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of the Fall 2006 “Garden Companion”
(BfR’s newsletter)!*



The Garden Companion

Biointensive for Russia's newsletter

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IRINA KIM'S 5-DAY GROW BIOINTENSIVE WORKSHOP IN JALALABAD, KYRGYZSTAN

By Irina Kim, tr. from Russian by BfR

Due to a visa delay, my workshop was moved from Osh University to Jalalabad. It was held in the Faculty of Agrobiology at the university there from June 5-9. It's only 80 km from Jalalabad to Osh, therefore many teachers at Osh University also work in Jalalabad. Such partnership is very useful for both parties as it encourages exchange of information and experience.

Jalalabad State University was founded in 1993 from working educational institutions. At present more than 12,000 students study there, and it has more than 700 teachers, including 19 professors (doctors of science), and 116 senior lecturers (PhDs). Specialists are trained in 56 higher education fields and in 12 average professional education fields. The university has 16 educational buildings, 105 offices, and 32 computer classrooms. It has 14 functioning faculties.

The participants were teachers, students, laboratory researchers, and scientists, 32 in all. The first day of the workshop was attended by the university's Rector, Abdumamatkadyr Ashiraliev, Doctor of Technological Sciences. Among the others were pro-rectors, deans, and department chairs of academics, external communications, agrobiology, botany, zoology, ecology, agriculture, forestry and park economy, and geography.

The first three days were devoted to theory and the next two to practice. On the sixth day we conducted theoretical exercises on the topics: "The Soil: a Living Organism" and "Healthy Soil-Healthy Plant-Healthy Person." On June 11th I returned to Uzbekistan.

I presented the following GROW BIOINTENSIVE (GB) topics: the world situation, history of organic agriculture, sustainable agriculture, sustainable GB mini-farming, the eight components of the GB method – deep preparation of the soil to a depth of 60 cm, preparation and application of compost, intensive planting, *continued on page 3*

What's Inside:

- The NGO VIOLA's experience teaching GB and monitoring radiation in the harvest in Chernobyl-contaminated zones . . . 2-4, 6
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MESSAGE FROM THE DIRECTOR

This issue of the *Companion* is largely devoted to general and scientific reports by Dr. Igor Prokofiev of the NGO Viola, following up on the scientific expedition undertaken by group members in Fall 2005 to monitor the radiation in the vegetable harvest of residents of the Chernobyl radiation zone. The general reader may find some of the material to be difficult to understand, but I encourage you to make the effort. It offers an introduction to an important topic that should be better understood by the global public: the nature and consequences of the worst technological catastrophe in world history: the Chernobyl nuclear accident.

Should you feel inspired to delve further into the topic, I recommend the eBook *Chernobyl: The Event and Its Aftermath*, edited by Leonard Berkowitz, Norma Berkowitz, and Michael Patrick. (284 pp), see www.focuss.org/?News and click on "New book..." on the right panel.

Events conducted by BfR and our CIS partners this past spring included the NGO Viola's three weeks of Chernobyl-20 events in the Bryansk oblast' of Russia, talks in Willits, Palo Alto, Madison, and Stanford by yours truly and Vladimir Loginov, and Irina Kim's 5-day seminar in Kyrgyzstan (see left column). *continued on page 6*

CHERNOBYL-21 CULTURE/ECO-AG TOUR TO RUSSIA AND UKRAINE SET FOR MAY 2007:

Join us to travel to Russia and Ukraine from May 11-28, 2007 and experience these countries at a variety of levels! While enjoying a marvelous cultural experience, you'll be supporting eco-farming trainings for teachers from the radiation contaminated zones of Russia and Ukraine, as well as for environmentalists, ag researchers, and dacha gardeners..



Travel with Carol Vesecky, Director of Biointensive for Russia, and long-time BfR associate Tamara Kowalski, both of whom are fluent in Russian. Visit Moscow, Suzdal, Sergiev Posad and Novo-Sin'kovo (where our workshop will be hosted), Smolensk and the nearby cultural heritage site Teremok, the Bryansk regions where BfR's partner the NGO Viola *continued on page 8*

Our Russian Partners Write

GROW BIOINTENSIVE: OUR EXPERIENCE AND THE METHOD'S POTENTIAL IN THE CHERNOBYL RADIATION ZONE *Excerpt of talk by Ludmila Zhirina and Igor Prokofiev of the NGO Viola, Bryansk, Russia during their visit to Palo Alto, July 26 2006. Tr. & abr. by BfR*

Over four years of experiments, Viola has learned that by using GB techniques it is possible to decrease the radionuclide contamination of vegetables by 30 percent. Therefore, we have prepared recommendations for the local population on the best ways to grow vegetables, prepare food, and otherwise live safely with radiation.

We targeted three local groups. The first group is comprised of schools, kindergartens, and orphanages, which officially have gardens for growing vegetables for the school cafeterias. Families and home gardeners were the second group targeted in our research. Most of the families that are worst off economically and have many children are forced to grow grains and vegetable crops on their land. Local farmers formed the third target group.

Viola's scientific directions The primary scientific research effort carried out by Viola during the past four years has been an experiment on which elements of the Biointensive methods are the most effective, which of the elements our people are most willing to use, and also which elements yield the best results, i.e. under what conditions the vegetables accumulate the fewest radionuclides.

The second direction is popularization of the integral method through various seminars, roundtables, lectures, and discussions.. The practical component is also included since theoretical explanations are never enough. Those who take an interest pay visits to our GROW BIOINTENSIVE (GB) demonstration site in Bryansk.

The third direction is the selection of those crops that accumulate the least amount of radionuclides. Viola gathers advice from doctors and scientists all over the world on which particular crops take up from the soil or draw out from the body the most radionuclides, .

As the fourth direction, we help people to select medicinal herbs for cultivation in their kitchen gardens to maintain their health. Herbs are used to treat chronic diseases as well as to strengthen immunity of people in the radiation zone. [Another report by Viola, "Recommendations for Residents of the Radiation Zone" has been translated by BfR and is available as an attachment. -Ed.]

Viola realizes that the method could be disseminated beyond the Bryansk region – in Ukraine and Belarus, which also suffered from Chernobyl. In fact, this method should be used in any country where radionuclides have fallen on the soil.

In the hope that organic agriculture and the GB method will be accepted in the future and used by increasing num-bers of people, we also teach the structure and elements of this method to students in the biology and agricultural economics departments of universities.

VIOLA'S EXPEDITION TO HIGH RADIATION AREAS DUE TO CHERNOBYL IN FALL 2005

*By Igor Prokofiev, NGO Viola, Bryansk, Russia
Tr. by Tamara Kowalski, abridged by Nhu Huynh*

Twenty years have passed since the explosion at the Chernobyl atomic power station on April 26, 1986, and over this period forced and voluntary migrations of radiation zone residents have taken place. However, the number of inhabitants in the radiation-contaminated regions has increased, due to the sad fact that refugees from local military conflicts in former Soviet countries have moved to the very contaminated locations vacated by former residents.

Our NGO Viola has conducted educational activities among the population of contaminated territories throughout its 20 years of existence. Viola has studied the GROW BIOINTENSIVE (GB) method of mini-farming since 1995, working with BfR and Ecology Action. From 2002-2005, we conducted research experiments in the radiation zone using the integral GB method whenever possible, or its separate components. The results are positive, indicating a decrease of up to 30% in the radionuclides in the harvest.

Why an expedition in 2005 The purpose of the expedition was to analyze the levels of contamination in vegetables, grains, and medicinal herbs grown using the traditional method of cultivation as well as by using the GB method, in the radiation zones. Data was also gathered on the diseases of children and youth in the radiation

zones, utilizing the extensive scientific experience of several Viola members and affiliated groups for further analysis

The expedition has enabled us to understand local problems more profoundly, to attract participation from all interested parties, to acquaint the population with the problem and current possibilities for resolving it, and to influence the local authorities.

Main expedition activities

Viola led the expedition to 15 locations in the Bryansk *oblast'* and five in Ukraine, where we met with local officials, school cooks, and residents, and took samples of vegetables, seeds, soil, and ashes. We also collected samples of vegetables grown most often and used in food by local residents, as well as soil from fields and private vegetable gardens through all 24 areas of the Bryansk *oblast'* through which we passed.

All the samples were used for research and dosimeter monitoring in places where tilling and farming followed either the traditional

continued next page



Ludmila and Natasha use dosimeter to test pumpkin

continued from page 2 method or the GB method.

In all, about 600 vegetable and soil samples were brought to Bryansk for processing in laboratories. Most of the analyses were done by members of our scientific research group in laboratories at Bryansk State University, while about 60 analyses of the content level of the radionuclides contained in vegetables and soil were done in laboratories of independent experts. In sum, we performed about 1,500 tests using dosimeter monitors. This data was also used to compile a map and recommendations.

In addition, we also carried out six round tables and mini-seminars in which local residents became acquainted with the GB method, and we described the usefulness and advantages of using this method in the radiation zone. The emotional states of the participants were also subjects of our research. The psychology of the people who had already lived in the environmental disaster zone for 20 years ranged from increased psychological pressure, stress, fatigue and feelings of animosity to indifference toward the environment, toward life, and even toward themselves.



Dr. Ludmila Zhirina in a Bryansk laboratory

RESULTS OF NGO VIOLA'S RESEARCH EXPEDITION to the radioactively contaminated zone of the Bryansk region By Dr Igor Prokofiev, Tr. & abr. by BfR
Overview of contamination in the region Due to the complex weather conditions after the accident, the levels of local area contamination have varied widely. Thus, within a distance of ten kilometers, the density of contamination of cesium-137 (Cs-137) frequently differed by factors of ten and one hundred. The maximum density values of Cs-137 contamination of the soil reached 200 curies/km² (ci/km²) and greater (Table 1).

Table 1. Contamination by Cs-137 of Lands of the Russian Federation

Contaminated zones, thousand km² (Ci/km²) by oblast'

	1-5	5-15	15-40	>40	In sum
Bryansk	6.8	2.6	2.1	0.3	11.8
Kaluga	3.5	1.4			4.9
Tula	10.3	1.3			11.6
Oryol	8.8	0.1			8.9
Other oblasts	20.4				20.4
Total	49.8	5.4	2.1	0.3	57.6

Since the contamination of the Bryansk and other oblasts in Russia was not uniform, the Government established a system of classification. The law created four zones of radioactive contamination: continued on page 4

BOOK REVIEW HARD DUTY: A Woman's Experience at Chernobyl Co-authored by Natalia Manzurova and Cathie Sullivan, the book is Natalia's story of the 4 1/2 years she spent as part of the clean-up following the 1986 Chernobyl nuclear power plant disaster. In her story we meet the helicopter pilots, the soldiers, prisoners and miners who struggled to contain the most catastrophic technological accident in human history. The reader is introduced to both

the causes and history of the accident by a courageous woman who provides a first-hand account of the tragedy of Chernobyl she experienced for over four years. Proceeds from the sale go to a Chernobyl Survivors group headed by Natalia. Email Cathie Sullivan cathiesullivan@att.net for details or to order a copy at \$5 + shipping.

Irina Kim's Kyrgyzstan workshop, continued from page 1 open-pollinated seeds, plant propagation, selecting crops with regard to their compatibility, calorie production, scheduling work in the orchard and kitchen garden, and the integral method.

The seminar participants all received the following publications: The World Situation, The Work of Ecology Action, The Ecology Action Organization, Sustainable Farming and Nutrition, Biointensive Mini-farmers: A New Way of Farming, Sustainable Agriculture – Sustainable Renewal, Cultivating our Garden, Scientific Concepts of Soil; How the Biointensive Method Can Improve Your Research Possibilities, Sustainable Soil Fertility Achievements, Practical Use of This Opportunity; The Biointensive Method: A Way to Solve Global Problems, and Lazy Beds, a booklet..

I distributed a questionnaire to the participants to evaluate the five-day GB training seminar. They gave their approval; one could even say a "5" [grade of "A." -Ed.]

The participants were actively interested, made suggestions, expressed their ideas, and quickly grasped the topics presented. They suggested continued cooperation, and more frequent seminars. I proposed that they create a "Mini-farmer" student's club at the Agro-Biology Faculty.

The participants agreed to this. They were very attentive and careful during the practical work of double-digging, transplanting, and compost building.

The practical work on GROW BIOINTENSIVE was conducted on a plot near the Agro-Biology Faculty. The students also conduct their practical work in agriculture and gardening at this site.

On the last day I gave everyone a short quiz before presenting them with certificates. On June 10th, during our ceremonial evening, all participants were given certificates, and the dean of the Agro-Biology Faculty presented me with a formal letter of gratitude.

- Irina



MORE 2005 BfR EURASIAN PARTNER REPORTS

by Joanna Weichert

Bakhtiyar and Berdiyar Jollibekov, Nukus, Karakalpakstan, Uzbekistan

Dr. Jollibekov teaches about 100 students a year at the Nukus branch of the Tashkent Agrarian University, plus about 20 instructors at a local agricultural college. His son, Berdiyar, completed his master's thesis on the "Influence of various irrigation techniques and biointensive technologies on the fertility of irrigated saline soils" and found, after five years of research, that joint applications of Biointensive and water-saving technologies on saline soils offer positive results, increasing soil fertility and vegetable crop productivity, along with decreasing soil salinization.

The research results have been published in scientific journals and in the mass media in the Russian and Karakalpak languages. The Jollibekovs trained people in the GROW BIOINTENSIVE method in the Kazakhdarya settlement of the Mujnak rayon, in rayon capitals Shumanai, Chimbai, Takhtakupyr, and also in the 20th microrayon of Nukus and in the settlement of Taslak.

Albina Kochegina, St. Petersburg, Russia In 2005 Albina Kochegina published five books she had authored on plants used for healing. She included information on the GROW

BIOINTENSIVE method in the second book, which is about stevia and other medicinal herbs. Her students have presented their scientific reports at conferences held at universities, and many articles have been published at St. Petersburg State University, the Agricultural University, and the Herzen Pedagogical University.

Irina Kim, Chirchik, Uzbekistan In 2005, Irina taught 400 lessons in GROW BIOINTENSIVE to 127 high school students, with 26 graduating as "Mini-farmers." She presented two 8-hour seminars at the agricultural college in Yangi-Kishlak in the Djizak oblast'; for 20 teachers and 100 students. She also traveled to Nuratau villages to give 100 people 20 hours of instruction; her students were schoolchildren, retired people, teachers, farmers, forest workers, and dacha gardeners.

The students at Navobat's village school #36, one of three schools in the Agroecology network in the Brichmulla forest farm, grew 8000 vegetable seedlings, of which they sold 5,000. With the proceeds they bought rakes, shovels, forks, watering cans, and hoses.

In her experiments with sweet corn in 2005, Irina noted that Biointensive beds were twice as productive as regular beds, grew taller, lasted longer and resisted cold temperatures better.

Research results, continued from page 3 the zone of dispossession, the zone of resettlement (density of ground Cs-137 contamination exceeds 15 ci/km²), the zone of continued residence but with right of resettlement (density of ground Cs-137 contamination = 5-15 ci/km²), and the zone of continued residence with preferential social and economic status (density of ground Cs-137 contamination = 1-5ci/ km²). However, people continue to live in practically all of these zones (Table 2).

Table 2. Quantity of settlements and inhabitants residing in territories subjected to radioactive contamination from the Chernobyl accidents

Oblast'	L		PO		O		TOTALS	
	1	2	1	2	1	2	1	2
Bryansk	768	236	284	147	279	90	1331	474
Kaluga	313	79	135	15	-	-	448	95
Oryol	2100	392	57	17	-	-	2157	409
Tula	1741	769	312	166	-	-	2053	936
All others	1672	772	-	-	-	-	1672	772
Total	6594	2249	788	347	279	90	7661	2687

L - Zone of continued residence with preferential social and economic status PO - Zone of continued residence with the right to resettlement

O - Resettlement zone Total - Totals for territory of radioactive contamination 1 - Quantity of settlements 2 - Quantity of inhabitants in thousands.

After strontium-90 (Sr-90), Cs-137 is the most dangerous radionuclide for humans. It accumulates quickly in plants, so is contained in food and is quickly absorbed in the gastrointestinal tract. Cs-137 is a long-lived radio-nuclide; its half-life is 30 years. Up to 80 percent of the cesium

accumulates in the muscle tissue. Radionuclides are constantly entering the body, gradually destroying it, rendering us semi-invalid, semi-healthy. About 10 percent of the radionuclides are quickly eliminated from the body, while the rest take much longer.

Scope of our research: Our research has been based on an analysis of literature on the topic, testing of the GROW BIOINTENSIVE (GB) method on permanent plots in the Bryansk oblast', and an expedition to rayons of the Bryansk oblast' and border oblasts of Ukraine and Belarus.

Our research results: The chief source of radionuclides in the food chain is *the soil*. In its top root-zone layer remain 70-90 percent of the Cs-137, 40-60 percent of the Sr-90, and 95 percent of the transuranium elements. The mobile forms of radionuclides in the soil are comprised 10-15 percent of cesium, 50-70 percent of strontium, and 10-13 percent of plutonium and americium. This witnesses to the continuing danger of radioactive contamination, especially strontium-90, in cultivated plants, and also in food, fodder, and medicinal plants growing wild.

It is noted that the vertical migration in soil of Cs-137 and Sr-90 occurs very slowly. In untilled soil, practically the entire radionuclide content is concentrated in the top humus-containing horizons. The depth of migration of radionuclides depends to a large extent on the structure of both the organic and mineral soil components and on the moisture conditions. In peat soils, radionuclides migrate *continued on page 6*

ECOLOGY ACTION'S 5-DAY TEACHER WORKSHOP

By Dr. Igor Prokofiev

From July 17-21, 2006, I participated in a GROW BIOINTENSIVESM sustainable mini-farming basic-level teacher's workshop in Willits, California. It was the second time I participated in a workshop by John Jeavons. The first time was a 3-Day Workshop in 2003. Each time I admire more the knowledge and work of John Jeavons and Carol Cox.

John and Carol are developing GROW BIOINTENSIVE and disseminating it in many countries of the world. I was glad to listen to their lectures, and also to receive practical training. I was trained in the techniques of double-digging, watering, transplanting and building compost piles. The knowledge that John and Carol give to participants is invaluable and useful. After the workshop I feel that I can teach GB at the basic level and can answer all questions of my students. I am planning to become a certificated teacher and next year I will send all the necessary documents and materials for

certification to Ecology Action.

GB not only improves soil and increases yield, it also offers opportunities for growing unpolluted vegetables in ecologically adverse regions of the world. For example, GB can be useful on the radiation-contaminated territory of the Bryansk *oblast'* (after Chernobyl accident of 1986). I am a member of the NGO VIOLA, an organization which conducts research on the use of GB in radioactively contaminated soils, with encouraging results.

After the workshop, Carol Vesecky within the program Biointensive for Russia organized a series of interesting garden tours. I had the opportunity to see sustainable ecological gardens, exchange experience, and receive new knowledge.

I would like to thank John Jeavons and Carol Cox for an excellent workshop, Carol Vesecky for her preparation of the program of my visit and for all the hospitality she arranged, my hosts, and also all donors who have helped to finance my participation in the workshop.

Ukrainian environmentalists make friends on the Mid-Peninsula

A delightful group of Ukrainian environmentalists visited the Peninsula in September on the Open World program administered by the Library of Congress, and organized here in the Bay Area by Fran Macy, Enid Schreiber, Tamara Kowalski (BfR's future tour co-leader!), and Jonathan Spaulding at the Center for Safe Energy in Berkeley. Their work encompassed nature preservation, sustainable development, environmental health/education/publishing, civil rights, energy efficiency, biodiversity, waste management, ecological agrobusiness, greenhouse gas audits, and ecotourism.

They were: *Halyna Oliynykova*, Director, MAMA-86, Artemivsk, Donetsk Region; *Oleksandr Rudyk*, Geo-Ecology, National Univ., Simferopol, Crimea; *Oleh Suprunenko*, Research Fellow, Zakarpattya Agro-Industrial Institute, Beregovo; *Lyudmyla Tuvysheva*, Director, "EcoLeaders," Dzhankoy, Crimea; *Volodymyr Berezin*, Director, "Bakhmat" Eco-Center, Artemivsk, Donetsk Region; *Vyacheslav Illyashenko*, Engineering Student and Youth Leader, NGO Romantik, Sumy; *Iryna Karelina*, Deputy Head, Association for Environmental Education, Zaporizhia; and *Oleksiy Khabatyuk*, Senior Specialist, Agency for Rational Energy Use and Ecology, Kiev. Yuliya, Oksana, Elena (a Kazakh student at UC Berkeley), and Jonathan Spaulding interpreted. For more information on these folks, write to BfR. I have email addresses for all of them from the Center for Safe Energy, and have websites for some of them.

Larissa Keet, a board member of our local environmental organization Acterra, ably organized meetings with governmental and nonprofit environmentalists for the visitors, up and down the Peninsula. The group visited San

Francisco's Dept. of the Environment and recycling center, the Moscone Center, Earth Island Institute, and Chinatown. In Palo Alto, Walter Hays of the City's new Green Ribbon task force and resource planner Karl Knapp spoke on city measures to protect the environment. At Karen Harwell's energy-efficient home and Permaculture/Biointensive garden, the group also learned about Permaculture design from Karen's son Drew, and about GROW BIOINTENSIVE and BfR from yours truly. At Menlo College one evening, the group briefly presented their work and took questions from the public.

Palo Alto councilman and foremost local environmental programs of Acterra and its predecessors: the Peninsula Conservation Center and Bay Area Action. Michael Closson of Acterra and Melissa Hippard of the Sierra Club's local chapter also spoke. Tours of Palo Alto's recycling center and dump, Stanford, and the tree-planting operation at Stanford (with Dave Muffly of Magic, Inc.) were also conducted.

The last day of activities was held at our cherished Hidden Villa farm and wilderness preserve, where inner-city children are introduced to farming and nature. The day included an explanation of the passive solar administration building, a trail hike, a de-briefing, and the farewell dinner in the former home of the founding Duveneck family. The evening was convivial with much toasting and gift-giving, e.g. of *How to Grow More Vegetables* and *Sustainable Vegetable Garden* in Russian and English (6 books total) from BfR.

I personally bonded with Lyudmila Tuvysheva, whose organization in the Crimea "Ecology & Peace" should become a great partner in the future. And caught up with Volodymyr/Vladimir Berezin, with whom I had already bonded at the EcoForum in Kiev in 1995. For me it was a thrilling week, and I look forward to future reunions with as many as possible of these dedicated activists!

-Carol



Oleg, Slava, and a Hidden Villa trail banana slug get acquainted

continued from page 4 5-10 cm deeper than in mineral soils.

Radionuclides are distributed evenly to the depth of the cultivated layer of agricultural soils. In the near future, self-purification of the soil's root zone due to vertical migration of radionuclides will be insignificant.

The uptake of radionuclides into crops essentially depends on the granulometric structure of the soil. The uptake in sandy soils is approximately twice that in loams, especially when the soils are not well supplied with exchangeable potassium.

Radionuclide uptake into farm produce The rate of radionuclide uptake into agricultural produce depends on the soil types, soil moisture levels, and crop varieties. Thus, the uptake of isotopes of cesium by agricultural plants on chernozems can be a factor of 10 less than in sandy loam soils. Better prospects for reducing the uptake of radionuclides into vegetable produce are offered by applying compost using GB techniques.

The uptake of radionuclides from soil into plant crops also strongly depends on the biological features of the agricultural crops being cultivated. With the same density of contamination, the accumulation of Cs-137 in a grain of winter rye is a factor of ten less than in spring rapeseed and a factor of 24 less relative to a lupine seed. Multiple differences between grain cereals and legume crops are observed in the accumulation of Sr-90. Distinctions between varieties in the accumulation of radionuclides are also significant, albeit somewhat less so. For example, spring rape varieties differ by factors of two to three in their Cs-137 content, and up to a factor of four in Sr-90 content.

Combining use of the GB method on radiation-contaminated soils with our recommendations on diet has resulted in greatly reduced annual radiation doses in some inhabitants of the contaminated regions.

Reduction of uptake of radionuclides: Double-digging reduces uptake of radionuclides into plants by factors of 5-10. However, in conditions of sandy and sandy loam soils, it has no effect. Applying compost in addition to double-digging reduces radionuclide uptake by up to 30 percent.

An important role is played by the uptake of nitrogen to plants. When insufficient available nitrogen decreases the harvest, radionuclide concentrations increase slightly. On the other hand, high doses of nitrogen fertilizers intensify the buildup of radionuclides in plants. Soil and plant diagnostics need to be conducted to optimize the application of nitrogen fertilizers.

Soil fertility parameters substantially influence the accumulation of radionuclides in all agricultural crops. When the humus content of the soil is increased from 1 to 3.5 percent, the uptake of radionuclides into plants decreases by factors of 1.5 to two. With variation of the soil from acid to neutral, the radionuclide uptake decreases by factors of three to four.

Measures taken to protect plants against pests, diseases, and weeds such as application of compost teas and intensive growing of vegetables using GB methods lead to a decrease in the amount of radionuclides in vegetables. Combining these methods enables a decrease of up to 40 percent of the radionuclides in plants due to the increased harvest.

Draining boggy land is an important method for decreasing the radionuclide content in the harvest of agricultural crops. For most peaty and mineral boggy soils, the minimum absorption by plants of radionuclides is reached where subsoil waters are 90-120 cm from the ground surface. A rise in the groundwater level up to 35-50 cm from the surface as a result of poor drainage, for example, can lead to an increase in the accumulation of radionuclides by factors of 5-20. In this regard, using GB watering techniques will allow a significant reduction of radionuclides in the vegetables.

The content of radionuclides in agricultural produce depends not only on the intensity of contamination, but also the types of soils, their moisture content, granulometric structure and agrochemical properties, and the biological features of the crops under cultivation. These factors render complex the task of forecasting the radionuclide content in vegetable produce, which will require further research.

Director's message, continued from page 1

In Bryansk, Russia, the NGO Viola held a conference in April marking Chernobyl's 20th anniversary. For three weeks, members conducted seminars for adults, art activities at schools, even an asphalt drawing competition to remind people of the dangers of nuclear radiation. Locations were in the contaminated Novozybkov, Kletnyan, Krasnogorsk, and Zlynkov districts of the Bryansk *oblast'*, as well as in the uncontaminated city Bryansk and village Domashovo. The Earth Day Network supported Viola's travel costs.

In Willits and Palo Alto, Vladimir "Volodya" Loginov, visiting from Kurganinsk, Russia, and I presented "Sustainable Lifestyles in Southern Russia" in March and April. Volodya described his work with environmental groups in Southern Russia and his testing and teaching of sustainable

lifestyles practices. I showed ecotour slides from 2005 and described BfR's work promoting sustainable GROW BIOINTENSIVE (GB) mini-farming in Eurasia.

At UW-Madison on May 20, I spoke on the scientific monitoring expedition conducted by the NGO Viola in Fall, 2005. Using Geiger counters, Viola's biologists tested the harvests of vegetables grown using Biointensive and traditional methods in the radiologically contaminated areas of Ukraine and Russia (see articles on pp. 2-6). Their test results show that produce grown in these areas is still dangerously contaminated. Viola's prior experiments have shown that "GB techniques (specifically, composting and double-digging) reduce the radionuclides in the harvest quantitatively." Viola's

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Biointensive for Russia holds mini-fundraisers locally on sustainable growing / living topics. If you're not already receiving email or post-card announcements from us and are not too far away, please send your address so we can include you!

OUR SUPPORTERS ARE GENEROUS! TALLY FOR JANUARY-OCTOBER 2006: **SUPPORTERS** David Buckley • Mark & Romola Georgia • Sandra Harris • Larissa Keet **CONTRIBUTORS** Paul Miller, M.D. • Cat & James Norris • Jan Secor **DONORS** Sonya Ghayem • Peter & Margaret Green • Deborah Honig • Ed & Sally Kiester • Ed. Kinderman • Bill & Judith Ann Ray • Eldon & Valerie Eisenach • Larry & Celinda Miller • Deborah Rose • Tracy Strom • Caroline Wyss • David & Jennifer Watts **MEMBERS** Fran Adams • Roberta Ahlquist • Marlene Broemer • Shu Chan • Sushil & Purnima Dasgupta • Joseph Jedeikin • Bob & Joyce Leonard • Rene Lynch • Marie Nichols • Lois Salo • Lori Shapiro

BfR'S VOLUNTEER CORNER by Joanna Weichert

Our webmaster **Berta "Hippo" Pires** nicknamed herself after her favorite stuffed animal. She is a passionate person, a creative free spirit, a writer, a reader, a photographer, a world traveler, a hiker, an amateur archeologist/astronomer/historian, a sharer. Her website www.kelt.com/hippo provides the flavor and may awaken your own passions for exploration and communication. The Travels pages are not to be missed!

Hippo started her high-tech career as an IT Developer at Apple Computer, and has worked at startups as well as at Stanford as a Course Management programmer, and as a web development intern at NASA. Currently she works as a Flash developer at a small company in San Mateo specializing in marketing surveys. She is

also studying toward a Master's in Online Learning and Teaching at Cal State East Bay (Hayward).

Hippo brings a lively intensity to everything she does and we are fortunate to have her contributions to the website and to our general endeavors.

BfR's office volunteer **Joanna Weichert** studied Russian and German in high school and at Stanford, where she and Carol met. By chance they reconnected in 2005 when Joanna was getting acquainted with people at St. Mark's Episcopal Church in Palo Alto, and it was suggested she should contact Carol Vesecky. They already knew each other from Russian class back in the sixties – small world!

Joanna was looking for productive ways of spending time and offered to help Carol with office work and errands associated with Biointensive for Russia. And that she has done, doing editing and general office assistance as well as a little translation work.

Since graduating from Stanford, Joanna has had a career in human resources with General Foods in New York and New Jersey and Tandem Corporation in Cupertino. She moved to California about 24 years ago and has been in the Bay Area, mostly on the Peninsula, ever since. She grew up in Elgin, Illinois, near Chicago.

Joanna lives in San Jose now with her elderly dog Daisy. She volunteers at Stanford Hospital's Bing Music Series, putting on concerts for staff, visitors, and patients every week. She also babysits, practices Qigong, reads newspapers, magazines and books, and goes to church.

Joanna is a good listener, and besides the doing that she does, she provides a useful service to Carol by listening to her express her plans and thoughts.

How You Can Help!

Contribute financially to help sponsor:

- workshop tours by **Igor Prokofiev** and **Ludmila Zhirina** of Viola to Chernobyl Centers in Ukraine and Russia: \$300-\$500 per tour
- workshop tours by **Irina Kim** in Kazakhstan and Kyrgyzstan: \$500-\$2000 per tour (call Carol to discuss)
- printing and paper to publish *Ekologicheskii Ogorod* (Russian translation of *The Sustainable Vegetable Garden*) — \$4000 will pay for 5000 copies, smaller amounts for a smaller edition

Network with foundations and major donors to help us find funding to support:

- a GROW BIOINTENSIVE workshop by Steve Moore in May 2007 in Novo-Sin'kovo; the remainder to be raised via an ecotour -- \$6,000 or more
- the translation and publication in another language, e.g. Tajik, Uzbek, or Ukrainian, of *How to Grow More Vegetables* or *The Sustainable Vegetable Garden* — \$2,000 - \$5,000
- translation and publication of Ecology Action's *Test Your Soil With Plants* by John Beeby — \$3,000

Volunteer your time:

- office organization, filing, writing/editing/translating, or other office help in Carol's home office or in yours
- hosting, organizing, and/or publicizing events
- co-developing a future Culture / Eco-Ag tour to the region of your interest: the Russian Far East? Siberia? Western Russia? Central Asia? Help research tourist attractions: nature, celebrations, concerts, museums and galleries, local sights, travel costs

Here's my tax-deductible contribution to Ecology Action, "for BfR" for membership in Biointensive for Russia:

☐ \$1000 Workshop Sponsor* ☐ \$250 Supporter* ☐ \$100 Contributor* ☐ \$50 Donor ☐ \$20 Member ☐ Other

*May receive the 2nd Russian ☐ or 7th English ☐ edition of *How to Grow More Vegetables* (Check box)

Name: _____

Address: _____

Ph/fax: _____ E-mail _____

Mail to: BfR, 831 Marshall Drive
Palo Alto, CA 94303-3614

***Be sure to make
your check payable
to "Ecology Action" for tax deductibility!***

Upcoming Events:

Mini-fundraisers in Palo Alto and environs: be sure to be signed up for BfR's email or postcard list(s) for announcements; get in touch with Carol to help organize
February 16, 7 pm: Fundraiser event at St. Mark's Parish Hall in Palo Alto: concert, documentary film on Chernobyl-20, Russian/Ukrainian refreshments, and more
Saturday morning classes at Common Ground: see www.commongroundinpaloalto.org
BfR's Culture/Eco-Ag Tour to Russia in May 2007: see <http://biointensiveforrussia.igc.org> and get in touch to indicate your interest in joining or helping to promote!
Culture/Eco-Ag Tour to Central Asia in Summer 2008 or later: get in touch to indicate your interest and/or willingness to help research or (possibly) participate!

Ecotour, continued from page 1 teaches GB, and ancient and modern Kiev (see photo on page 1).

A strong network of friends and partners dating back to the "citizen diplomacy" era will work with us to plan our visits. In the Moscow area, Tatyana Petrova will arrange our accommodations, transport, and cultural experiences. Ludmila Zhirina and Igor Prokofiev from the NGO Viola will coordinate our visits to Smolensk, Bryansk and the contaminated zone. Friends of Chernobyl Centers, US (www.foccus.org) associate Inna Gavrilova will set up our visit to Ukraine.

Guided excursions will be offered to museums, churches, monasteries, and dacha gardens. A visit to the world-famous Russian ballet or opera will be arranged. We'll get to know BfR's partners in various Russian regions while learning about their work and also by partying with them, Russian-style! Optional excursions to regions contaminated by Chernobyl radiation will be offered. If there is interest, the NGO Viola and/or FOCCUS will organize presentations or discussions on the nuclear radiation or other topical issues.

The ecotour is tentatively priced, all-in (save for lunch and dinner) at approximately \$3600 from SFO and \$3300 from JFK. The final prices should be known by January 20. A preliminary brochure has been posted from the homepage of our website <http://biointensiveforrussia.igc.org>, and is also available from BfR in hardcopy or as an attachment to email. Please write! -Carol

Director's message, continued from page 6 leaders Dr. Ludmila Zhirina and Dr. Igor Prokofiev also presented this information during the activities conducted in April, mentioned above.

I also spoke in May and June on the impact of Chernobyl radiation on the affected populations and Viola's findings on GB's benefits, to Jasmina Bojic's documentary film class at Stanford University and to the annual meeting of the Mid-Peninsula branch of the Women's International League for Peace and Freedom.

We held a Post-Chernobyl Self-Help Mini-Fundraiser on June 25, here at BfR's HQ in Palo Alto. The proceeds of \$460 from the plant sale, flea market, garden tour, borscht supper with live music, and illustrated talk helped fund Igor Prokofiev's travel costs to attend Ecology Action's Teacher workshop in mid-July (see his report on page 5). Viola's experiments have shown that composting and double-digging can reduce the radiation levels in vegetables by up to 30%! The complete reports are excerpted herein and are available on request; we would welcome your help in our search for scientific collaborators.

After the 5-Day Teacher Workshop at Ecology Action, Igor Prokofiev was treated to garden and vineyard tours led by Cat Norris and myself in and near Willits: the Golden Rule GB garden, the Mendocino Ecological Learning Center (where many Permaculture design features help the garden flourish), and the organic and Biodynamic vineyard, Frey's (freywine.com). Ludmila joined us from AZ at short notice for tours of Karen Harwell's Permaculture garden, Mark and Romie Georgia's GB garden that had been designed by Margaret Lloyd (a former Ecology Action apprentice), and Carla Bliss' urban forest in Palo Alto. Ludmila and Igor recorded their experience with GB in the radiation zone and we transcribed and translated their tape; (see excerpt, p. 2). We made the transcript available to the Ukrainian group that visited in September (see article on p. 5). Since all the excitement died down, a team of Nhu Huynh, Jacky Hood, Nancy Hubbard, and myself have been facing the challenge of applying QuickBooks to tracking BfR's finances, and Tamara Kowalski, Dave Buckley, our Russian partners, and I have begun to plan our May 2007 ecotour. Please consider it for yourself or a friend! Peace, *Carol*

To get directly in touch, contact:

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For info, visit: <http://biointensiveforrussia.igc.org>
or (in Russian) <http://www.biointensive.newmail.ru>

Biointensive for Russia is a non-profit project fiscally supported by Ecology Action, a California 501(c)(3) nonprofit corporation. Founded in 1993 with assistance from the LO*OP Center to help promote GROW BIOINTENSIVE[®] mini-farming in the former Soviet Union, its goals include a two-way sharing of information on environmentally sound lifestyles. Carol Vesecky is Director; our Web/IT team includes Berta Pires and David Houston. The mailing of this issue of the *Garden Companion* was made possible by member contributions. It was edited by Carol Vesecky, Joanna Weichert, Nhu Huynh, and David Buckley. Please visit our Web site for more info on BfR.

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