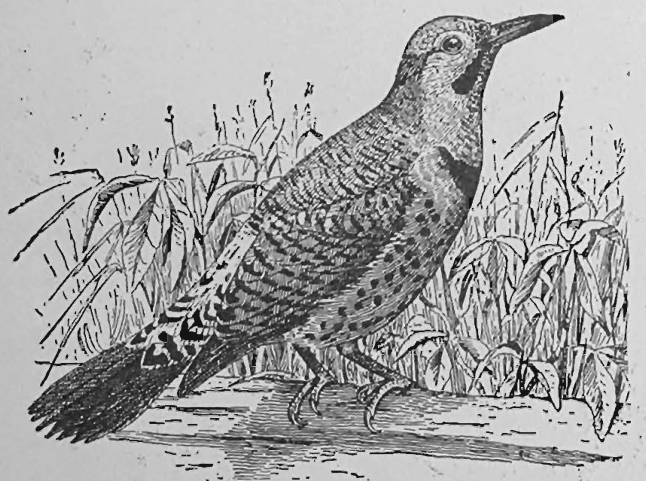
LEMON VERBENA

Known botanically as "**Aloysia triphylla**", this herb charms many people the first time they rub a leaf and catch a whiff of its remarkably "lemony" fragrance, which is much richer and more "genuine" than that of lemon balm. A tender perennial native to Chile and other regions of South America, lemon verbena may be grown in the landscape in Florida, the Virgin Islands, Southern California, and other mild-winter places. Elsewhere, it's best grown in a big pot so it can be brought in each winter to be grown in a sunny southern window. Lemon verbena likes a fertile, pH-neutral soil that drains well; for pot culture try a soil mix similar to the following: 1 part compost, 1 part rotted horse poop, 1 part leaf mold, and 1 part coarse builder's sand. Add a handful of crushed dolomitic limestone to neutralize soil acids, and to supply the vital plant nutrients CALCIUM and MAGNESIUM. An excellent fertilizer non-vegetarians can use is "Alaska Fish Emulsion". Vegetarians can use a "tea" made by soaking fresh, organically-grown grass clippings, or chopped fresh alfalfa, in water set in the sun for 2-3 days...to supply all the "minor elements", vegetarians would do well to give the plant several kelp tablets pushed into the soil.

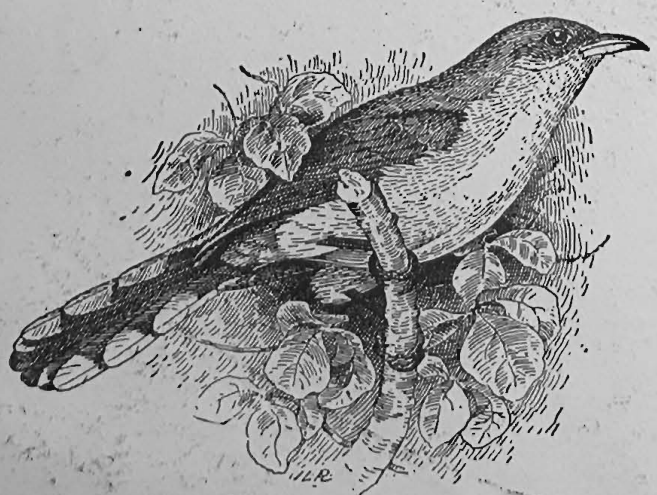
Lemon verbena develops woody branches with age, and so can be trained into a "standard" (tree-shape), with a straight bare trunk and bushy crown, which will occasionally bear spikes of tiny, pale lavender flowers. Dry the leaves in the shade and store in a sealed jar for fine tea and potpourris; steep the fresh leaves for an invigorating facial or hair rinse. Propagation is from seed or firm green cuttings rooted in damp, coarse sand. A related plant, Phyla nodiflora var. canescens, is a low-growing creeper, and is used in southern California as a ground-cover, or as a lawn substitute...imagine the olfactory joy of mowing a lawn like that!

Goldfinch.

Mourning dove.



Flicker, a common woodpecker.



Yellow-billed cuckoo.

HEAD AND FOOT OF BALD EAGLE

"**Hey neighbors!**, I've only got 1 issue left in my treasured subscription to **THE GARDEN DOCTOR**, an upbeat, handcrafted journal of personal and planetary healing praised by ORGANICA, UTNE READER, HERB COMPANION, VEGETARIAN LIFE, EAST WEST, THE TAMPA TRIBUNE, ENVIRON, and WESTWORD. I like the handsigned editorials, the hand-coloring of each individual issue, and the old-fashioned cut-and-paste (vs. word processors) used to create the master plates! **Jeepers**, Ed, I bet your patients would LOVE reading the humor and information as they wait in your lobby for a root canal! **Shucks**, Miriam, I'm sure you and your kids would LOVE growing the 3 packs of neat seeds in every issue! **Dang!**, let's share this handy form...you both can subscribe to this unique quarterly while I renew THIS VERY MINUTE!"

"**PHUKINAY**, Herschel! We're both subscribing RIGHT NOW!"

!!!

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