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**DEAR ORGANIC GARDENERS,**

[http://www.seedsofchange.com/enewsletter/issue\\_62/dear\\_gardeners.asp](http://www.seedsofchange.com/enewsletter/issue_62/dear_gardeners.asp)

It's been a while since we published our last issue of The Cutting Edge; please accept our apologies. It's been an incredibly busy spring, both at our research farm where they are working to implement a new permaculture plan and train new interns, and at our Santa Fe packing facility where they have been fine tuning the new seed packing machine and working overtime to keep up with record orders.

As you read this, the gardening season is getting into full swing across the continent with soils warming and final frost dates passing in all but extreme northern areas and high elevations. As you are watching your direct-seeded crops emerge or monitoring your recent transplants, some of you may have noticed a few plants dying off by rotting at the stem. In this month's Disease Corner, Seed Pathologist Emily Gatch discusses some of the causes of "damping off" disease and what you can do to prevent it from happening to your plants.

Access to great seeds is of the utmost importance to us at Seeds of Change, but of course we can't preserve every worthy variety out there. Seed exchanges are becoming an important way for communities of gardeners and farmers to save regionally adapted varieties from extinction and share their favorite seeds. This month Head Seed Cleaner Emily Skelton writes about the annual seed giveaway at the Seeds of Change Research Farm and the subsequent Dixon Community Seed Exchange where they circulated many "seconds" of Seeds of Change varieties in one of the area's most exiting events for organic growers.

Whether you are an organic grower or not, you can put our diverse selection of certified organic seeds to work to support your business or local school. Consumer Seed Manger Dan Sandweiss explains how as he outlines our new Healthy Fundraising and Customized Seed Pack Programs.

While good seeds are essential to successful organic agriculture, nothing is more important for a farmer than the gift of good land to grow them on. As part of our ongoing series of interviews with Seeds of Change seed growers, I share my October 2006 interview with Nash Huber. Nash cultivates some of the finest land in the Pacific Northwest and has done as much to protect the land that he farms from development, and train a new generation of farmers to work it, as he has to create one of the most vital organic farming enterprises in the region.

In addition, Field Manager Kelle Carter gets us up to date on the whirlwind of springtime activities at the Research Farm, and our News and Views section delves into the mysterious world-wide collapse of honey bee colonies, the link between pesticides and obesity, a court challenge to GMO alfalfa, and organic variety trial workshops.

Wherever you are in your gardening cycle, from working the soil to sowing and cultivating to mulching or harvesting, or all of the above, I hope you find inspiration in the words that follow.

**Keep on Growing,  
Scott Vlaun, Editor**

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## **FARMER INTERVIEW WITH NASH HUBER**

**(second in a nine-part series)**

**by Scott Vlaun**

[http://www.seedsofchange.com/enewsletter/issue\\_62/farmer\\_interview\\_two.asp](http://www.seedsofchange.com/enewsletter/issue_62/farmer_interview_two.asp)

In late October of 2006 I had the distinct pleasure of spending a few days with Nash Huber where he farms in Sequim, Washington. It is a unique location on the Olympic Peninsula in the rain shadow of the Olympic Mountains, enjoying more sun than most farming regions in the Pacific Northwest. It is also a place that is under intense development pressure, threatening some of the best farmland in the area. Nash farms numerous plots scattered around the area, so we had most of our conversations in his aged but functional Toyota pickup.

Scott Vlaun: So Nash, how many acres do you have scattered throughout this area?

Nash Huber: It's probably around 400 acres right now; maybe a shade under that. We're probably doing 200 acres of produce, row crops that we rotate through that land. A fair amount of the land is in habitat, barley and grain cover crops, fencerows and insectaries. We rotate quite a bit of our land every year.

SV: And you also do some seed crops?

NH: We do vegetable seed crops. Acreage-wise, it's not a large portion of our land, but it will definitely be a part of the future here as far as not only maintaining the germ plasm and access to seed that fits our market niche and climate, but could also be a larger part of the farm's economy in the future.

SV: I was talking with your production manager Scott Chichester last night and he said that a lot of the young people that come here to work on the farm these days are very interested in seed production.

NH: I think it's in the air, not only on this farm. I don't use the word "fad" but it has some elements of that, as people are beginning to focus on the importance of seed. Of course for the farmer seed has always been important, but now that seed, access to seed, and the seed business is falling into fewer and fewer agribusiness hands, I equate it to large corporations buying up libraries and deciding which books they want to keep and getting rid of the ones they don't want. It's much like seeds: We lose varieties, we lose access to germ plasm as large corporations decide that certain kinds of seeds are no longer profitable.

SV: So are you working on varieties to replace some of those that are being lost?

NH: Either to replace them or just maintain them—to get a hold of material that is being dropped. A couple of our carrots that are important for our production have been dropped by the commercial interests that hold those varieties, so we've maintained them because they are particularly important to us. That happens quite often in the business we're in. You get to know a variety and it becomes important in your production schedule, then they (the seed company) decide that it doesn't fit in their business anymore and they drop it. And the people that are dependent on it have to go looking for another variety.

SV: What about these carrot varieties that you are saving is special, that's not available in other carrot varieties?

NH: Well, they're OP (open pollinated) and they have flavor characteristics that aren't available in a lot of the hybrid varieties. A lot of the hybrid varieties have been developed for ship-ability or appearance, which are important, but our market niche is a combination of flavor and those characteristics. Flavor is right at the top of the list for our carrot varieties. You have to interplay those elements, but flavor is pretty important for the small producer. We ship, but we don't ship a thousand miles. Most of our produce stays within the bioregion that we live in.

SV: So you do you save a lot of seed here?

NH: I've been saving seed here for twenty-five years, but I really didn't know what I was doing. I was doing a little studying but not enough. But now there's this focus on seed and it's wonderful. You've got people like John Navazio, and Micaela (Colley) and Matthew (Dillon) from the Organic Seed Alliance, and Steve Peters and Erica Renaud at Seeds of Change, and now Alf Christianson. I'm getting some help. You're not out there by yourself any more, which is really cool.

SV: It's a start.

NH: Yes, it is.

SV: Obviously a lot more needs to happen and more support has to come from a lot of places.

NH: Yes, but we're doing it. We're building it a brick at a time now, which is wonderful. It's like all the forces came riding in at the right time.

SV: How many different crops do you save seed on?

NH: Oh god! At least ten or twelve crops. It's gone down in the last couple of years as I focused a lot of attention on spinach, cabbage, kale and carrots, because those are pretty key crops for us. There was a while where I was working on baby Bok Choy, and Tatsoi, and radishes. We haven't done any work in that area for a while, but we might come back to them.

SV: When we were speaking yesterday, you mentioned that you have an amazing crew of people working here and how you've worked to develop your crew. How many people do you have working here?

NH: We're pretty stable at around 25 people. For the last few years we're pretty consistent in that range. We tend to get a little short-handed when people go back to school. That's the main way we lose employees. So, we're always looking for good folks.

SV: Over the years have you noticed a growing interest among local young people?

NH: I haven't noticed much change. We've always been fairly lucky in garnering good employees. It's something we consistently keep our eyes open for: people who are pretty smart, fairly motivated and seem to have an idea about what they want to do with their lives.

SV: Do you see education as an important part of what you do here?

NH: Most definitely. Besides the food, our main product is people. You can't have a good farm without people, land and water. They're all extremely important and they all go together. You've got to have all of those elements.

SV: Well we know you've got the water, and it seems as though you've got great people that you are nurturing along to become a new generation of farmers. Can you talk a little bit about the land? I couldn't help but notice, driving in

to Sequim, that development is ubiquitous. There is construction going on everywhere and you've got this amazing farmland right in the middle of it. I know you've done a lot of work to conserve this land.

NH: Well it has been one of my main foci, even more so than garnering the people. I don't want to leave a false impression though. I have made an effort to draft people if I find somebody that looks like they have the elements that would be important here. I tend to go out and go after them and make sure it works for them.

The land has been somewhat similar. This is awful good soil here. It's deep fertile soil formed in alluvia. The Dungeness Delta is not a large area; there are just a few hundred acres of this good stuff. For almost 25 years now I've been focused on its importance to agriculture, not just our agriculture, but agriculture in general, and trying to maintain it. I'm not a great fan of development. I find that development never supports itself. It always causes an increase in overhead in local government, whereas agriculture works the opposite way. It tends to support community and government in very creative ways. So, conservation of the ag land here has been an ongoing project. We've had to use many different ways to try and keep this land in agriculture. A lot of it is just a very personal struggle. We try to highlight the benefits of agriculture, find the money for the people that hold the land—to make them whole so that they get out of it what they need. It's been a continuing struggle because the land has become much more valuable for development than it is for agriculture. So it's extremely difficult to find the money necessary to keep this land in ag. But we have a more heightened community awareness now than we have had at any time in the past.

SV: Do you think that's a general trend or something that's specific to this area?

NH: No, I think it's a general trend, at least in certain kinds of ag. The kind of ag we do, local, organic, community based agriculture—the community is beginning to understand the importance of it to life, to quality of life. And they're beginning to understand how important it is to have a good local food source, to know where your food comes from and all the other benefits it provides to the community. But, at the same time, development has really become...rampant...I guess is the word.

SV: I noticed when we were out in the cabbage fields that you have huge rows of flowering cilantro and dill. Maybe you can talk a little bit about the role of diversity on the farm. It seems like you grow a lot of different crops and have a lot of things “stacked.”

NH: Yeah, the other day at the farm harvest festival we made a list of all the crops we had on the farm. The letters were maybe two inches tall, but the list was around fifteen feet long! It was amazing. I think we do about 35 or 40 different crops, not counting the beneficial habitat. It's important to keep a diverse landscape, so that you're just not mono-cropping 400 acres of spinach or cabbage or corn.

[While we were doing this interview we passed by a beautiful field of spinach. It was a week after E. Coli had been discovered in spinach that was grown a thousand miles away, but it clearly had an effect.]

NH: Here's a spinach crop we had to walk away from because of the events of the last week in Salinas Valley. About an acre and a half of spinach. We gross about \$2,000 per bed and you're looking at 15 beds here, so that's about \$30,000 worth of spinach. Ouch!

SV: For something that you had nothing to do with. As if the weather and all the other variables aren't enough...

NH: Weather, bugs... The microclimate we farm in here is a real advantage though. The Dungeness Delta is a very special place. Climatically...we never get hot. The temperature never gets over ninety other than for an hour in one or two days in the middle of the summer in the afternoon. Then the wind comes in and blows all the heat over to Seattle. Besides having really great fertility, we're dry here but the ground sub-irrigates. The water comes up from below and brings up a good mix of minerals with it. I've never had to add calcium to this soil, no matter how hard

we hit it. This is such a unique growing area. We also have good access to irrigation water, which is important for certain types of agriculture that we do.

SV: Can you talk a little bit about the campaign you had going on the last time I was out here to try and preserve the farmland in this area?

NH: The campaign was to make the problem become part of the solution. And the problem of course is development, building houses on the land. The idea was to have the people that are purchasing the land for development pay a one half of one percent tax on the price of the land which would go into a fund to purchase development rights on the land. The real estate community came out strongly against us. They spent over \$150,000 in their campaign against us. We were able to raise about \$42,000 which is twice as much as has ever been raised in a political campaign in Clallam County. We really stirred up a hornet's nest, so the national and state real estate associations both dumped large amounts of cash into the campaign against us.

We did manage to bring the issue to forefront. It was a large educational exercise as I look back a year later. The process is ongoing. Part of the advertising that the real estate community came up with during the campaign was that they had a better plan. Of course they didn't. It was just a campaign promise. They've been asked several times by members of the community what their better plan was and it doesn't truly exist. But, in the process we were able to mobilize a large part of the community; we got 42% of the vote...but that only counts in horseshoes.

SV: But like you said, you did manage to raise awareness of the issue and get it on the radar and people will be looking for other solutions.

NH: Yes, we did.

SV: How is it that you managed to keep all of this land in agriculture? I noticed some plaques on one of your barns that honored some of the donors.

NH: Lots of different ways (laughs), lots of different ways, Scott. PCC Farmland Trust was an idea that came about in an association between myself and the folks at the PCC food co-op over in Seattle. I went to them when a piece of property came up for sale here in the valley. It was a key piece of property. We were farming around this hundred-acre piece, one of the old farms that got a real estate sign put on it. At that time we didn't own any land. We were leasing land and it was one of those issues that was always on my mind: What was our sustainability here? So I went to PCC and said "We have a problem, and it's access to land. And here's a hundred acres and it's for sale. What can we do about it?"

To their ever-lasting benefit they went to the bank, borrowed the money and bought the land. Then they put a person, Jody Aliesan, on the project to raise some money and pay off the mortgage, and she did just that in about three or four years. That was a big move. And then several other individuals have come forward. John Willits, a local community college teacher who's retired and loves birds and loves land and has purchased land and put conservation easements on it. We put conservation easements on the PCC Farmland Trust land. John Willits' daughter and son-in-law purchased a farm and put a conservation easement on it. So, through those kinds of means we have been successful. Now we're trying another tack here on another piece that we've been farming for about 20 years, the Wilson Farm.

SV: So mostly you've been able to preserve the land through conservation easements?

NH: Yeah, taking the development rights off the land. The right to develop land is something that is granted, usually by the governing authority. How that land is zoned and whether or not the land can be developed is something that the people decide within the community. So this land has all been zoned for one for one, or one for two and a

half, or one for five, or one for sixteen or one for twenty and most of it's been one for one or one for five.

SV: Houses per acre?

NH: Yes. The zoning was pretty much done back in the late seventies and early eighties. It was a fear campaign by the real estate community and the surveyors. The county pretty much gave everything away without getting anything in return. So we have to buy it back now. Once people have that right...well you can down-zone, but if you're a politician, and those are the people that have to do the down-zoning, it's not going to happen, to take those development rights away.

Like the Wilson farm that we're trying to buy the development rights for: That land is appraised at \$30,000 an acre and there's 28 acres there. The development potential of that land is probably worth \$25,000–\$27,000 an acre, while the agricultural value is around \$3,000–\$5,000 per acre. So a conservation easement removes that development value by paying the owner the development value of the land and not developing the land. So, where does that money come from? Well, you get it where you can. Right now we're trying to get some from the state farmland protection program. They have a grant that gives half the value of the conservation easement, then locally we have to raise the other half. We're in the middle of that process right now. So there are several different strategies that we've used to conserve this land.

SV: In listening to you talk, the thing that keeps crossing my mind is that you are growing so much more than food.

NH: It became obvious to me several years ago that your position in the community really counts when you are doing something like this. How people look at you, and look at what you're doing influences how they make decisions about what you are doing and whether it is worthwhile or not. So, at the same time, we're growing this farm, and growing this food, and growing these people, and providing employment and trying to conserve agricultural land. These things all work together. They are not isolated incidents. You're doing them all at the same time.

SV: That's amazing. Thanks for taking the time to talk with us and for doing what you're doing.

**Scott Vlaun**  
**Editor**

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**SEEDS OF CHANGE SEED GIVE-AWAY AND DIXON SEED EXCHANGE FORM AN ALLIANCE**  
by **Emily Skelton**

[http://www.seedsofchange.com/enewsletter/issue\\_62/seed-giveaway.asp](http://www.seedsofchange.com/enewsletter/issue_62/seed-giveaway.asp)

Every April Seeds of Change hosts a Seed Give-away. We invite local home gardeners who are interested to come to our seed cleaning facility and pick seed from our seed seconds. These “seconds” are a result of the rigorous seed cleaning process performed on every seed lot we sell. All Seeds of Change seed goes through this seed cleaning process to remove any excess chaff, rocks, dirt or other seed species (such as noxious weeds) from the lot before we send it out to a certified seed lab to be tested for germination and purity before sale. The seed seconds are usually comprised of lightweight, immature seed or seed that is broken or cracked and also inert material such as mentioned above. Since we give the seconds away free, home gardeners are happy to receive them and don't mind if the germination rate is lower than that of our number one seed for sale. We have many gardeners tell us that they planted heavily in their gardens thinking that not many seeds would germinate and they have had an abundance of very healthy seedlings to thin.

We ask everyone to bring their own small bags and pens with which to label their seed. The seed is placed out on tables organised into flowers, herbs and vegetables and then grouped alphabetically. The seed is in large bulk bags

from which people can scoop out the amount of seed they think they will use and place it in their bags. Some cover crop seed is available in 20 to 40 pound bags. I also encourage people to take extra seed and send it to relatives and friends who cannot make it here because they live outside of New Mexico.

This year we also had an informal potluck dinner after the seed give-away where many participants shared special dishes they had brought from home. We swapped gardening advice and stories about planting in New Mexico and its unique challenges. It was a successful event and I believe the 75 or so participants went home excited to start planting their gardens. After the event, Adam Mackie from the Dixon Seed Exchange happily filled his pick-up truck with the unclaimed seed and took it up to Dixon. See below the description of Dixon's yearly event.

Dixon Community Seed Exchange is now in its fourth year. The first year, we offered exclusively home grown seed and plant material, and five seed-savers brought their collections, with many more contributing a variety or two. Shortly before the second event, Adam, the organiser, ran into Emily Skelton and Erica Renaud, and we talked about distributing Seeds of Change surplus and #2 grade seed. Since then, each year Adam has taken a truckload of seeds to Dixon, and the Exchange is pleased to offer them to all participants, 300 in 2007! The Exchange is delighted to be able to encourage so many in Northern New Mexico to grow a little more, and to try new varieties and crops. As the Seeds of Change seeds act as a crowd draw, they help us attract dyed-in-the-wool seed-savers to an event that has now become a small festival.

The seed-savers arrive one by one, some with organised index boxes of labelled envelopes, others with cartons of screwtop jars jumbled together, one with a huge gourd brim-full of smaller dry gourds, another with a tiny handful of four-o'clock seed. Someone else arrives embracing a dozen houseplants. Another a bucket of Jerusalem artichokes. A tray of immaculately cleaned garlic chive plants. Another asks if it is OK to offer a basket of Fava beans that have been grown for generations in Truchas, New Mexico. Is this OK? You bet it is OK.

The Community Center buzzes with activity. The seed is arranged in four areas: herbs, food crop, floral, native, specialty and home-grown. Each area has a table guardian or two, to provide help and a degree of order. Adam Mackie staffs the seed check-in and specialty table, and pretty soon there is a tight clutch of folk addressing the serious matters of short season tomatoes and corn, and the difficulty of raising storage onions at altitude. A grower from Espanola is looking for the San Juan melon he used to grow. I have ten seeds, and give him five. He promises to save seed and bring it next year.

Over the years, we have seen some spectacular varieties, unavailable from any commercial source. The Basque Espelette pepper, white, yellow and blue meal corns from Acoma, Greeley onions, Taos pueblo red beans, local chile, Penasco short season corn, Truchas Fava, Medanales bolitos, sea-kale, the San Juan melon.

Outside, the Dixon Elementary Cheerleaders are selling frito pies (made with local chile) and cup cakes as fast as they can. A musician plays, and instead of accepting tips, offers to share his Ojo Sarco posole corn.

We never know what will show each year, but the surprises are always pleasant. The Seed Exchange is very grateful to Seeds of Change for donating its seed each year, and pleased to help the company extend its outreach to the community.

The Seed Exchange Numbers 6000 little bags and envelopes, 350 or so varieties, 300 participants, 10 volunteers, 4 years, and free.

Advance Notice The 5th Annual Dixon Community Seed Exchange is (tentatively) scheduled for April 13th, 2008.

**Emily Skelton**  
**Head Seed Cleaner**

## NEW PROGRAMS AT SEEDS OF CHANGE

[http://www.seedsofchange.com/enewsletter/issue\\_62/healthy-fundraising.asp](http://www.seedsofchange.com/enewsletter/issue_62/healthy-fundraising.asp)

In the last few years, we've seen a great deal of press on the health of our children. There are so many more food and snack choices available to kids now than 20 years ago and they are available in so many more ways. As a result, children are eating more calories and fewer nutrients, leaving them more overweight and in poorer health.

Another difference with the past is the difficulty for schools in funding extra-curricular activities. Unfortunately, in many communities, extra-curriculars refer to music, phys ed, band, art and many other activities that were part of the core curriculum 20 or 30 years ago. Schools struggle to find new ideas for raising money.

In response to the above needs of our schools, Seeds of Change created the Healthy Fundraising program. Schools –and other non-profit organizations – can sell our seeds to raise money. As you might guess, the benefits are manifold:

- Schools sell healthy food options that are in line with their concerns for their students.
- Organizations earn 40% of the revenue, which enables them to fund activities that would otherwise be unavailable.
- Every participating organization receives 25 free seed packs to start its own garden. Schools can use these gardens to teach students about ecology, biology and how their food grows.
- We deliver the seeds directly to customers, enabling teachers and parents to devote their time to other pursuits instead of organizing the delivery process.
- No other company provides these benefits, thereby ensuring that a student will not encounter a potential buyer who says, "Thanks, but I already bought these last week."

Already, two dozen schools and non-profits from around the country have started using this program. If you're interested in this fundraising opportunity, send me an e-mail at [dan.sandweiss@effem.com](mailto:dan.sandweiss@effem.com).

Please click below to download more information (800kb PDF).

[http://www.seedsofchange.com/images/enewsletter/issue\\_62/healthy-fundraising-info.pdf](http://www.seedsofchange.com/images/enewsletter/issue_62/healthy-fundraising-info.pdf)

## CUSTOMIZED SEED PACKS

More and more people are realizing the importance of "going green," and are seeking ways to incorporate environmental considerations into their lives. You may have heard of a magazine devoted to green weddings. Of course you know about hybrid cars. And you may know of programs that enable you to reduce your carbon footprint as you travel by air.

At Seeds of Change, we realize that organizations and businesses want to demonstrate their commitment to the environment. So, we created the ability for them to customize the labels on seed packs to promote their commitment to the environment or to promote their brand or an event. Imagine the impression that your business would make if you handed out seed packs with your logo on them and the caption, "I want to help you grow." Whether you are a banker or a therapist, this caption would apply equally. Perhaps you are a community foundation and you want to send out customized packs with your annual report. Or maybe your company is holding a big sales event or annual meeting and you want to give away an item that will make an impression on people who attend. Regardless of your goals, a customized packet of organic seeds will help your stakeholders remember you and your cause. Take a look at one of the possibilities, above. The minimum order is 1000 packs, which cost \$1.55 each. Order 100,000 packs and the price drops to \$1.10. If you want more information, contact [dan.sandweiss@effem.com](mailto:dan.sandweiss@effem.com).

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## DISEASE CORNER

by **Emily Gatch**

[http://www.seedsofchange.com/enewsletter/issue\\_62/disease\\_corner.asp](http://www.seedsofchange.com/enewsletter/issue_62/disease_corner.asp)

In the cool, wet soils of spring, seedling diseases known collectively as damping-off can challenge the emergence and establishment of direct-seeded crops. The period between seed germination and seedling emergence is one of heightened vulnerability: the rapidly expanding new tissues of the germinating seed have few defense mechanisms in place to thwart the numerous opportunistic pathogens that are present in soils. The collapse and death of seedlings known as damping-off can occur either pre- or post-emergence. Often pre-emergence damping-off, which results in failure of the seedling to emerge from the ground, is simply attributed to poor seed viability, when in fact an attack of damping-off pathogens may be the culprit. While healthy, emerged seedlings can be affected by damping-off, stresses such as insect feeding and damage from cold temperatures make seedlings particularly susceptible to invasion by this complex of soilborne pathogens. Typically, the pathogen(s) invade at or just below the soil line, causing water-soaked and discolored lesions that collapse, resulting in a basal portion of the stem that is much thinner and weaker than the upper stem. The disease often continues to progress until the entire seedling dies.

Damping-off pathogens:

*Pythium* spp: favored by cool, wet and poorly-drained soils. Survival spores of *pythium* can persist for several years in soil and plant debris.

*Phytophthora* spp: typically comes in somewhat later, as seedlings are establishing, but can cause devastating losses, and is also long-lived in soils.

*Rhizoctonia solani*: prefers warm soils and moderate moisture levels, as opposed to the very wet soils preferred by *Pythium*. Easily transmitted on gardening tools.

Miscellaneous fungi, including *Fusarium*, *Sclerotinia*, *Macrophomina*, *Aphanomyces*

Cultural practices to prevent damping-off:

1. In the greenhouse, there is debate about whether sterile potting media and sterilization of propagation trays and equipment with dilute bleach solution is necessary to prevent or minimize the occurrence of damping-off. In the Seeds of Change greenhouse, the approach is to create a microbially-diverse community through the use of vermicompost in potting mixes and compost tea as a transplant drench, based on the body of scientific evidence which suggests that beneficial microorganisms help keep damping-off pathogens in check.
2. In the greenhouse and in the field, sufficient soil drainage is crucial to prevent damping-off. Soils that are excessively wet are havens for most damping-off pathogens, with the exception of *Rhizoctonia*. In gardens and fields with heavy clay soil, raised beds will address poor drainage.
3. Pull back mulch on beds in early spring and allow the sun to directly warm the soil. The dark soil will absorb solar radiation much better than a mulched surface. Mulch only after seedlings have emerged and are well-established.
4. Wait until soil temperatures reach 60 F for direct-seeded spring crops such as corn and beans.
5. Avoid overcrowding seedlings in the greenhouse and in the field.
6. Do not overfertilize, as lush tissue growth is more susceptible to attack.
7. Water from the bottom up, particularly with germinating herb seed.
8. Maintain a slightly lower potting mix pH, if necessary by adding 1 tablespoon of vinegar per gallon of tap water.
9. Avoid working with seedlings (potting up, etc) when plants are wet.
10. Do not use water from drainage ditches or ponds unless unavoidable.

by **Emily Gatch**  
**Greenhouse and Pathology Coordinator**

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**FARM REPORT: MAY 2007**

by **Kelle Carter**

[http://www.seedsofchange.com/enewsletter/issue\\_62/farmreport.asp](http://www.seedsofchange.com/enewsletter/issue_62/farmreport.asp)

Happy Spring to all! Things are exceptionally busy these days on the research farm. The weather has been great for planting. Sunny days and an almost daily afternoon rain have been keeping the plants and the planters happy. Due to the changing weather patterns nationwide, we have had an unprecedented amount of rain so far this season. No one can complain about too much rain when you live in the desert.

We have been busy trying to get everything from the greenhouse to the field. Broccoli, tomatoes, onions, various herbs and flowers, leeks, lettuce, are just a few of the crops we have already planted. The next few weeks will have us planting potatoes, peppers, corn, and all of the other heat-loving crops.

Every season we experiment with different methods of Integrated Pest Management on the farm to see which cultural methods work within our system. The past few weeks we have been covering our tomato plants to protect them from the leafhoppers, and the broccoli plants to avoid flea beetle damage. We have also been planting beneficial attractant flowers throughout our field crops, hoping to bring in advantageous insects and creating habitats for them.

The species we have planted include Bachelor Buttons, Ammi Visnaga, Sweet Alyssum, Cilantro, Fiddleneck and Dill. Emily Gatch, our Greenhouse Guru, recommends planting the seeds of these beneficial flowers and herbs close to the time you would plant tomatoes. That way you can get a jump on the season and transplant them in the field alongside your crops.

Our farm staff has nearly doubled in size in the past few weeks with the influx of interns to the farm. We are lucky to have four interns now, with two more arriving in the next few weeks. Marcos Morales, who recently graduated from Florida State University with a degree in biology, has been working on helping to establish our on-farm-composting plan. Evan Snow comes to the farm from Virginia, a recent geography major at Virginia Tech University. Evan has been instrumental in getting chickens on the farm. He designed a chicken tractor to be used in the field and last week we received a “peeping” box with 27 chicks! Emily Wright has a degree in Environmental Science from Colorado College. She has been in the Santa Fe area for a while, recently returning from the state of Chihuahua in Mexico where she worked to establish community gardens. She will help implement our Permaculture design for the farm. Daniel Garcia is a resident of Puerto Rico with an interest in medicinal and culinary herbs. He has a great skill of baking vegan cookies, which actually taste great. Daniel will design and plant an herb spiral on the farm. Many thanks to our talented and skilled interns- this place looks great thanks to all of their hard work and dedication.

Joe and Wade have been busy building a new shade tent to be used for lettuce and greens rotations. This tent will allow us to rotate the greens with a cover crop and let the soil under the existing shade tent have a rest.

Lots of activities are happening here; we hope you can come see our farm if you are in the area. We designated two dates for farm tours this season; August 26 and September 16.

**Kelle Carter**  
**Farm Field Coordinator**

## NEWS & VIEWS

[http://www.seedsofchange.com/enewsletter/issue\\_62/news.asp](http://www.seedsofchange.com/enewsletter/issue_62/news.asp)

### **Study Links Industrial Chemicals to Obesity**

A new study links a class of industrial chemicals to disruptions in the endocrine system which may cause obesity and weight gain. A recent article in *Molecular Endocrinology* discusses the study of these chemicals, called organotins, which are found in common household products such as pesticides and paints, and are present in low concentrations in most people and animals. The study focused on the effects of TBT, or tributyltin chloride, an organotin and a pervasive contaminant, on laboratory animals. Researchers found that exposure to TBT, a heavy metal, resulted in increases in fatty tissue in both fetal and adult animals. This is the first time that an environmental agent has been shown to increase fat by disrupting the function of the endocrine system, and adds to the growing body of evidence which points to the role of environmental contaminants in the upsurge of obesity.

For more information please visit the Environmental Health Perspectives website.

### **Massive Honey Bee Die-Off Has Serious Agricultural Implications**

The recent enigmatic death of huge numbers of honey bees has alarmed the bee-keeping and agricultural worlds. Recently coined “Colony Collapse Disorder,” or CCD, the mysterious malady causes entire colonies of bees to rapidly die. The effects of CCD were first reported in North America by apiarists in the eastern United States during the last months of 2006, and since then colonies in almost every state in the continental U.S., and several provinces in Canada, have been affected. Bees are also vanishing in countries throughout Europe and Asia, and hives have disappeared in Brazil as well. Although colony deaths have varied from keeper to keeper, some have lost thousands of colonies, representing a massive yet untold number of insects. CCD is having a devastating effect on many commercial honey producers, and it is poised to threaten the agricultural world as well. According to Congressional testimony given in March by May Berenbaum, the Chair of the Committee on the Status of Pollinators in North America, bees provide pollination services for nearly 100 different crops, which account for nearly 1/3 of the diet of the average American. Berenbaum estimated the value of this pollination service in the billions of dollars.

Scientists are attempting to unravel the mystery. Researchers from the USDA, Penn State, and the Pennsylvania and Florida Departments of Agriculture, among others, are investigating possible causes. Suspects range from mites to pesticides to fungus to unknown diseases. Dying or dead bees have been found to be suffering from a variety of diseases, making it difficult to pinpoint a singular cause. Some researchers have suggested that environmental stressors have weakened the immune systems of bees, making them susceptible to common and catastrophic illnesses. Although similar die-offs have been experienced by beekeepers for over a century, Maryann Frazier, agriculture extension associate for Penn State University, refers to recent losses as “unprecedented.”

### **Nationwide Ban on Roundup Ready Alfalfa Upheld**

Monsanto’s genetically modified (GM) “Roundup Ready” alfalfa has been banned from further planting by a U.S. District Judge. In March, Judge Charles Breyer issued a preliminary injunction against planting more of the GM alfalfa on the grounds that the USDA had allowed the crop to go to market without preparing an Environmental Impact Statement (EIS). In failing to produce this statement, regulators had not followed the requirements set forth in the National Environmental Policy Act. In early May, Breyer filed a formal injunction upholding the ban, ruling that it should stay in place until a thorough government examination of environmental effects is carried out. 220,000 acres of the alfalfa had already been planted when the injunction took effect, and this crop will be allowed to be harvested and sold for seed back to the genetics company that produces and markets it, Forage Genetics International. As safeguards against cross-contamination, Breyer’s directive orders the GM alfalfa to be segregated from conventional alfalfa immediately after harvest, farm equipment used on the transgenic crops to be properly

cleaned after use, and restricts pollinators from being used on Roundup Ready alfalfa fields that are grown specifically for hay production. Additionally, the injunction orders the disclosure of all field locations where Roundup Ready alfalfa has been planted.

According to the non-profit public interest group The Center for Food Safety, this ruling is a first; never before has a federal court overturned USDA approval for a genetically modified seed and halted planting. Monsanto is considering appealing the decision.

### **Organic Seed Alliance to host On-Farm Variety Trials**

From June through September, the Organic Seed Alliance will host a series of on-farm variety trials at farms in several northwestern states. The training sessions will provide education aimed at selecting the best crops and varieties for specific locations and markets and will offer instruction on planning and managing your own scientific on-farm trials. Organic growers will also benefit from learning about organic regulation compliance. Host farms and trial dates include:

- Greentree Naturals, Sandpoint, ID - June 24, 2007
- Springhill Farm, Albany, OR - Late June / Early July
- Arctic Organics, Palmer, AK - August 20, 2007
- Ayers Creek Farm, Gaston, OR - September
- Brian Anderson Farms, Royal City, WA - September
- Ralph's Greenhouse, Mt. Vernon, WA - September
- For more information please visit the Organic Seed Alliance website.

### **Permaculture Design Course and Teacher Training Offered in Oregon**

5th ANNUAL ADVANCED PERMACULTURE COURSE: IN TEACHING Dates: June 19-25, 2007 Instructors: Jude Hobbs and Tom Ward Location: Aprovecho Research Institute Cottage Grove, Oregon

Empower yourself to advocate sustainable living and design! In this dynamic, interactive and fun course, participants will learn powerful teaching techniques to communicate whole systems education and permaculture principles in a wide variety of settings. Jude and Tom have a combined experience of over 40 years in the education and design fields. Their commitment to encouraging diverse learning styles helps build upon the unique strengths and talents of their students. They model various teaching and learning styles including lecture, discussions, lesson planning, module building and group presentations. These provide the essential learning experiences for this course. Each participant will be offering several presentations that provide essential hands-on experience. This is a Certificate Course offered by the Cascadia Permaculture Institute.

Tuition: \$650-\$725 (includes course materials, three organic meals a day and camping) Contact: Tao Orion at (541) 942-8198, or [tao@aprovecho.net](mailto:tao@aprovecho.net), or visit: [www.cascadiapermaculture.com](http://www.cascadiapermaculture.com)

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