

Spring 1998

Greetings Maritime Organic Gardeners:

We are pleased to report that the tree swallows arrived on time at Black Lake, despite El Nino. Actually, they were a bit late (March 4th at 1:00 p.m.) inasmuch as we at Black Lake Organic have decreed March 1st as Swallow Arrival Date (no, its not S.A.D.). With March coming in as such a lamb this year, one would have thought they would be early. But they evidently knew better than to attempt crossing those recurrent storms in California just to please us up in Washington. Don't rush things, the swallows say; but who listens?

As this newsletter is being written (early April), a tiny rufous hummingbird whirs and darts about the namesake inflorescences of a large red-flowering currant, flanked by yellow forsythia and backed by pink blossoms of the purple-leafed plum in our front yard. Spring flowers and spring fever hit us extra early this year, but the swallows' arrival assures us that spring truly is here and the winter-that-wasn't, no longer is.

Boy, did we Maritimers make out in the winter of '97 - '98. Surely it was the mildest winter in memory. Nevertheless, to 1997 we at B.L.O. must confess we bid good riddance. Last year was the first time in our 17 year history that sales were below the previous year. It was also the only year we did not get out a newsletter. Many customers were disappointed, but none more than we. We apologize and will try to make up for it in this double-sized newsletter.

This year, we are confident, will be much better. In fact, we've had record sales for January, February and March. And, just as importantly, we've made several improvements to benefit you. In addition to new products and services information and useful gardening tips, we have some exciting, revolutionary information (new and old) that can really improve your gardening and your health. Food and health, what is there that is better to invest in?

Finally, we have quite an amazing story the B.L.O.O.M. Story to tell in this newsletter about the evolution of quality in our potting soil mixes, our famous fertilizer formulas, and the outstanding, healthful growth of our nursery plants. Indeed, we are so thrilled about our container plants we can hardly contain ourselves! Read on, folks.

Sincerely,

Gary & Suzanne Kline

P.S. Our hours of operation remain Tuesday through Sunday from 9am- 6pm. We are closed Mondays and major holidays.

## INTRODUCTIONS ALL AROUND

The B.L.O.O.M. Story - Pertains to several aspects of the Black Lake Organic business, its products, people and philosophy. But the story goes beyond 4711 Black Lake Blvd. It has a message that goes out to the world and, indeed, we hope to get onto the Internet with it sometime this year. You're going to like this message we are sending out. It is one of the most hopeful and important messages ever broadcast concerning the health of soils, plants, humans, and the planet. To be sure, you are a part of it. This newsletter gives just a nibble.

And to Think We Get Paid (Modestly) For This - In all humility, what is about to come out of our tiny operation (the egg having already hatched) is incredible. But to think that it was entirely unanticipated is downright exhilarating and most gratifying. We put a lot of effort (and money) into something that has blossomed and we are sure it will bear fruit. We feel we have been handed a reward not entirely deserved.

What's A B.L.O.O.M.? Narrowly speaking, B.L.O.O.M. is two things. It means Black Lake Organic Optimum Mixes, referring to our custom specialty fertilizer mixes and potting media, and it also expresses the flowering of Black Lake Organic as a struggling, growing business that finally has come into its own and beams with accomplishment, knowing the fruits and seeds shall follow. The whole B.L.O.O.M. Story would take volumes to tell. We can only give an introduction here and skim over the chapters.

Message to New Readers - The Black Lake Organic (B.L.O.) newsletter goes back 14 years. You have come in at the middle of a performance and, regrettably, we can't go back and summarize the happenings to bring you up to date. What you read here may seem strange and baffling and not what you thought you signed up for. However, bear with us. There will be some basic and practical gardening stuff. Besides, you might learn a lot you didn't know you needed to know, and hopefully this will pay off down the line! Other assigned readings: Spring & June Territorial catalogs.

What's an M.O.G.? You are! If not now, you will be. You live in the Maritime Northwest (MNW), which is that sub-region of North America between southern British Columbia and Northern California west of the Cascade Mountains. Not everyone reading these pages is a confirmed, practicing organic gardener, but once they have tried it and seen the benefits, people don't go back to "chemical" gardening. Besides, a majority of gardening Americans now classify themselves as "organic" and you don't want to be left out. Be a proud Maritime Organic Gardener (M.O.G.) and get some real roots for your regional identity, be you a native or a transplant. We cater to M.O.G.s.

Changing the Subject - We need to do some explaining about the 1997 newsletter-that-almost-was. The main reasons it did not go out were that we got swamped in our operations, the weather turned very rainy, sales slumped, and we fell behind and it was questionable if we would have enough money to put out a newsletter. Just about the time a decision was made to push ahead, we experienced a bad April Fool's prank. The store was burglarized and we lost several hundred dollars. That put a big damper on the newsletter plans and our top priority for spending became

installation of a security alarm system to prevent that happening again. Now you know a main reason we were glad to see 1997 go. On reflection though, 1997 was a year of gestation and development not fully appreciated at the time. Without knowing it, we got our stuff together.

### A TREACHEROUS WORLD

The Good and The Bad - Gardening can be delightful and rewarding. But, let's be truthful, it can also get disappointing and downright discouraging. As one of our customers put it, "there are no guarantees in gardening". No one, except Ruth Stout, claimed it is always easy. Your own experience most likely is summed up in the memorable words of another BLO customer, "I've never had a perfect garden, but I've never had one that was a complete bust either". Still another customer stated, "We're going to get this gardening down yet".

Duracell Bunnies? - These determined gardeners are like that pink rabbit with the drum; they just keep going. Lately though, it does seem that we Maritimers have been deluged with an unfair share of maladies and increasing pest problems to the point of total exasperation, bringing many a hardened gardener to the brink of giving up. Take heart and be of good cheer! Solutions and answers are near. So pick up the gauntlet and grow forth.

The Ugly Reality is that we are under attack. In many cases, maladies and pestilence actually are on the increase and they call for a new, get-serious strategy or what we are dubbing the Fortress Mentality. And, indeed, it begins with adopting an appropriate attitude and also entails arming yourself with some new (and old) techniques, tools, products, and useful information which we hope to provide in this almost timely newsletter. We believe it provides insight and inspiration to improve your gardening.

The Vagaries of Weather are a good place to begin our provincial gardening complaints and lamentations. Sometimes when it seems the rains will never let up and summer will never arrive, one wishes he or she could be gardening in Texas, Arkansas, Florida, or California where all they have to contend with are floods, tornadoes, hurricanes and El Nino's blasts. At least they don't have to deal with slugs, deer, quack grass, craneflies and late blight. This goes to perspective and attitude.

'Twas the Night After Christmas (December 26, 1996) when it all seemed to go awry with the rifle-shot sounds of limbs cracking and crashing all around under the weight of ice from a bizarre storm...or maybe it was the preceding December 12th of 1995 when very high winds brought down huge limbs out of the once stately twin shore pines in our front yard. At any rate, 1997 with its weird heat wave in early May and perpetual June rains has to go down as one poor gardening year. Indisputably it was the Year Of The Slug, although the cranefly was in close contention.

A Point of Honor is the fighting words used by one of our intrepid gardening customers. Certainly it can be very disheartening to begin a

vegetable garden only to have slugs mow down your promising starts over night; or to pamper a precious rose and find it one morning munched by fearless deer. Our customer remarked that she was probably spending more money on slug and deer controls than her vegetables were worth, but it is a point of honor to persist & prevail. It's more than that we would add.

You Don't Have to Take It Any Longer - Neither wounded pride nor resignation need be your stance. Fatalism, futility, and constant battling are not the answers. Rather, the appropriate response is to get smart and get tough. It begins with a realistic and honest assessment of the full value of your garden to both your physical health and mental well-being. This means taking the long view and not being short-sighted about costs and not measuring your garden's output by the supermarket scale or the cash register receipt. When the growing gets tough, real gardeners dig in and adapt. What is called for is a new "fortress mentality".

Let Us Count The Ways - For at least a dozen strong reasons, supermarket produce, even much that is called organic, is simply not comparable to what you can get out of your own backyard organic garden plot where you know and you control what went into it. Compared to half a century ago, today's "food" is inferior in protein, mineral and vitamin content. To the extent you depend on supermarket produce, you are malnourished. We plan to prove that your garden, properly handled, is of almost immeasurable value to you.

Your Money or Your Life is the title of a book which yet another of our regular customers recently told us about. Its thesis is that you need to evaluate how you spend your money on the pleasure or total benefit (in terms of the quality) that you receive. We submit that, besides clean air and water, almost nothing is more important to you and your loved ones than your health and the food you eat. In fact, the two are almost synonymous. You can't have a quality life without good health and truly nutritious food. People just have not customarily looked at it this way. Being totally rational about it, one simply needs to see the tremendous importance of quality food to our lives and make the modest, reasonable investments to insure that we have long-term systems to supply it.

To Your Health, and the Whole World's - Truly there is nothing more simple and meaningful you can do for the sake of yourself and the health of the planet than to grow your own food (organically, of course) right at home. Most of the world's problems would be solved if everyone grew such a garden. Whole books could be written to fully explain why that is so. This is only a newsletter...Okay...it's a magazine. Book to follow.

Take Our Word for It. - The single-most beneficial thing you can do for yourself is to daily eat a fresh, raw, mixed greens salad perhaps topped with sunflower seeds, parsley, tomato and boiled egg slices, and dressed with olive oil. Is there anyone who can dispute this? To really assure top quality nutrition, the salad vegetables must come from your unsprayed (chemically), mineral-enriched and organically fertilized garden.

Doing It Right - If you get your stuff together and Do It Right, The Organic Way, perhaps aided by the Fortress Strategies we will be

discussing, you can have far superior produce at less expense than buying it either at a Super Market or Farmer's Market. Black Lake Organic is dedicated to supplying you the needed materials and information to move you toward greater self-reliance and self-sufficiency in quality food for a quality life. The alternatives are more daunting and treacherous than a few bugs and slugs. So, garden with gusto; you're worth it.

A Mighty Fortress is strong within as well as having sturdy walls. The really exciting story here is the self-protection, immune systems or resistance against insects and disease that can be grown into healthy plants and which we are demonstrating with organic methods and natural materials here at the nursery. Much more will follow on this aspect of internal strength for plants & plant eaters. Mineral balance is the key.

Non-Chemical Protection from the ravages of diseases and pests of all sorts involves both defensive and offensive tactics. Let it be said that generally the easiest and most effective (if not least expensive, initially) involve physical barriers, screens and structures. We will be discussing some of these in connection with control of particular pests.

Back at the Ranch - Meanwhile, there are many techniques involving other than physical barriers, such as various organically approved (and usually organically certified) sprays that are available from Black Lake Organic, or perhaps home remedies you can make up and also various cultural controls which we want to pass on to you. Many of them come out of experiences related by our customers. As a word of warning: watch what you say at B.L.O.; you may be quoted.

Along the Way, or maybe following our quick and dirty treatment of particular pests and their control, we will deal with broader issues concerning the environment and agriculture on a national or global scale, lest we forget that it is, indeed, a treacherous world out there. We had planned last spring to report on the cutting edge news of many of these things and it hurt not be able to do so. Maybe we can catch up. There's bad news and there's good news here, but as usual the good prevails.

#### ROGUE'S GALLERY

The Late Blight was later in 1997 than in 1996 when it was very early. The earliest report we had was June 26th and it hit at B.L.O. on August 30th. Our Spring 1996 newsletter reported that late blight is hitting much more frequently than it used to. We have since learned from a research paper by J.A. Browning, Ph.D., who studied late blight behavior at Lacey's Panorama City garden, that the reason is there are now two (instead of one) strains of the "causal" fungus, Phytophthora infestans, (so aptly named) in this country. This gives the fungus the genetic variability that enables it to flourish under more varying conditions.

Blame it on the Weather - Tomato late blight generally shows up after fruiting has begun in summer, following a pattern of warm days, rain, and cool nights. The fungus is soil-borne and usually survives winter on its other main host (and the major culprit) Solanum tuberosum, a.k.a. the Irish potato (which actually came from Peru). The fungus is often spread

by rain or overhead watering, however it can travel sideways through the air on fog or in mists. The original wild tomato is totally resistant.

Unhelpful Volunteers - We first noticed it hit volunteer potato vines grown on a compost pile. A few days later it had blown through an open greenhouse doorway and nipped several tomato plants. Peppers and eggplants, also members of the tomato and potato family of Solonaceae, don't seem to be affected. When the sun came out and the greenhouse heated up and dried out, the blight dried up and spread no further. Note: Some tomato varieties are rumored to be late blight resistant. They include Lisa King, Stupice, and others.

What to Do About Late Blight - In theory (and a very good one) if we knew precisely the full nutritional requirements of the cultivated tomato we could grow plants naturally resistant to late blight (and every other disease and insect pest). This may not hold true, however, since P. infestans originated in Central Mexico and the tomato and potato in South America and thus they did not co-evolve. They only met when they all went to Europe and then came to North America.

A Conventional Organic Approach, reported successful by some of our customers, is to spray preventively with Bordeaux Mix (a hydrated lime, copper and sulfur concoction) or with liquid copper. This spraying has to be repeated at 10 to 14 day intervals. An unconventional theory is that the copper acts not so much to kill or stop the fungus as to foliar feed the plant this vitally needed trace element to fend off the attack.

Alternative Control Measures - During outbreaks of late blight those plants not affected are almost invariably isolated or are under a roof overhang; or inside a greenhouse or other covering where rain and mists don't reach them. These are physical barriers, or call them fortresses. For most situations the most important measure is to erect a giant cloche or plastic tent. We sell a heavy duty, U-V resistant plastic for cloches and greenhouses (see enclosed price list). However, you must guard against overheating by allowing ventilation below or at the ends on sunny days. A way to perhaps allow air circulation and prevent fungus entry would be to cover the ends with Reemay row cover fabric, which we sell.

Additional Late Blight Counter-Measures - There are a number of additional steps you can take to minimize late blight attacks while also applying sprays or coverings. Here are some: Cross your fingers; don't grow potatoes nearby; plant tomatoes in a new bed (not where grown the previous years); sanitation (not chemical sterilization) by cleaning up and burning all infected plants and crop debris; putting tomatoes in pots with a new soil-less media mix (requires more care and feeding); planting tomatoes widely apart (not touching); cage or stake plants off the ground; prune out lower limbs to permit air circulation; apply a clean mulch to cover soil and prevent dirt splashing onto the stem and leaves; apply Red Plastic Mulch; use drip irrigation or ground watering and suspend overhead watering; fertilize properly. Good luck. Keep us posted.

Dealing with Slugs and Bugs in General - An elegant and effective method is to build unitized raised box beds (RBBs). A manageable size would be 4 by 4 or 4 by 8 feet, and 8 to 12 inches deep. For slugs you can install a strip of adhesive Slug Tape (see price list) around the sides

near the top. The copper in the tape gives the slug an electrical shock. Then build a screened frame (perhaps in two halves that hook together over the bed center) and devise eye hooks to hold it onto the base frame against winds. The top could be partly covered in plastic. Make a riser unit to go between the base and top part as plants grow tall; or transplant them out to the main garden, when big enough.

Another Defensive Barrier Form is the Reemay Row-cover fabric which is porous to air, water and light but can keep out bugs, birds, slugs, mice, etc. It is very effective, provided the edges are covered or sealed, against the carrot rust fly, cabbage maggot fly, and the cabbage butterfly (maker of those little green worms). The fabric is laid loosely over the rows, anchored, and allowed to be pushed up by growing crops. You need to lift it for weeding and remove it in hot weather or for crops requiring insect pollination at the flowering stage.

Going on the Offensive - Black Lake Organic carries a fairly full array of natural and organic-approved pesticides ranging from Bt to Safer's soap, neem, diatom earth, rotenone-pyrethum, and others. Refer to the pest controls sheet in the price list insert. The preferred approach is to identify the particular pest (or potential pest) giving your plants trouble and then select that pesticide specific for its control which is least toxic. Then go to stronger ones if those do not do the job. To the extent you employ barriers you should not need pesticides and the more healthy your plants, as a result of proper feeding and soil management, the need to use pesticides and fungicides will be minimized. Actually, insects generally prefer to eat sickly plants.

A Bug-Eat-Bug World - Yet another way to control pest insects, both on foliage and in the soil is through the use of biologicals such as lady bugs for aphids and scale insects or beneficial nematodes for root weevil larvae and crane fly grubs in the lawn. Good control can be obtained, provided these predatory species are released at the proper times and under the right conditions. Wanted: a good, used refrigerator to keep our critters in at the store. For Sale: Antique cash register at \$75.00.

The Better Slug Trap has yet to be invented. However, a number of organically accepted slug controls are available at B.L.O. Beware of commercial slug baits sold at most garden centers and hardware stores. They can (and do) kill people's pets, birds and other wildlife. We have customers whose pets died or narrowly escaped death by an expensive trip to the vet. An old stand-by is the beer trap. We sell Slug Bar them or you can make your own, but you need to place them every 5 or 10 feet to get most of the slugs. The traps can be dumped out on your compost pile.

Brew Your Own organic slug bait. Actually, it may not be the beer that gets to slugs. We've had reports from customers that oat and wheat bran, as well as corn gluten (now used to kill weed seeds) are affective in killing slugs. We haven't experimented yet but plan to develop and test an all-natural slug bait using some combination of brans, corn gluten, molasses, diatomaceous earth, pyrethrum, & yeast. We'll let you know how it does. Diatom earth, used along, is effective only where it stays dry.

Don't Be Cruel - For those who can't bear the moral burden of killing slugs, we have a few products that simply deter and detour them. Slug

and Snail Copper Guard is a sort of copper-coated bender board about 4" wide and 20 ft. long which can be formed into a small fence/fortress around garden beds. It's most economical use would be for a protected nursery bed where starts can be grown for transplanting to unprotected areas when big enough. Slug Stop is a coconut-based jelly in a tube which you squeeze to apply rings around small beds or individual plants. Applied as directed, it does prevent slug damage, but needs to be reapplied after heavy rains. Thanks to El Nino, slugs will be epidemic this year. There's no easy organic answer to slug control.

The Worm's Turn - In recent years the apply maggot has invaded our area to become a serious pest and one that is difficult to control. Organically speaking, there are not yet really economical and effective controls. We now carry yellow pheromone traps which capture adult, male flies. Apply maggot traps made of sticky red balls with apple-scented lures which can be hung in the trees. Lately, however, it has been hard to get these, especially the scent lures. We carry brush-on and smear-on Tanglefoot and you can probably find red baubles to make your own traps to hang out in June when the fly emerges. These are not as effective as when used with the lure, but will help. Please try to hang the balls such that birds can not easily bump into them and get stuck.

Dealing with the Deer - As in dueling with slugs, there is no "magic bullet" organic solution for stopping deer damage. One thing is clear, you can't just step on them or pour salt on them. However, we know of one gardener who gets their attention with a sling shot. Organic gardeners have long used barber shop hair sweepings, sachets of bloodmeal, coyote urine, and bars of certain odorous soaps with some success. We also get reports that spraying foliage with liquid fish fertilizers will keep deer away and fertilize your plants at the same time.

The Problem is Rain, which we've been known to get in the MNW. Many of these home remedies, as well as commercial products, are partially or temporarily effective, but often have to be renewed following heavy rains, unless there is a way to shield them. Commercial products made from charred bones or rotten eggs have been used with some success. Many new organic-type deer and animal deterrents, such as Get Away and Not Tonight Deer (that we now sell) are made from pepper and garlic extracts and such things as mustard seed and lemon rind. We carry concentrated Hot Pepper Wax and also Garlic Extract, if you want to make your own version and don't have lots of peppers and garlic around when needed.

Do Fence Me In - As author Robert Juhre points out in his useful booklet on Preventing Deer Damage, many, many commercial products, home-made coctions, and frightening devices are used with some success, for a while, until deer adjust to them. Also many plants are supposed to be deer resistant or less preferred, but we know of no sure bets on these. When it gets right down to it, the only fully effective control, short of fire arms, is an eight foot high fence or very dense hedge; i.e., a barrier. To many people this is too much effort and expense to put around a garden or too confining. Electric fences and keeping a dog nearby may work well.

Another Option that is easier to construct and has more appeal to us is to erect two fences of metal posts and mesh wire about four feet high and

four feet apart. As Mr. Juhre states, deer can jump high and they can jump long, but they can't jump both high and long. Seeing the second fence will stop them. Sunset Magazine even claims one fence backed by a showy ribbon four feet behind it will work. A customer told us that Bird Scare Tape keeps deer out. However, with two fences you could have a dual-purpose deer and slug fortress by turning some muscovy ducks loose between the two fences and let them pig-out on slugs & vegetable scraps.

### DEFENDING THE HOME TURF

After Taxes - After April 15th is considered the safe date for sowing a new lawn or over-seeding existing turf. This is also an optimum time for organic fertilizing and liming, as well as treating or preventing a number of lawn problems. Thurston County has put out a leaflet on "Healthy Lawn" Care in addition to its "Common Sense" brochure on the subject. Both are available at B.L.O. While we have some differences with their recommended dates and frequencies for fertilizing, we highly recommend reading them. Also pick up the County's composting leaflet.

The Double Best Thing you can do for your lawn is to feed it spring and fall with a balanced organic fertilizer. In addition to our own popular Organic Lawn Food mix we carry two big-time commercial mixes called Seasons and Sustane. The N.P.K. of B.L.O.'s mix is now 7-2-3; for Seasons it is 8-2-4 N-P-K. The B.L.O. mix and the Seasons mix, which contains similar materials, are blended to approximately the 3-1-2 N-P-K ratio prescribed for MNW lawns. When applied at a rate of just 10 lbs. per 1,000 square feet (TSF). Both will give you sustained, green lawns through summer. They foster lawn micro-organisms and build soil health without leaching out to cause pollution of ground or surface waters.

Feed Back on Lawn Feeding - Here's how some B.L.O. Organic Lawn Food loyalists have expressed their satisfaction. It's "wonderful stuff". "We tried your lawn fertilizer and it worked great." "Our neighbor sent us here for your lawn fertilizer. He says it is better than Ringers." "Your lawn fertilizer worked great last fall. Our neighbors asked how we did it. We told them to go to B.L.O."

Sustane is a Different Thing - It has an N-P-K of 5-2-4 and is made from dried, pelletized turkey manure and litter. It has been approved also for certified organic vegetable growing and reportedly prevents potato scab. Probably because of its lower nitrogen content, the manufacturer recommends four annual lawn applications at double the rate of our other two brands. This makes it substantially more expensive on an annual basis, but that fact does not deter its many fans who absolutely rave about Sustane's benefits. "Sustane does wonders. I add 20 lbs. of lawn seed to 50 lbs. of Sustane in my spreader and it just chokes out the weeds." "We put Sustane on heavy last fall and went away for the winter. When we came back, the lawn was beautiful for the first time. I quit the commercial (synthetic) stuff for good." "Sustane is the best lawn fertilizer I ever used." "I got good greenup and thick growth that choked out weeds without burning the lawn. I'm very happy with it." "I've used Sustane 4 times a year for the past 2 years with great results."

Speaking of Weeds in the lawn, you may have heard about the new natural products containing corn gluten for weed control. Get very clear about this, corn gluten does not kill established weeds, but it suppresses weed seeds, which can be equally important. That's why we now offer Suppressa, and a generic non-brand that is somewhat cheaper, for weed seed control. Be careful though, it will also kill grass seed and its effects linger for 6 or 8 weeks. Suppressa makes the chemical herbicide, Casoran, totally obsolete. The application rate is 20 lbs. per TSF and it may also be used in late summer, if you miss the spring weed seed control window. A bonus is that it acts as a fertilizer (N-P-K of 9-1-0) that can be just the spring tonic your lawn needs.

Down With Dolomite - Yardeners (people who actually enjoy mowing and tending their lawns and landscapes) frequently tout Dolomite (which is high in magnesium) as superior to garden or agricultural lime because of its greater alkalizing power and magnesium (Mg) content. Hardware stores, feed stores and some garden centers really push dolomite as being superior to regular lime and they suggest heavy, annual applications.

At Your Disservice - Such promotion of Dolomite is doing a great disservice to people and their lawns. You may have thought you were saving money by going to those chain stores. Conventional wisdom has it that MNW soils are often deficient in magnesium and the Extension Service recommends using Dolomite in one out of 3 limings, but liming only every fifth year, typically at a rate of one bag (40 or 50 lbs.) per TSF. We used to recommend the same rates. Old information has changed our minds.

Doing a Flip Flop - We are now recommending against using any dolomite (unless you have a proven, "severe" Mg deficiency). Suffice it to say that soil pH is not a serious consideration; however, feeding calcium (Ca) as a major fertilizing element is; and thus, you should use high calcium/low magnesium garden and lawn lime only. A high rate of Ca to Mg is essential to proper growing of most plants, including the grasses.

A Lime In Time - Thinking of calcium as a fertilizing rather than a pH adjusting amendment, it seems reasonable that smaller applications of about 10 lbs. of lime per TSF can be made annually (fall is preferred) right along with your organic fertilizer, on loamy soils. Double that rate on clayey soils. For sandy soils, add just 5 lbs. per TSF, spring and fall. Lime will not hurt grass seed and aids germination.

Ridiculous Rentals - As a service to our customers BLO has a Dollar-a-Day rental on drop spreaders, seed sowers, and a peat moss spreader. These are intended to be used with products purchased at BLO and not for any synthetic chemical materials; i.e. organics only! If you return the item on the same day, there is no (zero) charge.

Twin Devils of Destruction - We are declaring the Field Mouse to be Pest of the Year for 1998. If your pea sprouts and other seedlings were chomped off this spring, this very likely was the culprit. We have been flooded with them (an El Nino effect) and tunnels are everywhere around the yard. However, Yardeners this year say the top pest award is a toss-up between Craneflies and Lawn Moss. In truth, while moss is taking over many lawns, whole lawns are being eaten alive and literally wiped-out by cranefly larvae or grubs.

Strange Bed Fellows because they greedily gobble grubs, two usual "pests" the mole and starling have become allies in the war on the crane flies. Lawn moss and crane flies have become serious problems about which information on organic or "least toxic" control and management is limited or confusing and even contradictory. The alternatives of diazinon and many commercial weed and feed products are very detrimental, environmentally. We were told by one store selling diazinon for stopping crane flies and moles that it "kills crane fly grubs, earthworms and everything".

The Extension Service no longer recommends use of diazinon because of potential harm to wildlife. For moss control, Extension recommends Safer's Lawn Moss Killer, Chelated Iron, and Iron Sulfate, all of which we sell at B.L.O. On the other hand, direct organic controls are of uncertain effectiveness, if only because of the confusion, and we are looking to WSU or the County to provide some informed clarification and specific direction on dealing with the crane fly problem.

It Takes All Types - Note that some commercial weed and feed products contain 2-4-D of Vietnam/Agent Orange fame. Others contain iron as the control agent and are much less harmful, but may work against soil health and make your lawn a junky. We carry Ferrous (Iron) Sulfate, which is one of those maybe/maybe not organic materials that will kill moss, but it also stains concrete walkways and we don't have specific information on application rates to guard against overdosing. Both iron and sulfur in the proper amounts are fertilizing elements. Then again, there are those who like moss better than turf grass. Weirdos.

Taking On The Crane Fly - You have to take on the crane fly before it takes off; assuming you are troubled by it. There are, apparently, two treatment windows in April and October when you can use beneficial Predatory Nematodes as a nemesis. Another reportedly useful, non-toxic control is neem (or Safer's Bio-Neem) which is said to have a 40 percent effectiveness, rate but we don't know if that means 40 percent "kill" on any given lawn or near-total kill on 40 percent of the lawns treated. At any rate, use of these two products is a gamble. There are no guarantees and we don't pretend they always work or work perfectly.

Tricky Treatment Timing - The beneficial nematode is a microscopic worm which invades the body of slow-moving larvae in soil (except earthworms) where it releases a paralyzing virus that kills the host. The version we sell is a particularly viral type grown in a gelatin-like media that provides superior nutrition. It comes in a small package which treats up to 3,000 sq. ft. (see pest controls price sheet). It can be refrigerated for several weeks and can be applied when soil temperatures are 50 degrees or above. These nematodes normally do not survive MNW winters. The tricky part is applying them at a time which coincides with the active larval stage of the crane fly before it pupates and then hatches to fly off and lay more eggs on the ground.

What We Have Learned, mainly based on customer feed-back, is that the nematodes are highly effective in controlling rhododendron root weevils and cabbage fly maggots, but for the crane fly, results are a mixed bag. Since they are sensitive to U-V radiation, drought, and high heat, we

suggest applying them at dusk. The second best time would be a cloudy morning. We just learned that for craneflies and fleas you should not water nematodes in as they need to be near the surface where the pests stay. Also, the usual application rate should be doubled(1,500 s.f./pkt.)

What We Suspect is that cranefly infestations are a symptom of poor soils, inadequate fertility, and perhaps use of synthetic fertilizers and pesticides that have disrupted the biological functions of the soil. In other words, the real problem lies in the soil. Lasting solutions probably also lie there and with proper lawn management. Our informal survey and discussions with the WSU Master Gardeners (phone 786-5441) suggest that severe outbreaks generally occur where topsoils have been scraped off and new soil (perhaps too little or nutrient-poor) was brought in or sod was used. Thatch build-up, poor drainage, & compaction from use of soil-destroying synthetics likely are major contributors.

In Contra-Distinction lawns sown on original topsoils and fertilized with organic fertilizers rather than synthetic chemicals, probably have enough natural health and predatory soil organisms in place to keep craneflies from getting in. We would like to see studies directed at the underlying factors rather than their symptoms. A new lawn put in The Organic Way in a neighborhood of cranefly-infested lawns could tell the tale. Hear now the words of a recent convert to organics: "Our brand new lawn is a miracle. It's the best in the neighborhood. After 18 years of using chemicals that killed my soil, I aerated, applied nematodes and switched to Sustane. You can quote me, I'm a believer".

The Organic Solution for severely damaged lawns likely is to start over and Do It Right, The Organic Way, but also to go beyond. Beyond treatment with nematodes, which are harmless to wildlife and pets, the ground may need extra-deep tilling, incorporation of extra minerals, peat moss, and other organic materials to rebuild the soil's capability to support a vigorous turf grass and fend off craneflies.

### **TRANS-GARDEN ISSUES**

Proposed National Organic Standards - This is a very big current issue that has been extensively covered in several publications. We would just add that the Department of Agriculture's proposed standards are shocking, disgusting and bizarre. If enacted, they would pervert and degrade the meaning of organic certification. U.S.D.A. is thoroughly dominated by big chemical agro-business so maybe that's the whole purpose. The agency has been bombarded with protest. Better we should have no national standards than distort what "organic" has historically meant.

Secret Ingredients Revealed - According to Organic Gardening Magazine and other sources, a law has been passed requiring that chemical pesticide manufacturers reveal their formally "trade secret" inert ingredients. This is great news since inerts are often more toxic than the named active ingredients. Presumably the law applies to already registered pesticides as well as new ones. We haven't yet seen any such change on labels and do not know when law takes effect, but maybe one archaic and crazy loophole has been closed and the world will be a little better off.

Round-Up May Have Been Lassoed by the inert disclosure law. This Monsanto chemical product is one of the most pervasive and heavily used herbicides ever marketed. On the basis of revealed toxicity data on the active ingredient (glyphosate), it has been given a generally clean bill of health. Environmentalists, however, long suspected it contained inert more toxic and detrimental than the active ingredient. In the book Fletcher Sim's Compost by Charles Walters (p. 189-192), Sims, a conservative, says "Roundup is viscious stuff" and "is particularly lethal because it is touted as being so innocent." "Unfortunately the Roundup formulation contains polyoxyethylated tallow amine, a surfactant three times more acutely toxic than glyphosate" and is "a catastrophe where soil life is (concerned)" as "they die off en masse".

Finale Is Not Finished - In contrast to Roundup, the new herbicide Finale (which we sell) is rated very low in toxicity and biodegrades very rapidly. Roundup reportedly has a lingering effect into the next year. Finale acts within a week and our customers report that, used at full strength, it kills dandelions, quackgrass, bindweed (morning glory), horsetail, thistle, swamp buttercup, and even blackberries. We sprayed it on blackberries that were rained on two hours later, but were completely killed within a week. Of course Finale kills grass too, but in spot applications, along driveways, etc., it does a clean job.

The Active Ingredient in Finale, interestingly, was originally derived from a soil microbe, but probably is produced synthetically and thus may be disqualified as "organic". The sole secrete inert ingredient, with a flashpoint of 212 degrees F, is apparently water. Maybe that secret ingredient will soon be identified as water on the label and possibly Finale could meet current criteria as organic.

Herbicide Hazards - Thurston County is to be commended for its progressive approach to environmental problems on the homefront. According to the County leaflet "Lessons for a Healthy Lawn" many commonly used lawn-care products (such as insecticides, quick-release synthetic fertilizers, and "weed and feed" products) can kill beneficial soil organisms and contribute to soil compaction, thatch build-up and lawn disease. They can also harm human health and water quality." The County, years ago, abandoned roadside and most other chemical spraying.

In Their Recent Mailer titled "Talking Trash" Thurston County reported on pesticide water quality studies in urban streams and agricultural areas of the state. Mercer Creek in Bellevue turned up 18 pesticides, and overall 2,4-D was the most commonly identified. The pesticides are known to kill or harm fish, birds, and other aquatic organisms. Some leach into ground water and contaminate wells. Use of weed killers increases the risk of brain cancer and, where used frequently, they and other pesticides increase the risk of soft tissue cancer in children four times and leukemia six times, according to "Talking Trash". Talking about "family values", which is worse, pest or pesticide?

Hazardous Mulches - The most recent issue of Organic Gardening magazine (p.12) reports on a Michigan State University Study of 2,4-D and other herbicides in mulches of grass clippings and found them frequently lethal to tomatoes and beans. More significantly, the January 1997 issue (p-18)

reported that pesticide chemical combinations may be 1,000 times more deadly than the single toxicants involved! What then are the implications of using compost made from grass clippings, yard trimmings and wood chips sold at the County landfill? What about bagged commercial composts and mulch materials originating from other such municipal landfills where there is no way to control what has been used on the materials coming from all over? To what extent are pesticides decomposed or rendered harmless by the composting processes?

Mushroom Compost Revisited - We could sell a lot of mushroom compost, but we don't even offer it. The reason is that we have reason to suspect that most of it is contaminated with pesticides. Customers report that it kills earthworms. In 1990 we were informed that tests by the Department of Ecology of the major local source of mushroom compost disclosed use of diazinon and benomyl (a synthetic, systemic fungicide) and probably other pesticides. Prior to that a letter from the mushroom company in response to our inquiry about what was in it did not list any pesticides. While we don't know how much pesticides are in it or what the level of risk is, ever since then we have advised against using mushroom compost, as well as sewage sludge, especially in food gardens.

Is Mushroom Compost Organic? - Washington State organic certification standards permit use of mushroom compost only after a laboratory test showing the absence of all such pesticide residues. It is possible (but rare) to find compost from organic mushroom growing operations, but how can you be sure and by what definition or criteria of organic? All mushroom composts contain organic materials, but unless they are free of synthetic chemical contaminants, they do not meet the full meaning of organic. Before you buy any, insist on seeing results of independent laboratory tests verifying low levels or absence of diazinon, benomyl and other pesticides such as called for by Washington State Organic Certification Standards. Those selling it should make such tests public.

In Search of Real Compost - Compost is precious stuff, especially if well-made from diverse materials. It is also very hard to come by. We don't make compost to sell in bulk, though we do use our own in our custom nursery potting media. Your best prospects for a quality uncontaminated compost is to make your own. To insure it has high nutrient content, we recommend using B.L.O.'s Compost Fortifier Mix. For years we have resisted selling commercially bagged compost made from grass clippings, wood and yard trimming as being inferior compost.

Quality Compost is Created, it does not just happen. Manure happens and humus happens, but not compost. To us, quality compost is made with manure, added minerals and nutritious stuff such as kitchen scraps that has undergone heating to at least 130 degrees F. Last year we tested three commercial yard trimmings composts for growing potted tomatoes and chose the best, called Filthy Rich Compost, to offer this year. We continue to keep our eyes out for a superior commercial compost to offer.

The Peat Moss Controversy - For all practical purposes sphagnum peat moss is a non-renewable resource since it takes thousands of years lying under water for it to form. In Canada and some northern U.S. states there are

probably more acres of peatbogs than any other type of vegetation in North America. Even though this vastness is comparatively poor in plant diversity and wildlife or fish denizens, one option might be to lock it all up, preserve it, and deny any use of it to gardeners for all time. Giving up gas and cars makes more sense. It is true that peat bogs, like any vegetative community, contain some rare plant species subject to possible decimation from mining of the bog lands.

A Wide-World Perspective. - Thanks to a newspaper article supplied by Nancy Partlow, we learned that in some parts of the world, the destruction of peat bogs is truly appalling. Over 90 percent of the world production or mining of peat has occurred in the Soviet Union where its principle use has been as fuel. They burn it up. In some densely populated areas of Europe, particularly England, they have simply used up nearly all the available peat from decades of horticultural use. Their only sensible option is to stop and to preserve what is left. A true, ecological peat crisis exists in those countries. Saving peat here won't help in England. But what should that mean for us in Washington, or the USA? Peat moss is not imported from Europe. Is there cause for great alarm here?

Conscientious Objectors should take note that less than one percent of North America's millions of acres of peat bogs have been mined and they are mined mainly for horticultural use of peat. Furthermore, there are laws regulating the industry and restoration is required, although we can question how good the compliance is or what the results will be. Black Lake Organic has and does use and sell peat moss both from Canada and a few local sources. We expect that will continue, but we are looking at and offering options. Whether the options are any less environmentally destructive, when everything is considered, is difficult to judge.

For Peat's Sake, we now offer shredded coconut husks, also called coir fiber, from the Philippines. It comes in small compressed blocks, medium-size blocks and now in big bales resembling those that peat moss is packaged in. Arguably this is a renewable resource. It is nicer to work with and is less acidic than peat moss, but it is more expensive. The smaller ones have to be soaked and separated to make them usable. We now offer Coco Grow in 3.8 cu. ft. bales at \$15.00. This newest product is usable right out of the bag. Besides being an excellent seed-starting media and potting "soil" ingredient, coir makes an excellent bedding for red worm "composting" boxes. Customers who have tried it seem to prefer coir; but is there enough to replace the peat demand?

How Now Mad Cow? - Here is another "crisis" in need of perspective. No question, the prospect of mad cow disease striking close to home is very scary and we have encountered several customers who want nothing to do with such old-time, organic fertilizer mainstays as bonemeal and blood meal. Please notice that if you are going to be completely safe you must also give up steer manure and stop eating beef, milk, yogurt, and gelatins. If Oprah says it's the thing to do, who are we to differ? To be sure, there are alternative guanos, fish products and other simple fertilizers to use in your garden and we offer them, as well as a "new" animal-free fertilizer mix we have named Garden Essentials. It is based

on the formula on page 15 in Territorial's catalog, except that bonemeal is excluded and glacial and volcanic rock trace minerals added.

A Carnivorian Response - Even die-hard vegetarians might concede that animals and livestock have an essential role in agriculture. When the mad cow disease specter first arose at B.L.O. we seriously considered and debated dropping all bovine byproducts. The upshot has been a de-emphasizing of animal meals in fertilizing products and programs. Early-on we contacted the Washington Department of Agriculture's Organic Certification Division for information and we studied the mad cow disease threat. Given that there are no known cases of cow or human afflictions in this country and the fact that the livestock feed industry has voluntarily banned the feeding of applicable animal byproducts to bovines, we are continuing to sell bonemeal, bloodmeal, and steer manure.

Beefed-Up Ramifications - Already we are seeing tags on bags of bonemeal which state plainly: Do not feed to cattle or other Ruminants. Surely there will be people who ignore this; however, if ever there is clear evidence the disease has entered this country and poses a threat, we will stop selling and using the products. But, for perspective, consider that in all of Europe only 30 some human cases of the disease are reported. Import of beef from England has been banned for years and England has destroyed its entire stock of cattle. However, in Africa there are reportedly a number of cases of mad cow disease among tribes practicing cannibalism of their own dead relatives. We strongly advise against eating your relatives, dead or not; it could cause you to go mad.

We're Still Waiting for Adam Smith to be proven right. With the "ban" on feeding of bovine products back to cattle, there seemingly would be a greater supply available for fertilizer use and the prices should come tumbling down. Yet, it hasn't happened. And while we've been able to drop the price on bonemeal, our cost on bloodmeal has gone up. Apparently demand for protein in non-cattle feeding uses remains high. We will be looking into ways to naturally and inexpensively grow your own nitrogen fertilizer through optimum mineralizing of your garden soils. Notice: This may be an appropriate place to announce that we no longer have crabmeal to sell as some company has contracted to buy up all that is produced by our former supplier. Protein is in demand.

Where Have All the Bees Gone? - By now you've surely noticed there are no honey bees out flying around your flowers and fruit trees. Virtually all wild honey bees in this region have been wiped out by a tiny mite introduced from Europe. The only exceptions are honey bees raised in hives that are sprayed with chemical miticides. We are told, interestingly, that oils of spearmint and wintergreen are effective controls, but we believe E.P.A., in another illogical action, banned commercial production and use of these natural controls pending registration, which takes longer than it does to wipe out the bees. We miss the little, brown, buzzing buggers.

Natives to the Rescue - The demise of the Honey Bee is not the calamity for agriculture we may have thought it would be. After all, the honeybee itself is thought to be a European import and plants obviously got pollinated before Europeans came here. Certain of our native bees, known

to be highly efficient pollinators, have suddenly come into prominence. You can read about these fascinating creatures in The Orchard Mason Bee book available at B.L.O. We have a nest box of these mighty, little, gentle black, bees just humming with activity at the Nursery. In February and March you can buy the Mason Bees from us and we sell various Mason Bee Nesting Boxes which enable them to propagate plentifully. Get them soon, the mason bees disappear by the end of June.

Treated Wood Controversy - The use of treated wood boxes for raised bed gardening has become very popular and continues to generate questions about what kind of wood to use and which wood preservatives are safe to use where food crops are grown. One should consider the options of using concrete blocks or walls and using recycled plastic "lumber". Inch-thick redcedar lasts fairly long, but these trees are becoming scarce. Other than cuprinol we recommend you stay away from all other preservatives and not use creosoted timbers around food gardens.

### IN OUR NURSERY

The Organic Way - Some other local nurseries, we are told by former employees who shop here, use "tons" of chemicals throughout their operations. You don't have to worry about chemical exposure while at Black Lake Organic Nursery, nor about taking home chemically-treated or contaminated plants (food plants or otherwise) purchased here. We use no synthetic chemical pesticides or fertilizers and very little organically-approved pest control products. This is not only because we don't want to; or because we care about environmental protection; it's because we don't have to use chemicals and neither do you. Our nursery is living proof.

We Grow Health - And we sell health. If nurseries don't grow naturally resistant plants, they have to use artificial chemicals to keep up appearances while they market unhealth; i.e., plants with frail constitutions carrying a high risk of failure. If you've been buying expensive plants that die, you're shopping at the wrong place and using the wrong products. But then, you probably wouldn't be reading this if that were you. You've come to the right place. Just keep coming.

Some People Think that not using "chemicals" is what organic plants or organic produce is all about. But The Organic Way (Organiculture) isn't just the absence of negatives, any more than the absence of sickness is real health. Organiculture is the presence of positives. That's the part not known or emphasized to the general public. They get only half the story. The really exciting part is essentially hidden from most people. That part is building soil fertility in order to grow health. Eating "unsprayed" food doesn't translate into being healthy if that food is nutritionally blah. The same goes for ornamental plants. They stand a poor chance of making it on poor soils or if grown without the full and balanced nutrition they require to prosper....just like people. You too require nutrient-rich soil. Today's agricultural soils are much depleted.

The Uncommon Nursery - Not only is B.L.O. one of the few organic nurseries around, we are one of the very rare nurseries that really knows

how to grow superb container plants using organic methods and materials...beyond simply refraining from use of chemicals and letting nature take its course. The information on how to do that is simply not available in any book or manual or in any college horticulture course. We had to develop it. We are pioneering successful organic nursery growing methods. Perfected organic fertility is what it boils down to and this is the basis for our B.L.O.O.M. Story and a new vision of unstoppable success.

Nobody (Hardly) Does It like we do. We do everything wrong from the git go, if conventional chemical horticulture is to be believed. We are an anachronism. We don't sterilize growing media and we deliberately invite disease and disaster, as they see it, by using real "dirt" in our potting mix. What's more, we abhor Osmocote fertilizer, the modern synthetic savior pill of nearly all contemporary commercial nurseries. We know of no other nursery using an unsterilized soil-and-compost-based growing media augmented with nature-derived conditioning materials, plus plant and animal-derived fertilizers and ground rock minerals. It turns out that the best reason to use organic methods is not environmental, but to grow better plants and produce more nutritious crops than chemicals ever will. Organic does not mean compromise. Done right, it means superior.

We Sell Success, both ours and yours. We want you to succeed at gardening and we know you will, because our methods and plants work. Indeed, we guarantee it! We offer a no-hassle, one-year replacement or refund policy on any nursery plant that fails due to our fault. Provided you use normal care, install the plant promptly (or as instructed), and use organic methods only, we'll make good on sick or dead plants you think are due to our error. It happens, occasionally.

Reservations Explained - Part of the reason we can guarantee our container plants is that we don't let go of them until they are at near-peak condition and ready to be safely planted out. It is unethical, and probably unlawful, for a nursery to stick a plant in a larger pot and immediately set it out to sell at a higher price. American Association of Nurserymen (AAN) standards govern this. According to the 1974 U.S.D.A. Yearbook (p. 247), "To be considered container grown, the plants should have been transplanted into the container and grown there sufficiently long for new fibrous roots to have developed so the root mass will retain its shape and hold together when removed from the container. On removal from the container, only the fine or fibrous roots should be evident". At B.L.O. our newly potted plants go into a "Reserve Area" until they reach the rooted-out stage and can go out to our "Display Area" for selling. We do this for the plant's sake, our sake, and yours. Hope you understand

Your Patience Rewarded - We know that a number of customers have been frustrated to see all those nice plants sitting out behind our store and be told they can't be taken until a later time. In some cases we can sell them and keep them on hold and care for them until ready for planting. Our problem is trying to time plant purchases and potting to get all the different species grown-out by the peak spring and fall demand times. We are getting closer to working this out. Prematurely removing plants from containers can easily result in damage to rootlets and lead to failure of the plant. If you can wait until the plants are

ready, you will be rewarded with a prime plant at purchase and a superior plant in the seasons and years to follow. Furthermore, you will have gotten what you paid for in the time and care we give them in the interim. You pay for time in a bottle...might as well get it.

Coming-Out Time - Better late than never they say. A great many of the plants we have been hoarding in our Reserve Area will be coming out for display and sale in May. Elsewhere in the newsletter is a listing of our main native plant offerings. At the store we have a complete price list, updated about monthly, of all our perennial potted plants, native and non-native. Come on out and look around and pick up a plant price list. Our bedding plants of flower, herbs and vegetables including tomatoes, pepper and eggplant starts will be out for sale as well. Solans are \$1.00

Going-In Time - In answer to a common questions about when nursery stock can be planted, our container plants can be planted any time of the year, except in extreme heat or extreme cold. On the other hand, bare-root plants need to go in the ground by early May. In both cases the plants need to be carefully watered and tended for a full year to become well established. Transplanting of an established plant from spot to spot is best done during winter dormancy. The very best time to plant a tree or shrub in the MNW is in the fall after rains begin, since the risk of overheating and drying out is next to zero until spring.

How to Plant a Tree is no simple matter...in that this is a hotly debated matter with many schools of thought. Probably no one method suits all situations. A major consideration is enabling or forcing a tree to send roots far out into the soil surrounding the planting hole so that it can't be blown down. We now recommend digging a minimum-sized hole, no deeper than the root ball or soil line on the trunk, and back-filling with just the native soil and watering that down as you go to eliminate air pockets. Fertilizer, compost (or aged manure), and a mulch covering are then placed on the surface extending to the drip line and beyond, but without putting mulch right up against the trunk where it could induce rotting. Extend the fertilizer/mulch cover outward as the tree spreads.

Shoots! It's The Roots, the part that you don't see when examining a nursery plant, that governs the quality and potential survivability and thrivability of a plant. You could be looking at a very unimpressive top part which has a great future and prospects for a quality life, or you could be looking at a very impressive top that is doomed to dwindle, especially where container plants are concerned. Beauty may be in the eye of the beholder, but character lies hidden in unseen parts. We grow plants with character, personality, and a wholesome, robust quality. We don't grow for glitz. Nor do we grow for uniformity. Nonetheless, our plants get skilled individual attention. They don't come off an assembly line untouched by human hands and caring.

If the Truth Be known - It's not the roots which ultimately determine the health and quality of a plant, be it in a pot or in the ground; instead, its the ground, i.e., the soil and its fertility. Soil is not dirt. Don't call it dirt! Soil lives and must be kept alive to grow plants organically and without intravenous injections. The environment in a container is a very different world than it is in the ground. It's a

whole different universe from using a chemically-soaked, soil-less media. There's no real life in that universe. On the other hand, you can't grow a plant in a pot with just "dirt" or even straight soil. To imitate or emulate natural conditions in a pot you have to do some unnatural things, even using all-natural materials. This is a big challenge, to get it down and Do It Right, but its also an opportunity to give a plant the optimum or best of possible worlds. That's where the genius of Ned McGinley, our nursery manager comes in.

It's The Soil and it's physical condition or properties, including organic matter, plus its nutrient content and fertility balance that truly governs plant growth, quality and reproductive capability (as in seed viability). Indeed, the secret of gardening success is fertile, friable soil. Perhaps 90% of gardening or farming success lies in soil management and 90% of that lies in proper fertilization achieved over time, with the use of organic matter, minerals, and lime. Back to basics.

You Could Call It Good Tilth; but don't make the mistake of thinking tilth means simply use of copious organic matter. Soil Organic Matter (SOM) is only half of the fertility/nutrition story. Heaping on more organic matter won't do it. Many organic enthusiasts are in the dark (heads in the sand?) on the significance of minerals to nutritional quality of crops and ornamental plants. We know, we were too, not long ago. Given that insect pests and weeds are the bane of organic growing, said enthusiasts need to listen up about the role of minerals in minimizing both.

All-Purpose Fallacy - We are pretty certain there's no such thing as an "All Purpose Fertilizer" although quality compost, chicken manure, quality worm castings, or certain guanos may come close to it. However, our own All Vegetables Mix with 12 ingredients may be a candidate, but as far as fertilizers go, we think Optimum Mixes (as in B.L.O.O.M.) are the way to go for different groups or classes of plants that have evolved in different soils and situations than other classes. The "All Purpose" label is more a gimmick to turn quandry and the desire for quick convenience into an impulse purchasing balm.

A Universal Potting Mix? This may be a different story. Based on our experiences at B.L.O. and what we have learned from reading and studying the past few years, we are starting to think maybe the Unicorn does exist. Providing the full complement of minerals, in the right amounts and proportions, is a major part of it, along with the optimum combination of different water-and -nutrient-retaining (as well as draining) materials. Out of Ned's ever-evolving media mix has come BLO's Little Earth Multi-Purpose Potting Mix, which we hope to produce and bag for local and in-house marketing. This mix contains over 20 ingredients plus undetermined intellectual input. It ain't cheap but it is fail-proof and total. There is a leaflet at the store which describes it. We also plan to develop a Peat-Free version using coir fiber. Meanwhile, we still offer customized potting media blends for different kinds of plants and situations for those gardeners not yet ready to believe in unicorns.

Testing Services Offered - Optimum fertilization of your soil is as simple as A,B,C; i.e.; supplying an adequate amount of balanced, complete nutrition. But to Do It Right you need to know what's already in the soil before knowing what to add. Both aspects are complicated. You can't tell by looking at or tasting the soil what is in it or how fertile it is. And it's costly to guess and could be disastrous to "experiment" without having accurate data. Cheap soil test kits can't do the job. We now offer professional soil testing with one week turn-around from A & L Agricultural Labs. Come into the store for sampling bags and instructions. When the results are returned we go over them with you and advise on organic fertilizing options. Leaf tissue analysis is available.

Over and Over Again we get comments (almost daily) such as the following: "You have really healthy plants and at such reasonable prices." We could fill a page from logged quotes to this effect. Just because we are organic doesn't mean we have to be expensive. One of our customers told us we needed to go to other nurseries and look at their plants and their prices then come back and raise ours. But then, she had become "addicted" (her word) to purchasing B.L.O. plants to beautify her yard and the views from her house, including with gorgeous fall leaf colors.

It Is True that no sane nursery owner would have permitted the amount of experimentation and the investment of time in individual care of plants that has occurred over the past few years at B.L.O. It has indeed resulted in the best-looking, healthiest plants in town at the lowest prices. Supposedly conifers are difficult to grow in containers. We do it with ease. Supposedly you can't grow madrones from transplants. We are doing it at B.L.O. The reason is that we have developed the know-how for properly combining a half-dozen natural media materials and a dozen or so natural fertilizer ingredients to successfully grow almost any plant well. Had there not been free-rein to experiment, we could not have reached the point where our plants receive the praise they do.

Stop the Insanity. In actuality we have been slowly increasing our prices on plants and frankly will continue to do so because they are the best available and they have the best prospect of thriving and giving you the fewest problems, once planted. Our prices need to reflect the culmination of all the time and money that has gone into perfecting the soil mixes and caring for the plants. You can be confident they will grow well organically and we don't hesitate to guarantee it. We submit that there is more than meets the eyes in our container plants and that B.L.O. has made a remarkable and triumphant contribution to organic growing for which the pay-off rightly should come in payment for the quality of our plants and our service. Does this not smack of reason?

#### **A CERTAIN CHEMISTRY**

A Growing Experience - Many of you have had close encounters of the fortunate kind with Ned McGinley, our principled principal plant person. In less than four years at B.L.O. he has gone from a person who had never sown a seed to becoming the next Luther Burbank. His grasp of fertilization, skill at diagnosing plant problems, ability to custom-blend container media and to revive or grow the healthiest plants of almost every type is phenomenal. Ned operates largely by intuition and

has amazing powers of observation and confident reasoning. His exploratory curiosity and experimental efforts lie at the bottom of the reinvigoration and promising new direction of BLO and its forthcoming contributions to gardening, horticulture and world improvement. A modest guy, Ned Sez: "All I do is listen to the plants."

Born Again Organicist - Here it is necessary for me (Gary), principal author), to personalize. Our B.L.O.O.M. success story owes much to Ned's intuitive and brash insistence that health and resistance could be simply grown into plants. This is the offensive strategy Mother Nature has successfully employed over eons of evolution. I have the profoundest respect and reverence for her wisdom. It was the amazing achievements by Ned in reviving sick plants and consistently demonstrating that plant diseases and pests largely can be beaten through fine-tuned nutrition/fertilization that both informed and revived my faith in the organic method. I thus went on a reading binge in the winter of '96-'97 to better understand the principles and mechanisms underlying organiculture and became a more dedicated disciple of Sir Albert Howard, the father of Organiculture. I thought I had a nearly complete picture and was ready to go on an Organic Crusade.

The Wisdom of Solomon - An opportunity arose to put forth my new-found fervor in a January 1997 talk to the local Fruit Grower's Association on Organic Orchardng. Afterwards the speech was sent out to various people for comment and received mixed reviews. However, it struck a responsible chord and led to two meetings with Steve Solomon, MNW gardening guru, author, and former owner of Territorial Seed Company. Steve's role was to give me encouragement, but also to point out a glaring hole in my research and knowledge, namely the tremendous significance of base minerals in plant growth, which I only vaguely suspected.

The Big Break-through - Solomon led me to the writings of professor William A. Albrecht and classic research done between 1920 and the mid 1960s at the University of Missouri. I studied those writings through the winter of 1997-98 and the picture became much clearer and more complete. Whereas Sir Howard emphasized humus and championed its role in soil dynamics and in growing healthy crops and livestock, Albrecht emphasized the role of minerals. His discoveries dealt with base (cation) nutrients and the magical properties of clay in holding them available for plant use. He brilliantly demonstrated how the abundance and specific ratios of minerals affected crop growth and animal nutrition. His findings were swept aside by the emergence of chemical agriculture.

Albrecht's Main Discovery was that calcium, generally considered a secondary (second-class) nutrient, is actually the major fertilizing element derived from the soil (versus water or air) and much more important as a facilitator of growth than potassium. It mobilizes nitrogen uptake and is essential to protein manufacture and the ushering of other nutrients inside plant cells. He demonstrated irrefutably that calcium and phosphate additions (plus lesser amounts of potassium and magnesium) are necessary to grow legumes (soybeans, alfalfa, clover, etc.), nutritious grass forage, and nutritious grains and vegetables.

Albrecht Also Determined that the unrealized value of liming is not for adjustment of acidity but for supplying calcium. Accordingly, for crops and most plants in the U.S., calcium should comprise 70% of humus and clay's cation exchange capacity (CEC) with magnesium being about 10%, potassium just 5%, sodium 3%, hydrogen ions 10% and the remainder being trace elements. Where these ratios are out of alignment, protein formation is deficient and defective. Tooth and bone deterioration are also a result.

Conventional Wisdom Trounced - Among other things, Albrecht demonstrated that the still prevalent notion of plant roots having to take all their nutrients as simple, inorganic soluble elements (ions) out of the so-called soil solution is erroneous. The major mechanism actually involves tiny clay and humus particles (colloids) to which minerals are attached (like static electricity) and held insoluble but nevertheless available to plant roots. They obtain the minerals by exchanging hydrogen ions from weak acids the roots excrete onto the clay particles while picking off the mineral nutrients that otherwise resist being dissolved by soil water and carried off or around by the soil solution. That doesn't happen

As Albrecht Knew back in the 30's, plant roots routinely take up complex and rather large nutrient or metabolizing molecules. Yet the myth of simple ions, solubility, and "plants not knowing the difference between organics and synthetics" gets repeated on and on. It is music to the ears of chemical fertilizer manufacturers. Virtually every state legislature has enacted these fallacies and the disproven NPK gospel into law. We can't shake this thing in the public's mind.

The pH Bugaboo - Another major finding of Albrecht and colleagues is that pH (level of acidity or alkalinity) is relatively unimportant in growing plants. Rather, what is important is supplying enough calcium and getting the magnesium, potassium, etc. in the right ratios. What is critical to proper growth is the balance of nutrients, not the degree of acidity. From the standpoint of producing edible and nutritious crops, high acidity simply denotes minerally impoverished soils. Plant roots actually don't mind moderately high acidity if they get their minerals.

Supplying The Right Minerals ( as with the calcium in lime) in the right ratios actually brings about a "desired" pH of 6.2 to 6.5 in most situations. Keeping the soil slightly acidic however, is important for availability of trace elements and long-term recharge of exchanged minerals from non-clay soil particles. Nevertheless, you can have the "right" pH and get poor crops for lack of the right combination of minerals. You can also have the "wrong" pH and grow fine plants by supplying the right combination of nutrient elements.

You Won't Like This. - Rhododendrons are not "Acid Lovers", nor "Lime Haters" and they don't always have an aversion for calcium. This illustrates perfectly the pH bugaboo. Rhododendrons, blueberries, and other "acid lovers" simply evolved to take advantage of soils lacking in calcium. Albrecht pointed out that Scottish researchers were able to grow rhodies at a pH of 8 (alkaline) using magnesium carbonate. Albrecht showed these plants need high magnesium. The "acid lovers" also need iron, manganese, copper and boron which are chemically locked-up at high

(alkaline) pH or in the absence of a humus buffer (See Acres U.S.A., pp. 155 & 185). Lee Fryer (see The Bio-Gardener's Bible, pp 126-7)) was able to grow happy rhodies at pH 9 with weekly feedings of lime water plus "lethal" doses of boron and other minerals including chelated iron.

Other Practical Implications of the mineral-plus-organics concept and practice are that calcium, phosphorus and some potassium are essential to growing clovers and other legumes. Proper fertilization (ABCs) is most critical in the first month of a plant's life. If your cover crop clovers did not come up or do well, this may be why. Potassium applications generally should be minimal on MNW soils, especially where manures are used. This means reducing use of wood ashes, green sand, and langbeinite (K-Mag or Sul-Po-Mag), and instead increasing lime and rock phosphate, which work best in combination with manure. If your vegetables taste poor, they probably lack minerals and nutrient balance.

Further Implications having to do with mineralized organic matter are that mummy berry (of blueberries) is apparently due to a mineral deficiency or imbalance. Club-root disease on cabbage family crops can be abated using kelp meal. Scab disease in potatoes is not a pH problem but is associated with improper decay of organic matter and unbalanced mineralization that fosters the fungal disease organism. Stutzman Chicken Manure(4-4-2) reportedly supplies counter-acting microbes. Other aged manures, quality compost and Sustane (turkey manure and litter) may do likewise. Finally, various mineral applications specific to particular species are effective in reducing weeds (see Weeds, Control Without Poisons by Charles Walters). The answers are out there in the organic/natural world, if we just look hard enough and listen to the plants.

### **MINERAL AUGMENTED ORGANICS**

Getting It Together - Prior to our exposure to the works of William Albrecht, mainly through the evolution of Ned's anti-scientific experimentation with major and trace element components in our potting medias, we were reaching some of the same conclusions about the supreme importance of nutrient balance (versus pouring on the NPK); the contradictions of pH and solubility theories; and ratios of minerals for proper CEC and base saturation, etc. Albrecht's scientific conclusions threw much light on all this and allowed for rapid adjustment of our thinking as well as adjustments to the growing media and fertilization. The pieces all seemed to fall in place and suddenly we had a new school of growing that was in need of a name. We also had the coalescing of our B.L.O.O.M. Story. Who knows, a third half maybe lies ahead.

Beyond Organics - The old Organic Gardening Encyclopedia has a write-up on Albrecht but totally misses his major contribution regarding the role of calcium in fertility and the near irrelevance of pH to growing plants. The followers of Howard and Rodale have long been blind in one eye. They see only half of the picture or story. We at B.L.O. had a growing sense that the organic method was incomplete and inadequate and the minerals were as important to a complete horticultural and agricultural method as

organic matter. Along the way we learned of authors who insisted that minerals alone are needed to grow quality, nutritious crops. We knew we had something superior in combining the two schools of thinking and agricultural practice. But what to call it? All the catchy words are taken. I settled on Mineral Augmented Organics. Got a better name?

A Few Good Gardeners are needed. Very few gardeners are aware of the importance of minerals and mineralization and very few organic practitioners are putting it together with organics in the way that we at B.L.O. are. What we are doing is validating the combination and this has earth-shaking ramifications for agriculture and horticulture, as well as for everyone who eats and wants to be truly healthy. Here is really good news! Think of the implications of M.A.O. (mineral augmented Organics) enabling everyone to grow the best tasting, highest nutritional food with the least vulnerability to pests and diseases and using all-natural materials even for ornamentals and landscape plants. You can think of our fertilizers as health food for your plants and the soil microlife.

Old-Time Organic Growers, there is something better. Be prepared to be elevated to M.A.O. Gardeners. Be among the first to ride this new wave. We are contemplating some kind of a Conference/Discussion Session this fall, perhaps combined with a harvest dinner. There would be an admission charge, but Senior Citizen/Sages would get in free. If you are interested, send us a post card and your ideas.

Reformulated Fertilizers - Taking all that we had observed and learned about mineral augmented organics, we were obliged to reformulate the famous B.L.O. fertilizer mixes accordingly. Yes, we changed them and without your permission. We ask that you make the leap of faith that these changes mean improvement. Essentially we have cut back on potassium and magnesium and increased calcium, in many cases, as well as added a greater array of trace elements in small quantities. The upshot has generally been a lowering of N-P-K numbers, but don't let this upset you. What is important is the full array of nutrients in proper balance rather than quantitatively jacking-up a few "major" elements to get unbalanced and ineffective or detrimental results. We need your feedback on results.

The Bottom Line is in the bag. We have gone to a double-walled paper bag with an attractive and informative label for most of our fertilizer mixes and some simple fertilizers. Furthermore, we have lowered the prices on most of our fertilizer products. This is partly because the reformulations involve more of the less expensive materials and also because we have secured delivery from a supply source with lower prices. So now you have better products, greater information, and lower prices from the only full-line, all-in-one-place, organic nursery and gardening supplies store around all of South Puget Sound. Why shop anywhere else where they know little and care less? If you want to support and advance the mineral augmented organics cause, bring us your business. Your support is appreciated.

