

# The Global Forum for Environmental Education

Volume 15, Number 2, 2005



Yes05 Caretakers of the Environment 19th Annual Conference was held in Salem, Oregon — Photos and articles from the conference inside.

20th Annual Conference 2006 will take place in Ustron, Poland. More Information inside.



**Caretakers of the Environment**  
A global network for teachers, educators, and student

The Global Forum for Environmental Education is the official publication of Caretakers of the Environment International. The International Board consists of: President Andrew Cox, Ireland; vice president Brigitta Norden, Sweden; director/ networking Fatima Matos Almeida, Portugal; director/communications Isabel Abrams, USA; secretary/treasurer: Joke Wals, The Netherlands; director of information technology, David Lloyd, Israel; editor of Global Forum, Cris Leibner, USA; Mr. Ed Radatz, USA; and Mr. Arjen Wals, the Netherlands, Emeritus Members.

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**Notes for contributors:**

We welcome contributions in the form of articles, poetry, art work or reports related to environmental education in the broadest sense, as long as they are at least of interest to teachers and/or students at the upper secondary school level.

**Text:**

Text should be in WORD format for windows or else without format in plain text or rtf. An article can have a maximum length of 750 words. Articles exceeding 750 words are subjected to editing. Footnotes should be avoided. Please accompany each article by a short summary and an address for further information. If you are unable to use a computer, we still welcome your contributions!

**Tables, figures and illustrations:**

Do not include tables, figures and illustrations as part of the text. Gather them together in a separate file or on paper. In the text, you can point out the approximate position of tables, figures and illustrations. We would also like to receive captions to the illustrations you send us. We always welcome pictures and photographs!

**Deadlines:**

Global Forum appears twice a year in June and in December. **Contributions for the June issue have to be received before May the 1st. Contributions for the December issue before November the 1st.**

**Please send your contributions to:**

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**EDITORIAL**

By Cris Leibner

I would personally like to thank all of the organizers, volunteers, students, community members, local government agencies, and Willamette University, for making the YES'05 conference in Salem, Oregon, USA, a very successful event. It was a wonderful experience for all involved that will be remembered for many years.

In this issue we tried to capture some of the highlights of the 2005 conference and share them with Caretakers who were not able to be there. As you notice, we have made a change in our publishing and have gone to printing in color. We have included several pages of photos of YES'05 to take advantage of the use of color in the first issue using this format.

As you look at this issue you will find on page 3, information announcing the formation of a Caretakers Student Alumni group. To begin, three students, Marie Ussing of Denmark, and Jacob Cohen, and Nick Leibner of the US have invited past Caretaker conference participants to get in touch with them and they have provided their e-mail addresses for this purpose. So, teachers, if you are still in touch with students who are alumni of past conferences, please tell them about this opportunity. Students can also visit the Caretakers website at [www.caretakers4all.org](http://www.caretakers4all.org) and check the "Sign/View the Caretakers guest-book" page to look for other alumni. Several alumni of past conferences have been talking about doing this for several years and we support their efforts wholeheartedly!

Page four is an article by Antoni Salamon who is the principle organizer of the next Caretakers conference, "Youth for Sustainable Development, in Poland, 1-7 July, 2006. This is a special conference in that it will be the 20th annual meeting of students and teachers for Caretakers of the Environment International. There is a very well done website ready for you

to visit to find out more about the Poland conference. <http://www.cei2006.org> . You can register online and find out about conference details and deadlines. Please check it out. If you do not have access to a computer you can get information by using this postal address:

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*We hope to see you in Poland, July 2006.*

Pages 8 through 13 are a series of articles about several locations visited by Caretakers while attending the Oregon Caretakers 2005 conference. The participants experienced firsthand examples of projects that have given Oregon the international reputation for being the "Green" state. Pages 14-16 are more photos from YES'05. Page 17 is a summary of one of many excellent presentations made by students for the 2005 conference.

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**ATTENTION TEACHERS**

Are you still in touch with your Caretakers Alumni?

If so, we need your help!

Caretakers International is forming an alumni board...

We hope to create a forum for the alumni of local Caretakers groups and past conference participants to build networks, share stories about what Caretakers has meant to them and what they are doing today, to discuss environmental issues, and to build a lasting Caretakers community.

If you have contact information for former students, we'd love it if you could supply us with their contact information, or let them know about the formation of the alumni group.

Possibilities For:

- creating networks for visits and business opportunities
  - sharing stories
  - sharing ideas
  - planning future conferences
  - attending future conferences
  - collecting photographs
  - fundraising opportunities
  - opportunities for local chapters to make connections with alumni in the community
  - **getting involved in the planning for Poland 2006!**
- Visit [www.caretakers4all.org](http://www.caretakers4all.org) for more information



Part of the goal is to collect stories and information on what the alumni are up to for the next issue of the global forum. We'd like to begin collecting these soon.

**With questions, information, or interest in joining, please contact Jacob Cohen, Nick Leibner, or Marie Ussing.**

Two of us are currently studying Geography, Biology, and Environmental Studies at the University of Wisconsin, Madison, USA. Marie is from Denmark and has attended several conferences. She participated at the 2005 conference as a teacher.

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## 20TH CEI CONFERENCE IN POLAND

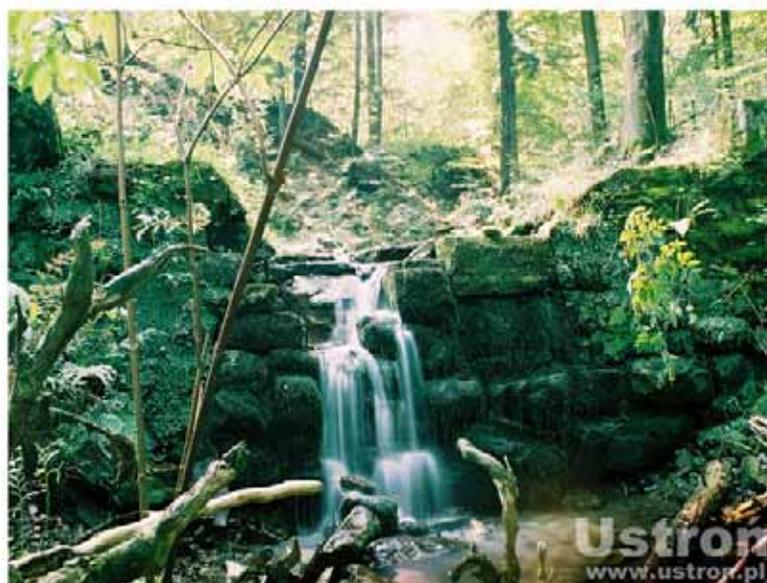
*By Antoni Salamon*, Coordinator of 20th CEI Conference Poland 1-7 July, 2006

When several dozen years ago a pupil in my school demonstrated environmentally friendly behaviour, e.g. by removing a snare set by poachers in the forest, he was awarded "A Friend of Nature" badge. The notion of environmental education was not applied back then and environment-friendly attitudes were displayed spontaneously. Today, when the negative impact of the world's dynamic development is strong enough to pose a serious threat to the globe in the foreseeable future, demonstrating an active environment-friendly attitude should become a priority for every human being. Ecological education has become imperative and international organizations make great effort to involve more and more countries in pursuing it. In January 2005 UNESCO announced the inauguration of UN Decade of Education For Sustainable Development.

The activities within this project undertaken by the independent organization Caretakers for the Environment International must be held in high regard. For nearly 20 years the caretakers - high school teachers and students from different parts of the world - have been meeting at yearly conferences, whose subject matter is related to education concerning sustainable development. What can young people do today for the sustainable development? That is the challenge of the next, already the twentieth CEI conference: YOUTH for SUSTAINABLE DEVELOPMENT. I would like to underline the importance of sustainable development, our responsibility for future generations. Education for sustainable development is of equal importance to all of us, in every country, in each part of the world.

The conference is organized 1-7 July 2006 by the Polish branch of CEI headquartered in Katowice, the administrative center of Upper Silesia, under scientific patronage of University Center for Environmental Studies of Warsaw University. Scientists from Warsaw University, Polish Academy of Sciences, Branch in Katowice, from University of Silesia and from the AGH University of Science and Technology in Cracow will support us in conference's workshops and activities preparation. The participants of the conference will be accommodated in Ustron, a picturesque health resort in Beskidy Mountains, in the valley of the Vistula River, the biggest Polish river, near its sources.

The program of the conference includes many activities and workshops of environmental education. The conference will enable the participants to present their projects to people from different countries, will make it possible to share experiences, and will create adequate conditions for cooperation and action coordination. Active participation of caretakers from all over the world will determine the success of the conference. We hope to see you in Poland in summer 2006!









## WHY IS OREGON "GREEN"? HISTORY POINTS THE WAY

[www.open.org/~mariswed/history.html](http://www.open.org/~mariswed/history.html)

In 1935, America's president, Franklin D. Roosevelt, established the Soil Conservation Service within the United States Department of Agriculture through the enactment of the Soil Conservation Act. This Soil Conservation Service was given the task of developing a program to conserve and enhance the nation's soil and water resources. After two years of trying to manage these resources at a national level, it became clear that it needed local support and direction. Thus, in 1937, President Roosevelt asked all state governors to support legislation that allowed for state soil conservation districts to form. Oregon rose to the occasion and passed its legislation in 1939. Through the creation of what is now called the "Soil and Water Conservation Commission", a committee was formed to provide direction and assistance to smaller districts within the state. Today Oregon has 45 districts that are committed to overseeing both soil and water management within the state.

Marion County, the county that hosted our 2005 Caretakers of the Environment Conference, through the efforts of the Marion Soil and Water Conservation District, works diligently to solve problems associated with flood control, riverbank stabilization, weed control, and improvement of fertility and other problems affecting the best use of land and water resources within that county.

Thus, what started as a federal initiative has become a way of life for Oregonians. Wise planning, leadership, and forethought

has allowed for Oregon's reputation as a "green state" to flourish. Volunteerism partners with state agencies and innovative private companies to provide a model that other states and countries can follow. The numerous field trips that the delegates participated in during the conference provided them with first hand experience and knowledge with and of Oregon's greenness. Participants met with, talked with, and worked with a variety of state agencies and private agencies committed to protecting Oregon's natural resources.

The 2005 conference provided all of the delegates with visual proof that cooperation, collaboration, planning, and commitment can make a difference.

The following articles focus on some of the hands-on excursions that the delegates participated in and will highlight Marion County's leadership and commitment to remaining green.



## WILLAMETTE ORGANICS

[www.willametteorganics.com](http://www.willametteorganics.com)

Willamette Organics was established in 2003 to provide education, products, and services that enable farmers, nurserymen, landscapers and home gardeners to eliminate toxic management practices and improve food quality.

The company was started by Jim and Erika Toler on their historic farm east of Salem. In 2004 Willamette Organics moved to Fairview, Salem's new 275 acre sustainable community to undertake landscape management and set up offices and a compost tea production center.

In addition, Willamette Organics conducts workshops in sustainable soil and plant management. They also frequently speak at garden clubs, special events, and professional associations. The founder, Jim Toler co-teaches a class in sustainable agriculture at Chemeketa Community College.

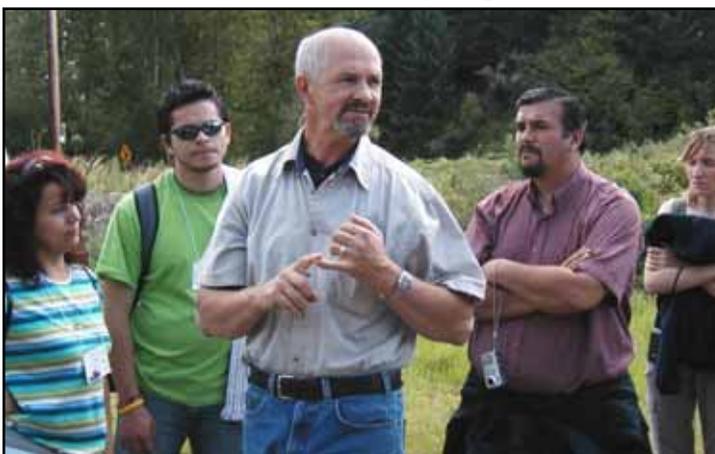
An important product, "I'm Alive! Premium Aerated Compost Tea" is produced at the Fairview site in Salem and regularly transported and applied throughout the valley and central coast of Oregon. Also, they sell, service and support other compost tea brewers.

Willamette Organics professional consultation services are designed to help their clients improve soil and reduce synthetic inputs. Through the use of soil bio-assay and soil chemistry tests, they design a fertility program for most applications. On site consultation and soil testing service are offered by Willamette Organics for home gardeners and landscapers. Their consultants will work with the home gardener to develop plans for pesticide and chemical reduction, or to solve specific problems with soil and plant health fertility.

In addition, Willamette Organics works with local landscape and yard care professionals to improve

soil and plant health and create a healthy environment for people, pets and wild animals.

"I'm Alive! Premium Aerated Compost Tea", which the Caretakers spent a great deal of time learning about and seeing the production of first-



hand, is available to home users who seek the premium grade of biological products for their home environment.

Frequently Asked questions about Compost Tea include the following:

***Q: How long can I keep compost tea before using it?***

A: Typically, the microorganisms in compost tea begin to die about six hours after they are removed from the aerated container. If the compost tea is refrigerated, it may be kept up to 18 hours and still have good viability.

***Q: Is I'm Alive! compost tea a pesticide?***

A: No, compost tea will not kill bugs, grubs, weeds, or plant pathogens (unless we inoculate it with specific beneficial microbes). It will however, make your plants and yard much less attractive to these pests, thereby reducing damage to tolerable limits.

***Q: What makes I'm Alive! compost tea so effective at making plants healthy?***

A: I'm Alive! compost tea works in a multitude of ways:

- By building natural biology in the root zone and on the plant surfaces, it encourages natural nutrient cycling in plants. This gives them a balanced access to the full range of minerals in the soil in the proportions and at the times they require.
- By building structure into the soil, the microbes in compost tea make it easier for plants to grow and they can send their roots deeper for better access to water and minerals.
- Coating the surfaces of the plants with beneficial microbes protects them from harmful pathogenic organisms.

***Q: Can I dilute I'm Alive! compost tea with tap water?***

A: Yes, recommended dilutions are as much as 2 parts water to 1 part tea for foliar applications and 9 parts water to 1 part tea for soil and turf applications. It should be remembered that the higher the disease pressure, the more concentrated the tea should be. Some water systems chlorinate the water which can kill beneficial microbes in the compost tea. It is better to let the dilution water sit out in a bucket for a few hours to off-gas the chlorine before using it. Watering over plants, turf or soil that has been treated with compost tea is usually not a problem since the chlorine comes out of the water easily as it passes through the air.

***Q: Is I'm Alive! compost tea good for all soil and plants?***

A: If properly made, compost tea contains a huge diversity of microorganisms, up to 25,000 species of bacteria and 15,000 species of fungi, not to mention the protozoa and nematodes. This diversity, along with the high concentrations of microorganisms in compost tea provides essential support to plants in many ways. In a fundamentally healthy garden, the effects of a compost tea program will be more subtle. In a less healthy system, where the applications are overcoming previously damaged soil, the effects of compost tea can be very dramatic.

***Q: Can I'm Alive! compost tea be used for weed control in my yard?***

A: Yes, compost tea combined with certain organic nutrients that favor grass over weeds will improve the rooting depth of your turf and tend to choke out the deeper rooting weeds.

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**OREGON GARDEN**

[www.oregongarden.org](http://www.oregongarden.org)

Visit the site for many more photos and ideas for educational programs.

The vision for this unique garden began in the early 1940s when the Oregon Association of Nurseries explored the idea of developing a botanical display garden. It wasn't until 1995 that the site in the City of Silverton was selected and planning began. Groundbreaking ceremonies were held in 1997 and former U.S. Senator Mark O. Hatfield was the keynote speaker. In 1999 it had its inaugural season, and today it is one of Oregon's premier attractions welcoming visitors from all over the world. It is the setting for a summer concert series, educational programs and a favorite place for all types of events and weddings.

A key focus for the Oregon Garden is K-12 environmental education. Their stated mission is to provide an affordable and fun learning experience in the glorious environment of the Oregon Garden.

One way that they do this is to provide at no cost field trips for 5th graders. Funding for this endeavor comes from the Roth Family Foundation and other sponsors. In addition, low cost field trips are provided for non 5th grade age groups, scouts, and summer camps.

Students are taught a variety of environmental and biological subjects that take advantage of the Oregon Garden setting and are appropriate to the age level of the students. These hands-on lessons are geared to match the educational benchmarks set by the state and include subjects such

as habitat, tracking, birds, aquatic life, insects, watershed ecology, pollination, plant adaptation, journaling and more. The Education Department also hosts Badge Days for Girl Scout, Brownie, and Boy Scout troops and field trips for various grade levels.

The Oregon Garden has more than 80 acres of a diverse array of beautiful gardens, wetlands, and forests. Many students of all ages are offered a once in a lifetime experience when they come.

As the Caretakers toured the garden, most students and teachers alike were captivated by the frogs calling out from the wetlands area. It was hard to move past that remarkable spot to tour the rest of the botanical habitats. One guide laughingly told the group that those noisy frogs were a universal draw for all types of groups touring the garden.

Another area that drew interest to the environmentalists touring the garden was the habitat devoted to plant species with a genetic flaw. Seeing the beauty of misshapen plants put another spin on the design of our surroundings and what we can and perhaps should appreciate.

Our field experience to this unique environment left all participants anxious to go back to it during some future visit to the Willamette Valley. It was a model for all to take home with them. Sharing the environment, nurturing the environment, revitalizing and reclaiming the environment with others can work!



*Watching frogs at the water garden*



*Conifer garden*



*Wetland habitat*



*Amazing water garden*

## CHRISTMAS TREE FARM-EROSION CONTROL DEMONSTRATION SITE

Marion Soil and Water Conservation District  
[www.open.org/~mariswcd/](http://www.open.org/~mariswcd/)

When it comes to growing Christmas trees, Oregon is one of the top producing states in the USA, and Marion County (where the Caretakers' Conference was hosted) is one of the top producing areas in the state. The trees have to be carefully grown for 6-8 years before they are cut and shipped all over the country and even over the border to Mexico. As with any agricultural crop grown anywhere in the world, there is always the potential for negative environmental impact if careful protection of sensitive areas aren't undertaken.

The Caretakers learned about how sometimes because of unforeseen circumstances, things can go wrong when we toured this tree farm. Because the owner of the land leases the land to the grower, some miscommunication occurred that led to environmental problems. The problems that started to occur were high rates of soil erosion, chemical spraying of grass along a seasonal waterway, and the potential for both of these contaminants to enter the surface water and have impact on aquatic life downstream in the Pudding River.

To help come up with solutions, the Marion Soil and Water Conservation District was called upon to provide some technical expertise. With a lot of hard work by the landowner, this Christmas tree field is now being used as a demonstration site to show others how to implement environmental improvement projects that are called "Best Management Practices". The projects installed at this location and seen firsthand by the delegates as they walked the field were:

- Straw wattles across the field slope to slow surface rainwater runoff and prevent soil from getting into surface water.
- Installation of a sediment basin to store excess rain runoff and settle out the suspended soil particles.
- Silt fences to help control soil erosion and retain suspended soil in the fields.

- Planting of grass in sensitive areas to hold soil in place and to also help filter rain runoff.

Delegates were impressed by the idea that a citizen, when faced with the realization of the negative environmental impact a project on his land had, worked hard with authorities to find solutions. This was yet another model of what can be done globally if people are willing to problem-solve and share work and responsibility. Nothing good is

every easy, but it is definitely worthwhile. This was shown by our trip to the Christmas Tree Farm in Salem.



## KETTLE FOODS' ORGANICS & ENVIRONMENTAL INITIATIVES

[www.kettlefoods.com](http://www.kettlefoods.com)

Kettle Foods began in 1982 as an alternative to the fast food craze in America. It now employs more than 600 people internationally and offers a variety of products such as smooth nut butters and zesty organic tortilla chips. One of their outstanding products that the delegates to the 2005 Caretakers' of the Environment conference sampled is their famous Kettle Chips. These chips were the first natural, hand-cooked potato chip introduced in the U.S.

A privately held company, Kettle Foods not only works hard to create award-winning natural products, but it has also pioneered some of the most innovative grassroots projects in the United States. They are involved in restoring local wetlands in Oregon and also erecting one of the largest solar arrays in the Pacific Northwest.

Committed to providing healthy foods, the company uses only expeller pressed safflower or sunflower oil. Their oils contain no hydrogenated oil and no more than 10 percent saturated fat. They then share the used oil with a biodiesel fuel company that distills the vegetable oil and creates a fuel that they use to run their fleet of company vehicles. They call this fuel "Flower Power" and it is a natural alternative to petroleum diesel fuel. Its use benefits everyone by saving as much as 4.5 tons in CO2 emissions per vehicle a year. They use this fuel primarily in their Volkswagen Beetles which they affectionately term-Bio-Beetles!

As delegates to the conference learned about the biodiesel initiative and munched Kettle Chips, they also saw learned more about how a private company can work hard to mitigate its impact to a wetlands area. When Kettle Foods built its Salem, Oregon facility along Salem's marshy Mill Creek in 1999, they made sure to reintroduce native plants such as Astor, Camas, Red Alder, Lupine, Sword Fern, and Wapato.

In addition, they introduced aquatic plant species to enhance the biological diversity in the wetland pond. They then put in a trail system for people to enjoy as they walk the nearly 2-acre system.

The solar energy project was finished in 2003 when they partnered with the Energy Trust of Oregon to install the largest solar energy array in the Pacific Northwest. This array is comprised of more than 600 solar panels set on roof-mounted racks and now generates 120,000kWh of electricity per year. This is enough power to make 250,000 bags of chips and to reduce annual CO2 emissions by 65 tons. Impressive!!!!

Through visiting Kettle Foods and speaking with their representative, the various delegates saw first-hand private business and government working hand-in-hand to provide for sustainability. It became clear that where there's a will there's a way.



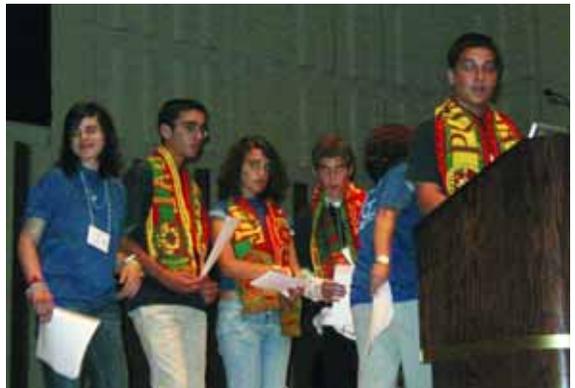
*One of the "Flower" powered Company Cars.*



*Visiting the restored wetlands on the property of the Kettle Company.*







## REMOVAL OF TOXIC PHENOL DERIVATIVES FROM OLIVE MILL WASTE WATERS BY VARIOUS METHODS AROUND IZNIK LAKE

Ted Istanbul College Foundation High school, Istanbul-Turkey Modified from a PowerPoint presentation prepared by Tansu Guney and Sedef Gunstray and given at YES'05, Oregon, USA Supervisors: Engin Inkaya, Seda Tinaz, and Itir Ay

During olive oil production, about 30 million m<sup>3</sup> of olive mill waste waters are discharged in the Mediterranean region. This causes major environmental problems in our country and the other olive producers such as Italy, Spain and Greece. Our aim in this project is to prevent water pollution and damage done to living things caused by black waste water, containing toxic phenol derivatives, from olive mill factories around Iznik Lake and Karsak Stream connecting Iznik Lake to Gemlik Bay.

Olives are collected from the region and taken to the mill. The olives are pressed in hydraulic presses to extract the olive oil. This results in the production of black liquor waste water and a solid residue. This study focused on the black waste water containing toxic compounds which are discharged to the local lakes, streams, and fields that cause environmental problems.



It was determined that the pH value of waste water discharge ranged between 4.0 to 5.5 (weak acid) and the amount of phenol derivatives between



3.0 to 17.5g/L. The standard for drinking water stated by the World Health Organization (WHO) limits phenols to 1-2 micrograms per liter of water. Therefore, the mill waste water should be pretreated before discharge to lessen potential problems caused by unsafe levels of phenol.

The students collected black waste water



We first filtered these samples through glass wool then separated the olive oil from filtrate in separatory funnels.



Sieving the Manisa Gordes zeolites.



Black waste water, zeolite and lime are being mixed in an erlenmeyer by a magnetic stirrer.

samples from six different olive mills around Iznik Lake. They subjected the samples to a series of rather sophisticated tests to determine what meth-

ods would work to reduce the amount of toxins in the waste water from the mills.

The main conclusions from this study showed that precipitation using lime water, absorption with



Samples of waste waters untreated, treated with zeolite, treated with lime and treated with zeolite and lime together after centrifuging.



Views of the untreated waste water (1) waste water treated with zeolite 8 hours (2), waste water treated first with zeolite then lime 8 hours.

natural zeolite (Clinoptilolite), and a biological method using white rot fungus *Pleurotus Ostreatus*, were all effective in reducing levels of phenol toxins in the mill waste waters.



Working with fungi.

**EUROPEAN ENVIRONMENT AGENCY**

<http://www.eea.eu.int/>

Europe's biodiversity needs to be used wisely to ensure a sustainable future. Europe is the most cultivated and exploited continent in the world. In every corner of Europe, the biodiversity we have and depend on is directly and indirectly shaped by human use and influence over time-by the dense urbanization and infrastructure and intensive agriculture and fisheries, but also by use of chemicals and climate change, even in the most remote and most natural areas. Despite all nature protection efforts and environmental practices, we are still losing far more than we gain and we are very long way from real sustainable development.

To further awareness and understanding of this, the European Environment Agency is producing a report on conditions and use of biodiversity across Europe. The first chapter, now available on this website, describes the Mediterranean Sea. It will be followed by chapters on all the other regional seas and biogeographical regions.



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