

**CONTRA COSTA
BOARD OF SUPERVISORS**

WATER HYACINTHS

2,4-D

DIQUAT

GLYPHOSATE

SURFACTANTS

**CONTRA COSTA WATER DISTRICT
WATER TEST RESULTS**

**BOARD PACKET
JANUARY 17, 2012**

PREPARED BY

**ROSALIND PETERSON GUILFOYLE
POST OFFICE BOX 499
REDWOOD VALLEY, CA 95470
(707) 485-7520**

January 17, 2012

The Honorable Chairman Mary Nejedly Piepho
Members of the Contra Costa Board of Supervisors
651 Pine Street, Room 107
Concord, California 94553

RE: 1) 2,4-D, Diquat & Glyphosate and Surfactant use to Control Water Hyacinths
2) Biological Control of Water Hyacinths
3) Mechanical Harvesting of Water Hyacinths
4) Using Water Hyacinths for Water Purification & Power Generation
5) Formal request to have these items placed on a future agenda for discussion, a public hearing and possible action.

Dear Chairman Peipho & Members of the Board of Supervisors:

It has come to my attention that the State of California is using one or more of the herbicides listed above to control Water Hyacinths in the Contra Costa Delta Waterways. Many herbicides have been more fully investigated since the Vietnam War and the 1980s, when the use of these herbicides was first approved for use in Contra Costa County.

(2,4-D is ½ of the formulation of Agent Orange and does contain dioxins. It should also be noted that the U.S. Army Corps of Engineers has conducted many studies on 2,4-D revealing that Water Hyacinths, once sprayed, become resistant to 2,4-D over time, requiring more powerful herbicides to continue to control these plants with each passing year. It should also be noted that studies now show that Glyphosate use has produced resistant weeds now requiring the use of more dangerous chemicals to be introduced into the environment.)

In reviewing the water test results from the Contra Costa Water District we have found that all of these herbicides are showing up in the water samples taken by the District. And we have also found that there is little if any testing being conducted when the actual spraying of Water Hyacinths are taking place in the Contra Costa Delta Waterways which is the source of drinking water for over 300,000 thousand residents.

The State of California has admitted that no biological controls for Water Hyacinths are used in Contra Costa County Delta Waterways (even though used in other counties), which might reduce the need for the use of these herbicides. And no mechanical harvesting is taking place in our county to completely reduce the need for any herbicide applications. (Since we do know that there are fish kills in spray areas it would be better to mechanically harvest these areas to protect not only human health but our fish and other aquatic life.) Herbicides are not selective to

certain plants but will damage or kill anything they come in contact with...thus, the studies showing the plants become resistant to herbicides over time.

The San Diego Water Treatment plant uses Water Hyacinths in their water purification process and also to power their treatment plant. No beneficial uses of Water Hyacinths are being considered by the Contra Costa Board of Supervisors or the State of California at this time due to the fact that few people realize that the source of their drinking water is being contaminated for several months each year during herbicides spraying applications.

Resident in the Contra Costa Delta Waterways are exposed to these chemicals through drinking the water, swimming in this area, and eating the fish during the herbicide spraying season. These areas are not posted in advance to notify the public that they should restrict swimming, eating the fish, and have their wells and water tested before drinking it.

It should be noted that surfactants, in some cases more toxic than the actual herbicide, and studies have shown that this sticky substance (mixed with herbicides), adheres to plants, fish, and anything that it comes in contact with in those areas including swimmers. When herbicides are applied to Water Hyacinths they also kill beneficial biological controls thus increasing the need for more herbicides to be used.

Water Hyacinths could be mechanically harvested and used for our green economy for power production and for water purification. There are many uses which these plants could be used for once harvested. Harvesting would reduce the need for herbicides to be used to control Water Hyacinths thus reducing the possible exposure of citizens, their drinking water, and nearby residents to these toxic chemicals.

In order to address this issue we are formally requesting that the Contra Costa County Board of Supervisors place this item on their agenda for public discussion, a public hearing, and also for action to protect the residents of Contra Costa County.

There are several important issues that should be immediately addressed prior to the beginning of the next herbicide spraying season for Water Hyacinths:

- 1) The Contra Costa Water District, and all other water districts that derive their water from the Contra Costa delta waterways, should be notified prior to any herbicide usage in the Delta Waterways.
- 2) The Contra Costa Water District (and other districts and well owners), and the County should be required to conduct testing during the entire season especially when the water is being sprayed near drinking water intakes, wells, and where swimming, boating, fishing, and other water activities take place.
- 3) Investigate whether all water treatment facilities have the ability to remove all herbicides and surfactants through the treatment process or to divert water in cases of contamination.

- 4) Investigate whether all treatment facilities can conduct herbicide and surfactant tests in a timely manner so that contaminated water is not delivered to customers prior to the time that the tests are conducted.
- 5) Investigate whether all treatment facilities have drinking water diversion techniques in place to divert contaminated water prior to it being delivered to customers.
- 6) The areas where herbicide spraying is to take place should have public notification placed in those areas, on the island areas of the Contra Costa Delta Waterways, in bait shops, and other areas where people might be exposed to these herbicides or could be notified of this spraying when vacationing, boating or fishing.
- 7) A full-scale investigation should take place to encourage the use of biological controls instead of herbicide use.
- 8) Mechanical harvesting should take place whenever possible to reduce the amount of exposure to these toxic chemicals to protect both aquatic and human health.
- 9) Investigate whether Water Hyacinth harvesting could be used for power production and water treatment (purification), because of its high proliferation rate in the delta waterways.

The people of Contra Costa County are depending upon you and the Contra Costa Board of Supervisors to protect our drinking water and our wells from this type of contamination which has the potential to increase health problems here in our county.

We also hope that mechanical harvesting, which was successfully accomplished in a demonstration, in 1982 or 1983, in the Contra Costa Delta, will be considered in this area as well as biological controls. Going green and using this renewable energy resource should be considered as the herbicide spraying of water hyacinth, since the early 1980s, has not reduced their numbers in California's Delta Waterways. (Note: When herbicide spraying is used it kills the biological controls on the plants thus reducing their ability to control these plants.)

If you require more information, documents, technical information or have any questions please don't hesitate to contact me.

Respectfully,

Rosalind Peterson Guilfoyle
Post Office Box 499
Redwood Valley, CA 95470
(707) 485-7520

(See Attached Packet)

CC: Contra Costa Times
Martinez News Gazette

District 1 Supervisor: John M. Gioia
<http://www.co.contra-costa.ca.us/forms.aspx?FID=120>

District 2 Supervisor: Gayle B. Uilkema
E-Mail: gayle@bos.cccounty.us

District 3 Supervisor: Chairman: Mary Nejedly Piepho
Dist3@BOS.CCCounty.us

District 4 supervisor: Karen Mitchoff
Dist4@bos.cccounty.us

District 5 Supervisor Federal D. Glover
district5@bos.cccounty.us

District Map: <http://www.co.contra-costa.ca.us/DocumentView.aspx?DID=6505>

Clerk of the Board Staff:
Tiffany Lennear, Chief Clerk
Phone: (925) 335-1900
TLenn@cob.cccounty.us

Additional Information 2004 Study:

State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME
ACUTE TOXICITIES OF HERBICIDES USED TO CONTROL WATER HYACINTH AND
BRAZILIAN ELODEA ON LARVAL DELTA SMELT AND SACRAMENTO SPLITTAIL
OFFICE OF SPILL PREVENTION AND RESPONSE
Administrative Report 04-003
June 8, 2004

ACUTE TOXICITIES OF HERBICIDES USED TO CONTROL WATER HYACINTH AND
BRAZILIAN ELODEA ON LARVAL DELTA SMELT AND SACRAMENTO SPLITTAIL
by Frank Riley and Sandra Finlayson
California Department of Fish and Game
Aquatic Toxicology Laboratory
9300 Elk Grove-Florin Road
Elk Grove, California 95624

SUMMARY

"...The herbicides Reward® (diquat), Komeen® (copper ethylenediamine complex) and Sonar® (fluridone) are used to control Brazilian elodea *Egeria densa*. The herbicides Rodeo® (glyphosate) and Weedar 64® (dimethylamine salt of 2,4-dichlorophenoxyacetic acid) and spray surfactant R-11® (alkylphenolethoxylates) are used to control water hyacinth *Eichhornia crassipes*. These are two invasive, exotic aquatic weeds that infest the Sacramento-San Joaquin Delta. Concern exists over possible lethal and sub-lethal effects that the herbicides and

spray surfactant may have on larval Delta smelt *Hypomesus transpacificus* and Sacramento splittail *Pogonichthys macrolepidotus*, two federally-listed threatened species. Acute toxicity tests were conducted on the herbicides and surfactant using larval Delta smelt and larval Sacramento splittail.

The toxicity values were compared to those for larval fathead minnow *Pimephales promelas*, a surrogate species that is used in monitoring the impacts of the herbicides and surfactant in the Sacramento-San Joaquin Delta. Based on 96-h LC50 values, larval Delta smelt and larval fathead minnow were generally equally sensitive to the chemicals and larval Sacramento splittail were generally less sensitive. The surfactant R11® was more toxic than the herbicides, and Reward® and Komeen® were the most toxic herbicides tested.

In herbicide/surfactant mixtures, acute toxicity was likely due to R-11®. Exposure levels of herbicides and surfactant in the Sacramento-San Joaquin Delta are several orders of magnitude less than the 96-h LC50 values with the exception of Reward® and Komeen®. Larval fathead minnow sensitivity to the herbicides and surfactant suggests that this species is a good surrogate for testing toxicity to Delta smelt and Sacramento splittail..."

RESULTS OF STUDY

"...The surfactant R-11® was the most toxic and the herbicide Rodeo® the least toxic material to larval Delta smelt (Table 1)...The herbicide Komeen® was the most toxic and the herbicide Rodeo® the least toxic material to larval fathead minnows (Table 2)...The herbicide Komeen® was the most toxic and the herbicide Rodeo® the least toxic material to larval Sacramento splittail (Table 3)...Rodeo®, Weedar 64® and Sonar® 96-h LC50 values for the three fish species are several orders of magnitude higher than detected concentrations in the environment...Reward® (diquat) LC50 values for the three larval fish species approximate the highest detected concentrations in the environment or the target application rate. Reward is used in the EDCP...There have been several indications that Reward® is causing toxicity. It is very likely that Reward® cannot be used at these application rates without killing larval fish. If larval fish are in the application area, they likely will be killed. A possible mitigation measure would be to limit Reward® (diquat) use when larval fish are present during spring time. Applications could be made later in the year when juvenile fish can move away from application areas...The WHCP uses R-11® as a surfactant for both Rodeo® and Weedar 64®...Applicators should be careful when applying mixtures containing R-11® so that the spray is on the emergent plants and not in the water column..."

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January 15, 2012

The Honorable District 5 Supervisor
Federal D. Glover

Member of the Contra Costa Board of Supervisors

651 Pine Street, Room 107

Concord, California 94553

district5@bos.cccounty.us

Dear Supervisor Glover:

It has come to my attention that biological controls for Water Hyacinths are being used in the Sacramento and San Joaquin Delta Waterways and not in the Contra Costa Delta Waterways by the State of California. Since we know, from historical and current data that 2,4-D, Diquat, and Glyphosate are only somewhat effective in reducing Water Hyacinths in the Delta. If these herbicides are directly sprayed on the plants, we were wondering why biological controls instead were not introduced into the Delta areas in Contra Costa County where these plants are found by the State of California with a recommendation by our County Agriculture Commissioner?

We were also questioning why the Contra Costa Water District was not notified in advance by the Contra Costa Agriculture Commissioner, who must issue these permits for herbicide usage in Contra Costa County, (or the State of California). It appears that residents have not informed of herbicide spraying in either the Contra Costa Delta Waterways or the Contra Costa Water District. All residents should be notified of the dates and times of herbicide spraying so that the wells and drinking water intakes areas could be tested during the entire spraying season in these areas in order to protect public health?

It is alleged that the Contra Costa Water District is not aware of this herbicide spraying and has not increased their water testing during the months when herbicide spraying near the sources of their water intakes so how can they protect the public health? Please note that the CCWD is not testing for the surfactants used with these herbicides which are used so that the herbicide sticks to plants and (also fish)? Surfactants can be almost as toxic as the herbicides used in the Water Hyacinth program. Also 2,4-D (1/2 of the formulation of Agent Orange used in Vietnam as a defoliant), has dioxin in the formula. We would like to note for the record that the Contra Costa Water District may not be testing for this type of dioxin in your drinking water.

We feel that the residents of the Contra Costa Delta Waterway areas (like Bethel Island Residents), should be warned about the herbicide spraying programs along with any tourists, who may fish, swim or otherwise be exposed to these herbicides during their vacations in these

areas. Since the surfactant sticks to anything it comes in contact with...residents and others should be warned not to eat the fish or swim during times of herbicide spraying.

Drinking water that comes from the Delta serves more than 300,000 Contra Costa Residents. Contra Costa County should require that adequate and frequent water testings for these herbicides, surfactants, and dioxins should be conducted during and after the spraying periods (also to be continued for some time as rotting and dying water hyacinths will cause these herbicides to leach into the water and surrounding areas). It should be noted that the temperature of the Contra Costa Delta Waterways does not always mean that these herbicides will degrade quickly...thus, testing should be conducted year around.

If wells are contaminated or if positive water tests are found by the Contra Costa Water District do we have alternative supplies of water available, especially in the Delta regions? Does our water treatment process remove all of these contaminants in our drinking water? And if there is a contamination problem, are the tests results available in a timely manner before this water is consumed by the public? Do we have adequate notification time if these herbicides are found in water tests, and available treatment will not remove them from our drinking water, to divert this water so that the contamination will not go into the drinking water system for people to drink?

Maps of the Contra Costa Water District Pumping Stations and the area of the Contra Costa Delta Waterways are available to you upon request. We hope that you will investigate this issue, place this issue on the agenda, and hold public hearings in order to protect the public before the next herbicide spraying season beings in 2012, when the Water Hyacinths start growing again in the Delta.

It should be noted that Water Hyacinths have been used by the San Diego Water Treatment plant (for more than 20 years), to purify their water in their treatment process and to power their facility. It should also be noted that there are mechanical harvesting machines available and used in other areas to remove water hyacinths (a floating plant), and then use them to produce green charcoal, to generate power, and more recently considered to be used as a bio-fuel. We should be considering these alternative uses here in Contra Costa County in order to reduce the negative health and other impacts which are associated with this type of non-selective herbicide usage in Contra Costa County and also as an alternative source of energy.

It should also be noted that 2,4-D resistant crops are being considered since glyphosate has been responsible for a massive increase in glyphosate resistant weeds. The introduction of 2,4-D back into agriculture lands on a larger scale could impact the Delta Waterways causing aquatic vegetation die-back near levees which could cause them to fail...and increases the possibilities that these herbicides will filter into our drinking water systems and wells. I encourage you to consider these issues, place them on the agenda, and to draft a letter to the U.S.D.A., before the February 27, 2012, deadline and protect the people of Contra Costa County and our drinking water sources not only from an increase in 2,4-D usage but also from the introduction of more genetically engineered food.

http://www.aphis.usda.gov/newsroom/2011/12/brs_actions.shtml

DAS-40278-9 Corn: For Public Comment

Finally, APHIS is also making available today a PPRA and a draft EA to address a request from Dow, Inc. seeking a determination of nonregulated status of its DAS-40278-9 corn. This corn has been genetically engineered to provide tolerance to 2,4-D and aryloxyphenoxypropionate (AOPP) acetyl coenzyme A carboxylase (ACCase) inhibitors, also known as "fop" herbicides. APHIS is making available for public comment the Dow petition for nonregulated status, APHIS' PPRA and draft EA. These documents can be found at www.aphis.usda.gov/biotechnology/news.shtml; the public comment period will close on Feb. 27, 2012.

The people of Contra Costa County are depending upon you and the Contra Costa Board of Supervisors to protect our drinking water and our wells from this type of contamination which has the potential to increase health problems here in our county.

We also hope that mechanical harvesting, which was successfully accomplished in a demonstration, in 1982 or 1983, in the Contra Costa Delta, will be considered in this area as well as biological controls. Going green and using this renewable energy resource should be considered as the herbicide spraying of water hyacinth, since the early 1980s, has not reduced their numbers in California's Delta Waterways. (Note: When herbicide spraying is used it kills the biological controls on the plants thus reducing their ability to control these plants.)

If you require more information, documents, technical information or have any questions please don't hesitate to contact me.

Respectfully,

Rosalind Peterson Guilfoyle

(With friends and family residing in Contra Costa County - Also resided for over 12 years in Martinez, CA)

Post Office Box 499

Redwood Valley, CA 95470

(707) 485-7520

E-Mail: info@californiaskywatch.com

**CONTRA COSTA
BOARD OF SUPERVISORS**

WATER HYACINTHS

2,4-D

DIQUAT

GLYPHOSATE

SURFACTANTS

**CONTRA COSTA WATER DISTRICT
WATER TEST RESULTS**

**BOARD PACKET
JANUARY 17, 2012**

PREPARED BY

**ROSALIND PETERSON GUILFOYLE
POST OFFICE BOX 499
REDWOOD VALLEY, CA 95470
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**State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME**

**ACUTE TOXICITIES OF HERBICIDES USED TO CONTROL
WATER HYACINTH AND BRAZILIAN ELODEA ON LARVAL
DELTA SMELT AND SACRAMENTO SPLITTAIL**



**OFFICE OF SPILL PREVENTION AND RESPONSE
Administrative Report 04-003
June 8, 2004**

ESTIMATION OF EXPOSURE OF PERSONS IN CALIFORNIA
TO THE PESTICIDE PRODUCTS THAT CONTAIN

DIQUAT DIBROMIDE

BY

Tareq A. Formoli, Associate Environmental Research Scientist
HS-1662, May 14, 1993
Revised August 10, 1995

California Environmental Protection Agency
Department of Pesticide Regulation
Worker Health and Safety Branch
1020 N Street, Room # 200
Sacramento, California 95814

ABSTRACT

Diquat dibromide is a non-selective, contact herbicide that is used in California for desiccation of seed crops. It is also used for rights-of-way weed control, landscape maintenance, and aquatic weed control. A total of 64 illnesses and injuries associated with the use of diquat dibromide were reported in California from 1984 through 1992. Most of these incidents occurred due to lack of required protective clothing and/or inadequate training. Approximately 60 percent of all illnesses and injuries involved applicators using hand-held equipment. Prolonged dermal exposure to diquat dibromide can cause severe skin damage. Systemically absorbed diquat dibromide does not selectively accumulate in lung tissues. Diquat dibromide is excreted rapidly from the human body, primarily in urine, following an intravenous injection. Its dermal absorption rate is estimated at 1.4 percent in 24 hours in humans. Diquat dibromide exposure monitoring studies and surrogate data were used to estimate workers' absorbed daily dosages.

This report was prepared to be included as Volume 2 in the risk characterization document for diquat dibromide. The risk assessment is being conducted because of chronic, and developmental toxicities observed in toxicity testing in laboratory rats and rabbits.

PUBLIC HEALTH GOALS FOR CHEMICALS IN DRINKING WATER

DIQUAT

September 2000

**Agency Secretary
California Environmental Protection Agency
Winston H. Hickox**

**Director
Office of Environmental Health Hazard Assessment
Joan E. Denton, Ph.D.**



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CA WQM Analysis [\(Help?\)](#)

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	Filter systems (reset) By County -- <input type="text"/> OR By City -- <input type="text"/>	
3. Enter the Chemical number/name:	78885 OR <input type="text"/>	
4. Select Date Range:	1986-10-07 <input type="text"/> TO 1994-12-31 <input type="text"/> ≥ 1986-10-07 ≤ 1994-12-31	
5. Graph Properties:	Width: 1000 Height: 400	
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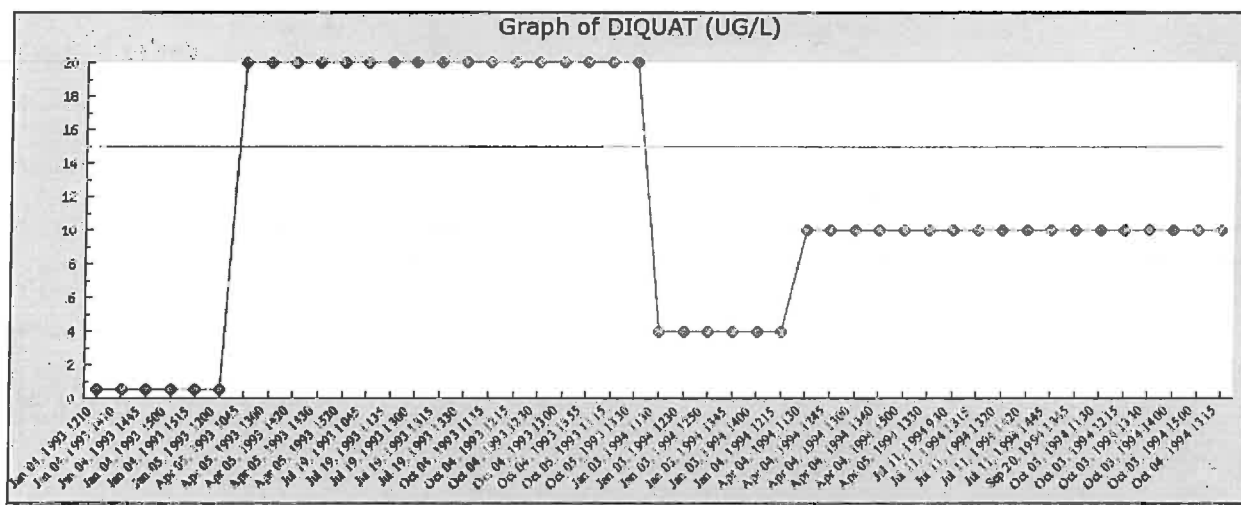
Area Info.

System Name = Contra Costa Water District
 Laboratory Number = FGL ENVIRONMENTAL (STOCKTON, CA)
 Laboratory Area = 209
 Laboratory Tel. = 9420181

Chemical Info.

Chemical Name = DIQUAT (78885)
 RPHL = 15 (UG/L)
 MCL = 20 RCL = 0
 MDL = 4

Data source: California Department of Health Sciences Drinking Water Program MS-7416 Sacramento, CA 95899-7377
 No. of Graph Points = 47



CA WQM Analysis (1/2/02)

1. Select the data source:	<input type="radio"/> Chemical <input checked="" type="radio"/> Chemhist <input type="radio"/> Chemarcv	System Number: 0710003 System Name: Contra Costa Water District HQNAME: Contra Costa Water District City: Concord State: CA Address: P.O. Box H2O
2. Enter the system number:	0710003 OR -- Filter systems (reset) By County -- OR By City --	
3. Enter the Chemical number/name:	78885 OR --	
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6. Generated Graph:

Area Info.

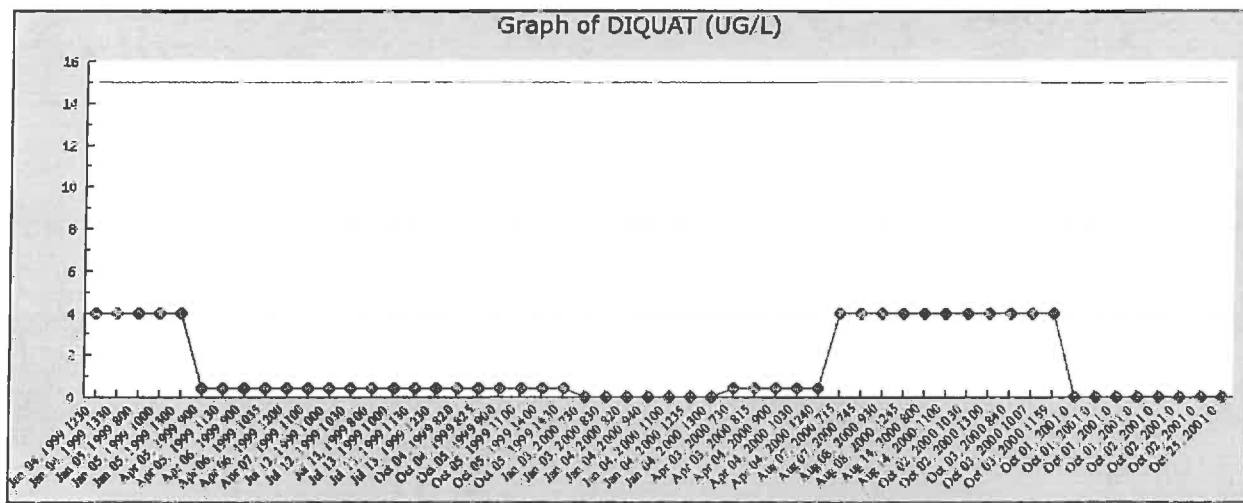
System Name = Contra Costa Water District
 Laboratory Number = SEQUOIA ANALYTICAL (REDWOOD CITY, CA)
 Laboratory Area = 415
 Laboratory Tel. = 3649600

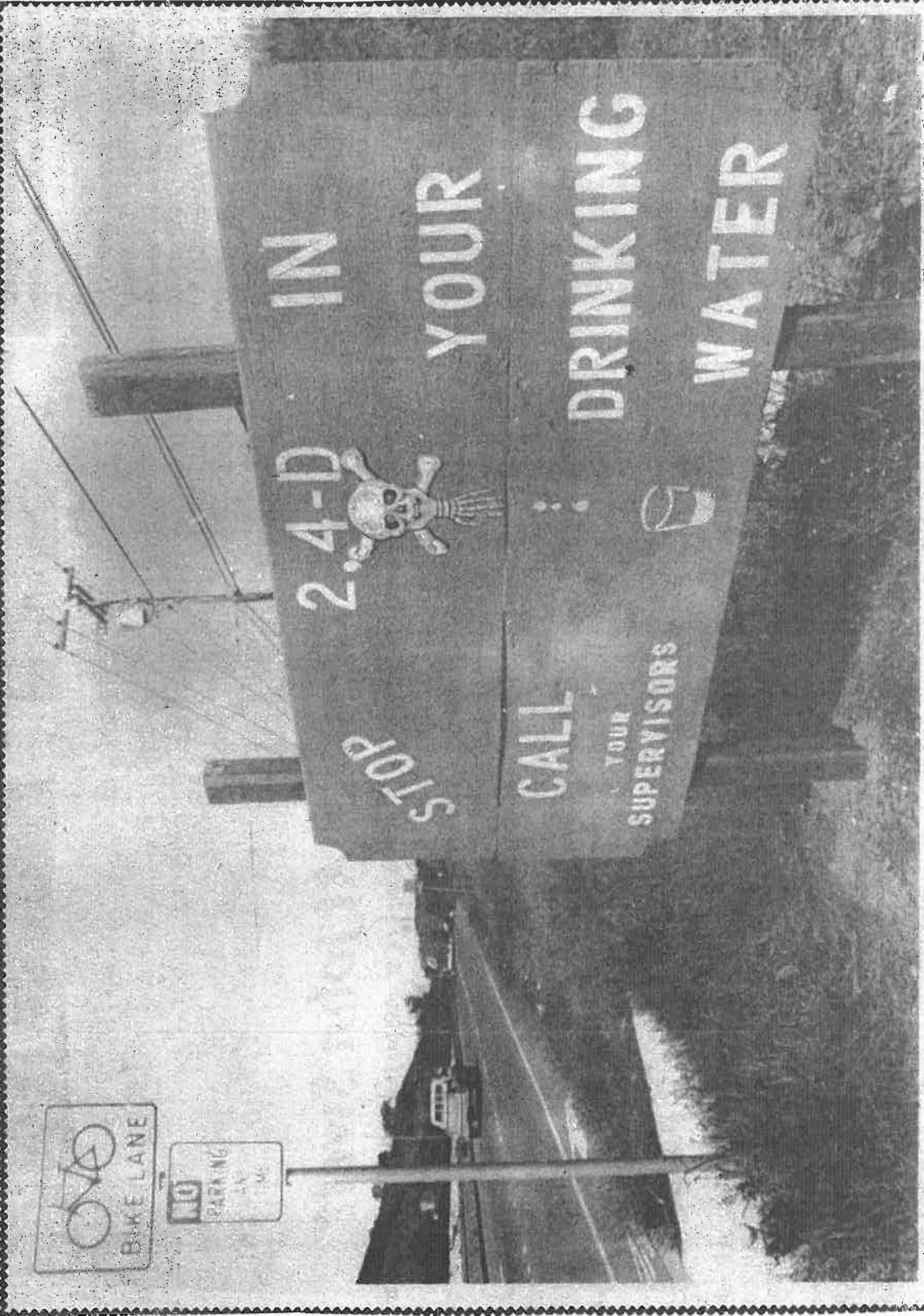
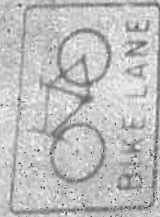
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Chemical Name = DIQUAT (78885)
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Data source: California Department of Health Sciences Drinking Water Program MS-7416 Sacramento, CA 95899-7377

No. of Graph Points = 54





2, 4-D Spraying

Editor:

Rosalind Guilfoyle spoke to the Martinez Environmental Co-operative at their meeting March 16 about the hazards of 2,4-D to be sprayed on the water hyacinths at the Delta. This operation would cost buying of the spray, equipment to spray the hyacinth area, and the men to do the job.

Hyacinths, however, can serve these needs: they can be made into methane gasoline, into pulp for making paper, a potting mix for plants, and as a soil fertilizer. Dried they can be burned in a stove or fireplace and are then called "green coal". They make nourishing cattle feed. Why, then, should Contra Costa County buy the toxic 2,4-D spray, rent the equipment necessary for the spraying, for the sum result being polluted water for Martinez?

Mendocino, Humboldt, and Riverside Counties have forbidden the use of 2,4-D spray in their Counties. Union Carbide Corporation makes the spray. Three doctors have analyzed the poison: A Berkeley doctor, Dr. Jackson and Dr. Kurtz in Sacramento. All declare it toxic. It is a hazard to fish, swimmers, boaters, and to the equipment and paint of the boats. Broad-leaved plants will be adversely affected for two or three years if the leaves receive any of the spray and wind may carry.

As long as Providence has given us the advantages of the use of the hyacinth, why should we pay for it to be poisoned and our water contaminated. Men could gather truckloads to take for their own use, for plant and soil fertilizers; industrial plants, equipped for the purpose could make the pulp into paper, and cattlemen and dairy farmers could give their dairy cows and cattle (no dairy cows, if their is an unpleasant taste in the milk) a choice of diet.

Isn't it better to make use of good things given us, than endangering wildlife and humans with a hazardous spray?

Florence Klinger
Martinez

More On 2, 4-D

Editor:

The recent vote by the Board of Supervisors to allow the spraying of 2,4-D has prompted me to clarify my negative vote in this matter. As Supervisor for District II, I have strongly voiced my opposition to the use of 2,4-D and Diquat. I think it's extremely important for the residents of Contra Costa County to be made aware of my voting record in this matter and how I arrived at my decision to not support the spraying of 2,4-D and Diquat.

A 1981 study of the Council on Environmental Quality concluded that humans are generally more susceptible to birth defects produced by chemicals than the laboratory animals,

and the impact of chemicals must be measured in terms of chronic as well as acute toxicity.

Non-essential recreational activities which although an important part of the economic life of the state, must nonetheless be considered expendable when there is any question of injury to the public or the environment resulting from chemical spraying. There is sufficient data regarding the chemical herbicides being considered for use to raise serious doubt as to their safety, even when applied in accordance with label instructions.

Alternative methods of control exist. Mechanical harvesters are readily available in this area and would offer degrees of control, plus a manual volunteer program.

Since suitable non-chemical methods are available, the risks of herbicide spraying are unnecessary. There is no compelling reason to accept the risks that the use of herbicides entails.

If the consequences of chemical applications are detrimental, they are also irreversible -- once applied, chemicals cannot practicably be recalled.

How quickly we have forgotten the warning given us in 1962 when Rachel Carson published her pivotal book SILENT SPRING.

Nancy C. Fahden
Supervisor, District II
Martinez

1983

The water hyacinth choppers are ready to go

DELTA SPRING CLEANING — AN UPDATE

Well, folks, it looks like we're off and running on our community project to clear water hyacinth from the Delta. Here's what's happened to date:

- Over 200 volunteers are ready to charge into action just as soon as we figure out what the action is going to be and where to charge. More volunteers arrive with every mail delivery.

- A Steering Committee has been formed to help plan the cleanup. Members include: Tim Rosgen, Pleasant Hill, *Chairperson*; Gary Bogue, Walnut Creek, *Advisor*; Kate Olsen, Martinez, *Recording Secretary*; Peggy Cibulka, Concord, *Corresponding Secretary*; Stephanie Commerford, Concord, *Treasurer*; and Marilyn McKinney, Concord, *member*. New members will be added as special talents are needed.

- The Steering Committee met last night to establish a plan of action, designate committees, and to set tentative dates for the cleanup. Today or tomorrow, committee members will meet with county Supervisor Tom Torlakson to coordinate our efforts with those county agencies that will be involved.

- The California Conservation Corps has agreed to be represented on our planning committee. Just how they may be involved will depend on how they might be utilized and their availability. The CCC is stretched close to the limit trying to help cope with storm damage. At the very least, their experience in Delta work will be a welcome addition to our planning.



Gary Bogue

- Sam Smoker, Director of the Alexander Lindsay Junior Museum, has set up a special fund to help raise money to cover the cost of our Delta Cleanup. Since the museum is non-profit, all money donated will be tax-deductible. Any money left in the fund after our cleanup is over will go to the museum's county Wildlife Rescue Team.

- A "Delta Cleanup News" newsletter will be prepared immediately to go out to all people who are volunteering to help. This newsletter will be published regularly to help keep you all up-to-date on what's happening and when. (Guess who gets to be the editor.)

□□□

I want to tell everyone right from the beginning that this will be a carefully planned, professional project. We are not going to charge into the Delta, machines waving, to hack away at those monstrous mats of hyacinth.

We're contacting other communities around the country that have attempted it, or are presently mechanically removing hyacinth, and requesting any information or suggestions they might be able to pass along. (No need to re-invent the wheel.) We're taking a look at removal, disposal and recycling techniques, and plan on establishing a resource file of everything we can find that's been published.

Those plants are going to be an on-going problem in the Delta for the foreseeable future, so all the research, planning and experimentation that can come out of this volunteer effort now ... may help to prevent more and heavier use of herbicides in the future.

And who knows? Our volunteer efforts to help find ways to keep toxic materials out of our own Delta may inspire other communities across the country to stand up and fight their own environmental battles.

Wars have been fought for much stupider reasons over the years.

□□□

VOLUNTEERS: If you can help, have a suggestion, or an organization that might help, please send me your name, address, phone and what you can do. **NATIONS:** we need your tax-deductible donations to help cover the MANY costs behind operating such a massive volunteer effort. Make your check out to **ALEXANDER LINDSAY JR. MUSEUM — DELTA CLEANUP**. All correspondence concerning hyacinth removal should be sent to: Gary/Delta Spring Cleanup, c/o the Times, P.O. Box 5088, Walnut Creek, 94596.

Martinez News-Gazette

CONTRA COSTA COUNTY SEAT MORNING FAMILY NEWSPAPER

MARTINEZ, CALIF. CONTRA COSTA COUNTY — WEDNESDAY, JULY 13, 1983

State Offers Money To Harvest Hyacinths

The Board of Supervisors, which earlier this year embroiled in a months-long battle over the spraying of the herbicide 2,4-D to control Delta water hyacinths, yesterday received an offer from the state to study and implement non-chemical means of controlling the pesky plant.

The State Water Resources Control Board, following negotiations headed by Assemblyman Robert Campbell (D-Richmond), has agreed to give \$10,000 to Contra Costa County for a non-chemical control program if the county will provide an equal amount of money and set up a workable plan.

The supervisors have referred the matter to the board's finance subcommittee for further study.

State- and county-approved plans to spray 2,4-D in the Delta have raised a furor

among a number of Martinez residents, who fear that spraying may contaminate local drinking water supplies. A lawsuit has prevented spraying from taking place in Contra

See COUNTY Page 2

County Mulls Offer

From Page 1

Costa County, but spraying has commenced in San Joaquin and Sacramento Counties.

Critics of the spray efforts argue that mechanical harvesting of hyacinths, although more expensive than spraying, is a much safer alternative.

A combined county-state effort to study non-chemical means of hyacinth control was first proposed by Supervisor Bunne McPeak last April. At McPeak's request, the Board of Supervisors offered to give the state \$10,000 in county monies that had been allocated for spraying. The supervisors approved the spray program the following week, however.

County Administrator Mel Wingett said yesterday he is not certain what has happened to the county's \$10,000. The money had been officially allocated to the state-operated spray program, but spraying has been blocked by the lawsuit.

Campbell said he will attempt to draft legislation that will prohibit the introduction of pesticides and herbicides into Delta waterways.



R.E.D. FACTS

Pesticide Reregistration

Glyphosate

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered years ago be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers, describing the human health and environmental effects of each pesticide. The Agency imposes any regulatory controls that are needed to effectively manage each pesticide's risks. EPA then reregisters pesticides that can be used without posing unreasonable risks to human health or the environment.

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED document for glyphosate.

Use Profile

Glyphosate is a non-selective herbicide registered for use on many food and non-food field crops as well as non-crop areas where total vegetation control is desired. When applied at lower rates, glyphosate also is a plant growth regulator.

Glyphosate is among the most widely used pesticides by volume. It ranked eleventh among conventional pesticides used in the U.S. during 1990-91. In recent years, approximately 13 to 20 million acres were treated with 18.7 million pounds of glyphosate annually. The largest use sites include hay/pasture, soybeans and field corn.

Three salts of glyphosate are used as active ingredients in registered pesticide products. Two of these active ingredients, plus technical grade glyphosate, are contained in the 56 products that are subject to this RED.

The isopropylamine salt, an active ingredient in 53 registered products, is used as a herbicide to control broadleaf weeds and grasses in many food and non-food crops and a variety of other sites including ornamentals, lawns and turf, residential areas, greenhouses, forest plantings and industrial rights-of-way. It is formulated as a liquid, solid or pellet/tablet, and is applied using ground or aerial equipment.

The sodium salt of glyphosate, an active ingredient in two registered pesticide products, is used as a plant growth regulator for peanuts and sugarcane, to modify plant growth and hasten the ripening of fruit. It is applied as a ground spray to peanut fields and as an aerial spray to sugarcane. Preharvest intervals are established for both crops.

The monoammonium salt of glyphosate is an active ingredient in an additional seven herbicide/growth regulator products. This form of glyphosate was initially registered after November 1984, so it is not subject to reregistration or included in this RED. However, in reassessing the existing glyphosate tolerances (maximum residue limits in or on food and feed), EPA included those for the monoammonium salt.

Regulatory History

EPA issued a Registration Standard for glyphosate in June 1986 (NTIS PB87-103214). The Registration Standard required additional phytotoxicity, environmental fate, toxicology, product chemistry and residue chemistry studies. All of the data required have been submitted and reviewed, or were waived.

Human Health Assessment

Toxicity

Glyphosate is of relatively low oral and dermal acute toxicity. It has been placed in Toxicity Category III for these effects (Toxicity Category I indicates the highest degree of acute toxicity, and Category IV the lowest). The acute inhalation toxicity study was waived because glyphosate is non-volatile and because adequate inhalation studies with end-use products exist showing low toxicity.

A subchronic feeding study using rats showed blood and pancreatic effects. A similar study with mice showed reduced body weight gains in both sexes at the highest dose levels. A dermal study with rabbits showed slight reddening and swelling of the skin, decreased food consumption in males and decreased enzyme production, at the highest dose levels.

Several chronic toxicity/carcinogenicity studies using rats, mice and beagle dogs resulted in no effects based on the parameters examined, or resulted in findings that glyphosate was not carcinogenic in the study. In June 1991, EPA classified glyphosate as a Group E oncogen--one that shows evidence of non-carcinogenicity for humans--based on the lack of convincing evidence of carcinogenicity in adequate studies.

In developmental toxicity studies using pregnant rats and rabbits, glyphosate caused treatment-related effects in the high dose groups including diarrhea, decreased body weight gain, nasal discharge and death.

One reproductive toxicity study using rats showed kidney effects in the high dose male pups; another study showed digestive effects and decreased body weight gain. Glyphosate does not cause mutations.

In one metabolism study with rats, most of the glyphosate administered (97.5 percent) was excreted in urine and feces as the parent compound; less than one percent of the absorbed dose remained in tissues and organs, primarily in bone tissue. Aminomethyl phosphonic acid (AMPA) was the only metabolite excreted. A second study using rats showed that very little glyphosate reaches bone marrow, that it is rapidly eliminated from bone marrow, and that it is even more rapidly eliminated from plasma.

Dietary Exposure

The nature of glyphosate residue in plants and animals is adequately understood. Studies with a variety of plants indicate that uptake of glyphosate or AMPA from soil is limited. The material which is taken up is readily translocated throughout the plant and into its fruit. In animals, most glyphosate is eliminated in urine and feces. Enforcement methods are available to detect residues of glyphosate and AMPA in or on plant commodities, in water and in animal commodities.

85 tolerances have been established for residues of glyphosate and its metabolite, AMPA, in or on a wide variety of crops and crop groups, as well as in many processed foods, animal feed and animal tissues (please see 40 CFR 180.364, 40 CFR 185.3500 and 40 CFR 186.3500). EPA has reassessed the existing and proposed tolerances for glyphosate. Though some adjustments will be needed, no major changes in existing tolerances are required. EPA also has compared the U.S. tolerances with international Codex maximum residue limits (MRLs), and is recommending certain adjustments to achieve greater compatibility.

EPA conducted a dietary risk assessment for glyphosate based on a worst-case risk scenario, that is, assuming that 100 percent of all possible commodities/acreage were treated, and assuming that tolerance-level residues remained in/on all treated commodities. The Agency concluded that the chronic dietary risk posed by glyphosate food uses is minimal.

A reference dose (RfD), or estimate of daily exposure that would not cause adverse effects throughout a lifetime, of 2 mg/kg/day has been proposed for glyphosate, based on the developmental toxicity studies described above.

Occupational and Residential Exposure

Occupational and residential exposure to glyphosate can be expected based on its currently registered uses. However, due to glyphosate's low acute toxicity and the absence of other toxicological concerns (especially carcinogenicity), occupational and residential exposure data are not required for reregistration.

Some glyphosate end-use products are in Toxicity Categories I or II for primary eye irritation or skin irritation. In California, glyphosate ranks high among pesticides causing illness or injury to workers, who report numerous incidents of eye and skin irritation from splashes during mixing and loading.

EPA is not adding any personal protective equipment (PPE) requirements at this time, but any existing PPE label requirements must be retained.

The Worker Protection Standard (WPS) for Agricultural Pesticides (please see 40 CFR 156 and 170) established an interim restricted entry interval (REI) of 12 hours for glyphosate. The Agency has decided to retain this REI as a prudent measure to mitigate risks to workers. During the REI, workers may reenter areas treated with glyphosate only in the few, narrow exceptions allowed in the WPS. The REI applies only to glyphosate uses within the scope of the WPS, so homeowner and commercial uses are not included.

Human Risk Assessment

EPA's worst case risk assessment of glyphosate's many registered food uses concludes that human dietary exposure and risk are minimal. Existing and proposed tolerances have been reassessed, and no significant changes are needed to protect the public.

Exposure to workers and other applicators generally is not expected to pose undue risks, due to glyphosate's low acute toxicity. However, splashes during mixing and loading of some products can cause injury, primarily eye and skin irritation. EPA is continuing to recommend PPE, including protective eye wear, for workers using end-use products that are in Toxicity Categories I or II for eye and skin irritation. To mitigate potential risks associated with reentering treated agricultural areas, EPA is retaining the 12 hour REI set by the WPS.

Environmental Assessment

Environmental Fate

Glyphosate adsorbs strongly to soil and is not expected to move vertically below the six inch soil layer; residues are expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA, which is degraded to carbon dioxide. Glyphosate and AMPA are not likely to move to ground water due to their strong adsorptive characteristics. However, glyphosate does have the potential to contaminate surface waters due to its aquatic use patterns and through erosion, as it adsorbs to soil particles suspended in runoff. If glyphosate reached surface water, it would not be broken down readily by water or sunlight.

Ecological Effects

Glyphosate is no more than slightly toxic to birds and is practically non-toxic to fish, aquatic invertebrates and honeybees. Due to the presence of a toxic inert ingredient, some glyphosate end-use products must be labeled, "Toxic to fish," if they may be applied directly to aquatic environments. Product labeling does not preclude off-target movement of glyphosate by drift. EPA therefore is requiring three additional terrestrial plant studies to assess potential risks to nontarget plants.

EPA does not expect that most endangered terrestrial or aquatic organisms will be affected by the registered uses of glyphosate. However,

many endangered plants as well as the Houston toad (due to its habitat) may be at risk. EPA is deferring any use modifications or labeling amendments until it has published the Endangered Species Protection Plan and has given registrants guidance regarding endangered species precautionary labeling.

Ecological Effects Risk Assessment

Based on current data, EPA has determined that the effects of glyphosate on birds, mammals, fish and invertebrates are minimal. Under certain use conditions, glyphosate may cause adverse effects to nontarget aquatic plants. Additional data are needed to fully evaluate the effects of glyphosate on nontarget terrestrial plants. Risk reduction measures will be developed if needed, once the data from these studies are submitted and evaluated.

Additional Data Required

EPA is requiring three generic studies (Tier II Vegetative Vigor, Droplet Size Spectrum, and Drift Field Evaluation) which are not part of the target data base and do not affect the reregistration eligibility of glyphosate. The Agency also is requiring product-specific data including product chemistry and acute toxicity studies, as well as revised Confidential Statements of Formula and revised labeling.

Product Labeling Changes Required

All end-use glyphosate products must comply with EPA's current pesticide product labeling requirements. In addition:

- **Protection of Aquatic Organisms**

Non-Aquatic Uses - End-use products that are not registered for aquatic uses must bear the following label statement:

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters and rinsate.

Aquatic Uses - End-use products registered for aquatic uses must bear the following label statement:

Do not contaminate water when disposing of equipment washwaters and rinsate. Treatment of aquatic weeds can result in oxygen loss from decomposition for dead plants. This loss can cause fish kills.

- **Worker Protection Standard (WPS) Requirements**

Any product whose labeling permits use in the production of an agricultural plant on any farm, forest, nursery or greenhouse must comply with the labeling requirements of:

- PR Notice 93-7, "Labeling Revisions Required by the Worker Protection Standard (WPS)," and

-
- PR Notice 93-11, "Supplemental Guidance for PR Notice 93-7."

Unless specifically directed in the RED, all statements required by these two PR Notices must appear on product labeling exactly as instructed in the Notices. Labels must be revised by April 21, 1994, for products distributed or sold by the primary registrant or supplementally registered distributors, and by October 23, 1995, for products distributed or sold by anyone.

- **Personal Protective Equipment (PPE)**

No new PPE requirements must be added to glyphosate labels. However, any existing PPE requirements on labels must be retained.

- **Entry Restrictions**

Products Not Primarily Intended for Home Use:

- Uses Within the Scope of the WPS - A 12-hour restricted entry interval (REI) is required for all products with uses within the scope of the WPS, except products intended primarily for home use. The PPE for early entry should be that required for applicators of glyphosate, except any applicator requirement for an apron or respirator is waived. This REI and PPE should be inserted into the standardized statements required by PR Notice 93-7.

- Sole Active Ingredient End-Use Products - Labels must be revised to adopt the entry restrictions set forth in this section. Any conflicting entry restrictions on current labeling must be removed.
- Multiple Active Ingredient Products - Registrants must compare the entry restrictions set forth in this section to those on their current labeling and retain the more protective. A specific time period in hours or days is considered more protective than "until sprays have dried" or "dusts have settled."

- Uses Not Within the Scope of the WPS - No new entry restrictions must be added. However, any entry restrictions on current product labeling with these uses must be retained.

Products Primarily Intended for Home Use:

- No new entry restrictions must be added. However, any entry restrictions on current product labeling must be retained.

Regulatory Conclusion

The use of currently registered pesticide products containing the isopropylamine and sodium salts of glyphosate in accordance with the labeling specified in this RED will not pose unreasonable risks or adverse effects to humans or the environment. Therefore, all uses of these products are eligible for reregistration.

These glyphosate products will be reregistered once the required product-specific data, revised Confidential Statements of Formula and revised labeling are received and accepted by EPA.

Products which contain active ingredients in addition to glyphosate will not be reregistered until all their other active ingredients also are eligible for reregistration.

**For More
Information**

EPA is requesting public comments on the Reregistration Eligibility Decision (RED) document for glyphosate during a 60-day time period, as announced in a Notice of Availability published in the Federal Register. To obtain a copy of the RED document or to submit written comments, please contact the Pesticide Docket, Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs (OPP), US EPA, Washington, DC 20460, telephone 703-305-5805.

Following the comment period, the glyphosate RED document will be available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, telephone 703-487-4650.

For more information about EPA's pesticide reregistration program, the glyphosate RED, or reregistration of individual products containing glyphosate, please contact the Special Review and Reregistration Division (7508W), OPP, US EPA, Washington, DC 20460, telephone 703-308-8000.

For information about the health effects of pesticides, or for assistance in recognizing and managing pesticide poisoning symptoms, please contact the National Pesticides Telecommunications Network (NPTN). Call toll-free 1-800-858-7378, between 8:00 am and 6:00 pm Central Time, Monday through Friday.

CA WQM Analysis (1/1/20)

1. Select the data source:	<input type="radio"/> Chemical <input checked="" type="radio"/> Chemhist <input type="radio"/> Chemarcv	System Number: 0710003 System Name: Contra Costa Water District HQNAME: Contra Costa Water District City: Concord State: CA Address: P.O. Box H2O
2. Enter the system number:	0710003 OR -- Filter systems (reset) By County -- OR By City --	
3. Enter the Chemical number/name:	78885 OR --	
4. Select Date Range:	1997-01-01 TO 1999-01-01 ≥ 1995-01-01 ≤ 2001-12-31	
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6. Generated Graph:

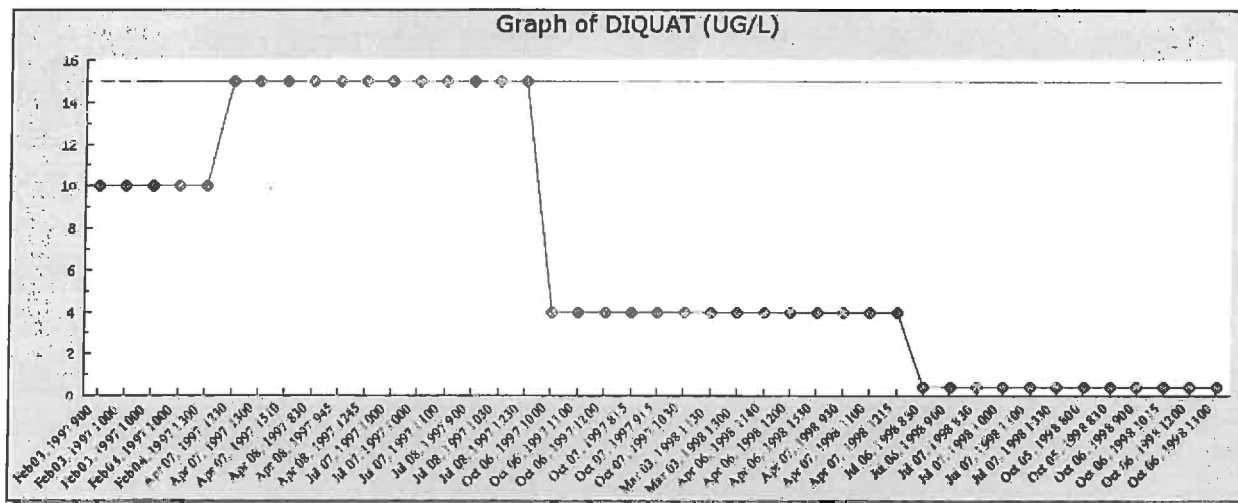
Area Info.

System Name = Contra Costa Water District
 Laboratory Number = SEQUOIA ANALYTICAL (REDWOOD CITY, CA)
 Laboratory Area = 415
 Laboratory Tel. = 3649600

Chemical Info.

Chemical Name = DIQUAT (78885)
 RPHL = 15 (UG/L)
 MCL = 20 RCL = 0
 MDL = 4

Data source: California Department of Health Sciences Drinking Water Program MS-7416 Sacramento, CA 95899-7377
 No. of Graph Points = 43



CA WQM Analysis (11/1/97)

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6. Generated Graph:

Area Info.

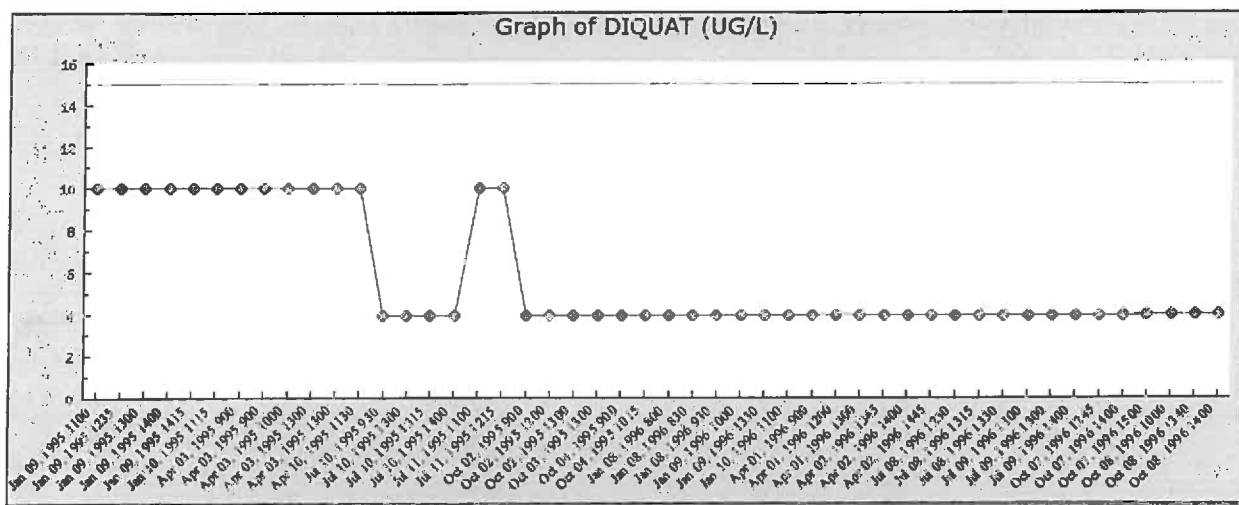
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 Laboratory Number = SEQUOIA ANALYTICAL (REDWOOD CITY, CA)
 Laboratory Area = 415
 Laboratory Tel. = 3649600

Chemical Info.

Chemical Name = DIQUAT (78885)
 RPHL = 15 (UG/L)
 MCL = 20 RCL = 0
 MDL = 4

Data source: California Department of Health Sciences Drinking Water Program MS-7416 Sacramento, CA 95899-7377

No. of Graph Points = 48



CA WQM Analysis (11/17/07)

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2. Enter the system number:	0710003 OR -- Filter systems (reset) By County -- OR By City --	
3. Enter the Chemical number/name:	78885 OR --	
4. Select Date Range:	2002-01-01 TO 2008-03-24 ≥ 2002-01-01 ≤ 2008-03-24	
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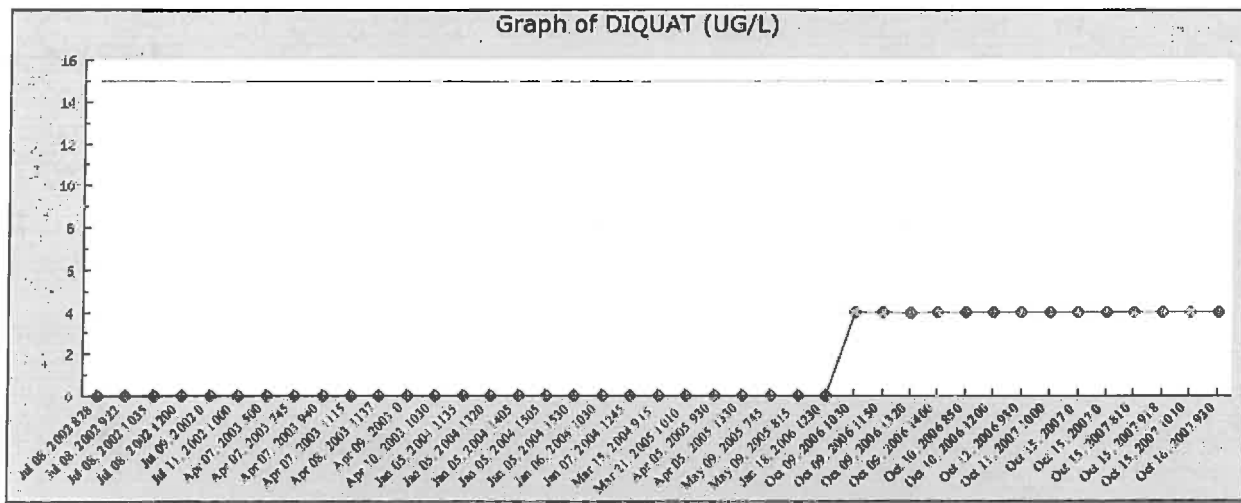
Area Info.

System Name = Contra Costa Water District
 Laboratory Number = BSK ANALYTICAL LABORATORIES
 Laboratory Area = 559
 Laboratory Tel. = 4972888

Chemical Info.

Chemical Name = DIQUAT (78885)
 RPHL = 15 (UG/L)
 MCL = 20 RCL = 0
 MDL = 4

Data source: California Department of Health Sciences Drinking Water Program MS-7416 Sacramento, CA 95899-7377
 No. of Graph Points = 41



THE WASHINGTON POST - DECEMBER 29, 2011

Payroll Tax Cut Raises Worries About Social Security's Future Funding

(U.S. House & U.S. Senate Will Vote on this Social Security Issue between January 17, 2012 & February 29, 2012)

Since the insurance program's inception in 1935, many changes to Social Security have been enacted or attempted. Here's a look at some memorable moments in Social Security's history.

By Jia Lynn Yang, Published: December 29, 2011

By extending the payroll tax cut, (called a Middle Class Tax Cut), Congress and the administration have quietly made a critical change in how Social Security is funded — one that some in Washington worry could undermine the program's foundation if lawmakers keep renewing the tax break.

For the first time in the program's history, tens of billions of dollars from the government's general pool of revenue are being funneled to the Social Security trust fund to make up for the revenue lost to the tax cut. Roughly \$110 billion will be automatically shifted from the Treasury to the trust fund to cover this year's cut, according to the Social Security Board of Trustees. An additional \$19 billion, it is estimated, will be necessary to pay for the two-month extension.

The tax cut is supposed to be temporary. But as squabbles over this issue and the Bush tax cuts have revealed, short-term tax cuts in Washington have a way of sticking around longer than planned, especially as economic growth remains slow and lawmakers are wary of raising anyone's tax bill.

The prospect of policymakers continually turning to the payroll tax as a way of providing economic stimulus troubles experts, some lawmakers and both public trustees of the Social Security trust fund. Their concern: that Social Security will lose its status as a protected benefit owed to every working American and instead become politically vulnerable, just like any other government program.

And as this year's debate about the nation's debt showed, nothing is off limits to the political brinkmanship that has come to dominate Washington. "It's a grave step for Social Security," said Charles Blahous, one of two public trustees for Social Security and a research fellow with the Hoover Institution. "It just seems to me the program both financially and politically will be on a lot rockier footing."

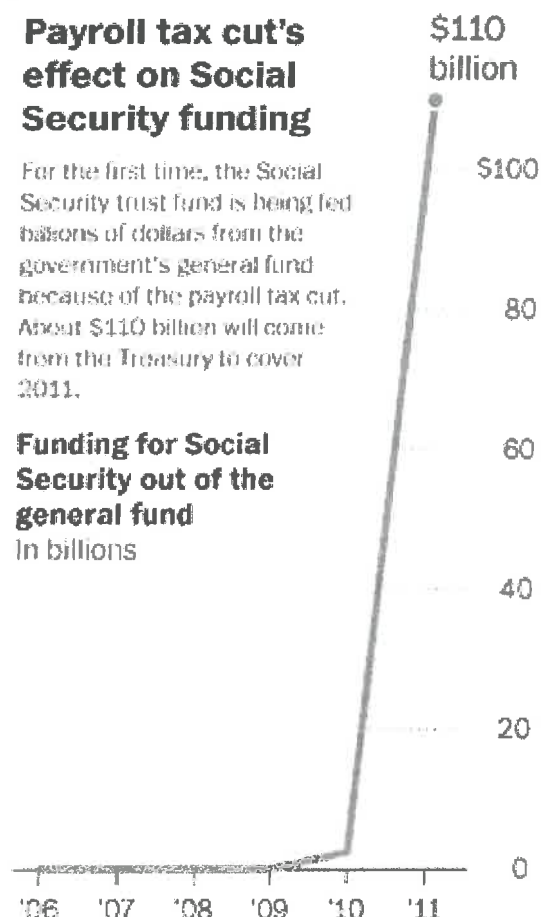
Robert Reischauer, the other public trustee and president of the Urban Institute, said extending the payroll tax cut another year during high unemployment seems justified. But it "could, if it continues for a substantial period of time, undermine one of the foundational arguments that makes the Social Security program inviolate."

Payroll tax cut's effect on Social Security funding

For the first time, the Social Security trust fund is being fed billions of dollars from the government's general fund because of the payroll tax cut. About \$110 billion will come from the Treasury to cover 2011.

Funding for Social Security out of the general fund

In billions



Source: Social Security Administration | The Washington Post

Since its inception under President Franklin D. Roosevelt, the Social Security program has been premised on a simple contract: Americans pay into the program's trust fund over years of paychecks through the payroll tax. In return, when they retire, they receive monthly benefits.

The payroll tax cut changes that. Instead being a protected program with its own stream of funding, Social Security, by taking money from general revenue, becomes more akin to other government initiatives such as Pentagon spending or clean-air regulation — programs that rely on income taxes and political jockeying for support.

"All of a sudden Social Security will have to compete with every other program, whereas before it had its own dedicated revenue," said Nancy Altman, co-director of Social Security Works, an advocacy group. "It's breaking the kind of firewall that has always existed between the trust fund and the operating fund." She added: "The biggest concern is that this was done without any hearings, without any apparent regard for the impact on Social Security."

The fund has been built up over time by contributions from the 12.4 percent payroll tax, of which employees and employers each pay 6.2 percent. The temporary tax break reduced the

share paid by employees by 2 percentage points. Altman said that the tax had never been reduced before, and the most it has been raised at any time is 0.5 percentage points.

“We’ve never really monkeyed around with Social Security before,” said Blahous. “Until now it was understood the payroll tax was supposed to do one thing. It wasn’t supposed to be a stimulus mechanism. Now the payroll tax is this variable thing that goes up and down according to other economic conditions. That is a real transformation of what that money is supposed to do.”

The pressure to cut the tax came from the country’s slow-growing economy. Last December, Republican lawmakers fought to extend the George W. Bush tax cuts, which were about to expire, while the White House pushed for a tax credit called Making Work Pay. Their compromise: a two-year extension of the Bush tax cuts, a year of extended unemployment benefits and a one-year payroll tax cut that effectively replaced Obama’s tax credit idea...”

During the fight earlier this month, Democrats borrowed from the Republican playbook, arguing that reverting to the old rate would be a tax hike. And economists worried that allowing the cut to expire would dampen economic growth in 2012 by as much as two-thirds of a percentage point.

The payroll tax cut could be here to stay for a while. Senate Majority Leader Harry M. Reid (D-Nev.) has said he will appoint a conference committee to search for ways to extend the two-month cut for all of 2012.

Blahous said Social Security will be facing enough financial pressures in the years to come without the payroll tax cut complicating matters. This year, the Social Security system projects that it will pay out \$46 billion more in benefits than it will collect in cash. It made up for the shortfall by redeeming Treasury bonds bought in years when there were cash surpluses.

Lawmakers on both sides of the aisle, including Sen. Bernie Sanders (I-Vt.), Sen. Jon Kyl (R-Ariz.) and dozens of House Democrats, have expressed concerns about the impact of the payroll tax cut on Social Security. “Whether you’re on the left or the right, you should really dislike this,” said Blahous. “It has been somewhat mystifying, the determination to do this. I just think it’s shortsightedness.” End

Note: You may reach any U.S. Congressman or U.S. Senator in Washington, D.C. at this Number: (1-866) 220-0044	Protect Social Security – Make a Call Today
--	--

Key Senators to Contact:

Senator Harry Reid
Senator Dianne Feinstein
Senator Barbara Boxer
Senator John Kerry
Senator Bernie Sanders
Senator Max Bacus
Senator Cardin

Key House Members to Contract:

U.S. Congressman Mike Thompson
U.S. Congressman George Miller
U.S. Congresswoman Nancy Pelosi
U.S. Congressman Henry Waxman
U.S. Congressman S. Levin
U.S. Congressman Becera
& Your Congressman & Your Senator

(Please feel free to contact as many Senators & Congressmen as possible in the next few weeks.)

**PUBLIC HEALTH GOALS FOR
CHEMICALS IN DRINKING WATER**

GLYPHOSATE

June 2007

**Governor of the State of California
Arnold Schwarzenegger**

**Secretary for Environmental Protection
California Environmental Protection Agency
Linda Adams**



**Director
Office of Environmental Health Hazard Assessment
Joan E. Denton, Ph.D.**

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Arch Toxicol. 2007 Sep;81(9):665-73. Epub 2007 Jul 19.

Pre- and postnatal toxicity of the commercial glyphosate formulation in Wistar rats.

Dallegre E, Mantese FD, Oliveira RT, Andrade AJ, Dalsenter PR, Langeloh A.

Department of Pharmacology, Federal University of Rio Grande do Sul, Rua Sarmento Leite 500 sala 202, 90046-900, Porto Alegre, RS, Brazil. elianed@ufrgs.br

Abstract

Glyphosate is the active ingredient and polyoxyethyleneamine is the surfactant present in the herbicide Roundup formulation commercialized in Brazil. The aim of this study was to assess the reproductive effects of glyphosate-Roundup on male and female offspring of Wistar rats exposed during pregnancy and lactation. Dams were treated orally with water or 50, 150 or 450 mg/kg glyphosate during pregnancy (21-23 days) and lactation (21 days). These doses do not correspond to human exposure levels. The results showed that glyphosate-Roundup did not induce maternal toxicity but induced adverse reproductive effects on male offspring rats: a decrease in sperm number per epididymis tail and in daily sperm production during adulthood, an increase in the percentage of abnormal sperms and a dose-related decrease in the serum testosterone level at puberty, and signs of individual spermatid degeneration during both periods. There was only a vaginal canal-opening delay in the exposed female offspring. These findings suggest that in utero and lactational exposure to glyphosate-Roundup may induce significant adverse effects on the reproductive system of male Wistar rats at puberty and during adulthood.

PMID: 17634926 [PubMed - indexed for MEDLINE]

Publication Types, MeSH Terms, Substances

LinkOut - more resources

Technical Factsheet on: GLYPHOSATE

List of Contaminants

As part of the Drinking Water and Health pages, this fact sheet is part of a larger publication:
National Primary Drinking Water Regulations

Drinking Water Standards

MCLG: 0.7 mg/L

MCL: 0.7 mg/L

HAL(child): 1- to 10- day: 20 mg/L; Longer-term: 1 mg/L

Health Effects Summary

Acute: EPA has found glyphosate to potentially cause the following health effects from acute exposures at levels above the MCL: congestion of the lungs; increased breathing rate.

Drinking water levels which are considered "safe" for short-term exposures: For a 10-kg (22 lb.) child consuming 1 liter of water per day, upto a ten-day exposure to 20 mg/L or up to a 7-year exposure to 1 mg/L.

Chronic: Glyphosate has the potential to cause the following health effects from long-term exposures at levels above the MCL: kidney damage, reproductive effects.

Cancer: There is inadequate evidence to state whether or not glyphosate has the potential to cause cancer from a lifetime exposure in drinking water.

Usage Patterns

Glyphosate is a non-selective herbicide registered for use on many food and non-food crops as well as non-crop areas where total vegetation control is desired. When applied at lower rates, it serves as a plant growth regulator. The most common uses include control of broadleaf weeds and grasses in : hay/pasture, soybeans, field corn; ornamentals, lawns, turf, forest plantings, greenhouses, rights-of-way.

Glyphosate is among the most widely used pesticides by volume. In 1986, an estimated 6,308,000 pounds of glyphosate was used in the United States. Usage in 1990 was estimated to be 11,595,000 pounds. It ranked eleventh among conventional pesticides in the US during 1990-91. In recent years, 13 to 20 million acres were treated with 18.7 million lbs. annually. Glyphosate is generally sold as the isopropylamine salt and applied as a liquid foliar spray.

Release Patterns

Glyphosate is released to the environment in its use as a herbicide for controlling woody and herbaceous weeds on forestry, right-of-way, cropped and non-cropped sites. These sites may be around water and in wetlands.

It may also be released to the environment during its manufacture, formulation, transport, storage, disposal and cleanup, and from spills. Since glyphosate is not a listed chemical in the Toxics Release Inventory, data on releases during its manufacture and handling are not available.

Environmental Fate

Glyphosate is most often applied as a spray of the isopropylamine salt and is removed from the atmosphere by gravitational settling. After glyphosate is applied to forests, fields, and other land by spraying, it is strongly adsorbed to soil, remains in the upper soil layers, and has a low propensity for leaching. Iron and aluminum clays and organic matter adsorb more glyphosate than sodium and calcium clays and was readily bound to kaolinite, illite, bentonite, charcoal and muck but not to ethyl cellulose.

Glyphosate readily and completely biodegrades in soil even under low temperature conditions. Its average half-life in soil is about 60 days. Biodegradation in foliage and litter is somewhat faster. In field studies, residues are often found the following year.

Glyphosate may enter aquatic systems through accidental spraying, spray drift, or surface runoff. It dissipates rapidly from the water column as a result of adsorption and possibly biodegradation. The half-life in water is a few days. Sediment is the primary sink for glyphosate. After spraying, glyphosate levels in sediment rise and then decline to low levels in a few months. Due to its ionic state in water, glyphosate would not be expected to volatilize from water or soil.

Based on its water solubility, glyphosate is not expected to bioconcentrate in aquatic organisms. It is minimally retained and rapidly eliminated in fish, birds, and mammals. The BCF of glyphosate in fish following a 10-14 day exposure period was 0.2 to 0.3.

Occupational workers and home gardeners may be exposed to glyphosate by inhalation and dermal contact during spraying, mixing, and cleanup. They may also be exposed by touching soil and plants to which glyphosate was applied. Occupational exposure may also occur during glyphosate's manufacture, transport storage, and disposal.

Chemical/ Physical Properties

CAS Number: 1071-83-6

Color/ Form/Odor: Odorless white crystals

M.P.: 230 C B.P.: N/A

Vapor Pressure: Negligible

Octanol/Water Partition (K_{ow}): N/A

Density/Spec. Grav.: 0.5g/ml at 15 C

Solubility: 12 g/L of water at 25 C; Soluble in water

Soil sorption coefficient: Strong, reversible adsorption

Odor/Taste Thresholds: N/A

Henry's Law Coefficient: N/A

Bioconcentration Factor: BCF <1 in fish; not expected to bioconcentrate in aquatic organisms.

Trade Names/Synonyms: N-(phosphonomethyl) glycine; Glialka; Roundup; Sting; Rodeo; Spasor; Muster; Tumbleweed; Sonic; Glifonox; Glycel; Rondo

Other Regulatory Information

Monitoring For Ground/Surface Water Sources:

Initial Frequency- 4 quarterly samples every 3 years

Repeat Frequency- If no detections during initial round:

2 quarterly per year if serving >3300 persons;

1 sample per 3 years for smaller systems

Triggers - Return to Initial Freq. if detect at > 0.006 mg/L

Analysis:

Reference Source Method Numbers

EPA 600/4-88-039 547

Standard Methods 6651

Treatment- Best Available Technologies:

Granular Activated Charcoal

For Additional Information:

EPA can provide further regulatory and other general information:

EPA Safe Drinking Water Hotline - 800/426-4791

Other sources of toxicological and environmental fate data include:

Toxic Substance Control Act Information Line - 202/554-1404

Toxics Release Inventory, National Library of Medicine - 301/496-6531

Agency for Toxic Substances and Disease Registry - 404/639-6000

National Pesticide Hotline - 800/858-7378



R.E.D. FACTS

Pesticide Reregistration

Glyphosate

All pesticides sold or distributed in the United States must be registered by EPA, based on scientific studies showing that they can be used without posing unreasonable risks to people or the environment. Because of advances in scientific knowledge, the law requires that pesticides which were first registered years ago be reregistered to ensure that they meet today's more stringent standards.

In evaluating pesticides for reregistration, EPA obtains and reviews a complete set of studies from pesticide producers, describing the human health and environmental effects of each pesticide. The Agency imposes any regulatory controls that are needed to effectively manage each pesticide's risks. EPA then reregisters pesticides that can be used without posing unreasonable risks to human health or the environment.

When a pesticide is eligible for reregistration, EPA announces this and explains why in a Reregistration Eligibility Decision (RED) document. This fact sheet summarizes the information in the RED document for glyphosate.

Use Profile

Glyphosate is a non-selective herbicide registered for use on many food and non-food field crops as well as non-crop areas where total vegetation control is desired. When applied at lower rates, glyphosate also is a plant growth regulator.

Glyphosate is among the most widely used pesticides by volume. It ranked eleventh among conventional pesticides used in the U.S. during 1990-91. In recent years, approximately 13 to 20 million acres were treated with 18.7 million pounds of glyphosate annually. The largest use sites include hay/pasture, soybeans and field corn.

Three salts of glyphosate are used as active ingredients in registered pesticide products. Two of these active ingredients, plus technical grade glyphosate, are contained in the 56 products that are subject to this RED.

The isopropylamine salt, an active ingredient in 53 registered products, is used as a herbicide to control broadleaf weeds and grasses in many food and non-food crops and a variety of other sites including ornamentals, lawns and turf, residential areas, greenhouses, forest plantings and industrial rights-of-way. It is formulated as a liquid, solid or pellet/tablet, and is applied using ground or aerial equipment.

**Risks of Glyphosate Use to Federally Threatened
California Red-legged Frog**
(Rana aurora draytonii)

Pesticide Effects Determination

**Environmental Fate and Effects Division
Office of Pesticide Programs
Washington, D.C. 20460**

October 17, 2008

**PUBLIC HEALTH GOALS FOR
CHEMICALS IN DRINKING WATER**

**2,4-DICHLOROPHENOXY-
ACETIC ACID**

January 2009

**Governor of the State of California
Arnold Schwarzenegger**

**Secretary for Environmental Protection
California Environmental Protection Agency
Linda Adams**

**Director
Office of Environmental Health Hazard Assessment
Joan E. Denton, Ph.D.**



[Back to Original Article](#)

Experiment's Water Purity Tests Out : Hyacinths Plus Treatment Kill Up to 99% of Viruses at Plant

July 12, 1989 | GREG JOHNSON | Times Staff Writer

Initial results of a study suggest that recycled waste water produced by the city of San Diego's unique experimental waste-water treatment plant in Mission Valley contains the same low level of microorganisms as untreated drinking water stored in nearby reservoirs.

Scientists from the Berkeley-based Western Consortium for Public Health have determined that the first two treatment steps at the plant, which uses water hyacinths to eliminate pollutants, removes 90% to 99% of viruses from waste water, or as much as standard biological treatment methods.

Remaining microorganisms are removed by additional—but more traditional—treatment steps, according to the report that was released Tuesday in Austin, Tex., during the American Society of Civil Engineers' annual Environmental Engineering Meeting.

Water Quality Important

The quality of reclaimed waste water is of growing importance in San Diego because of a recent City Council proposal that calls for the use of 120-million gallons daily of reclaimed waste water for irrigation.

That proposal calls for the city to build six water reclamation plants to provide treated water for use in areas such as Otay Mesa, the Interstate 15 corridor and North City. However, those proposed treatment plants would use proven treatment methods rather than the experimental methods being used at the Mission Valley plant.

Although the initial findings are promising, scientists associated with the program cautioned that the study is far from complete.

"There are about six different phases of this study, and only one part of the microbiology (section) has been completed," according to Richard Danielson, a microbiologist with the consortium.

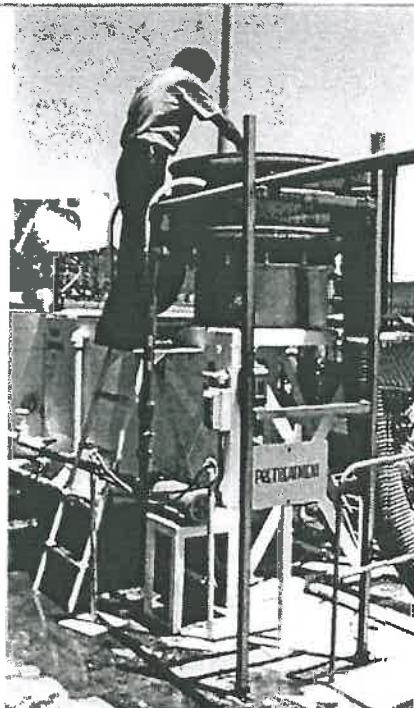
The consortium's scientific staff will continue to monitor the plant's ability to eliminate chemical pollutants and toxic wastes including metals, organic solvents and pesticides. The consortium will also monitor the reliability of the Mission Valley plant as well as the probable reliability of a much larger water reclamation plant that has been proposed in the San Pasquale Valley.

When research is completed in 1990, scientists will spend a year preparing a final report for the city. The city would use the final report to determine if the expected benefits of recycling waste water into potable water outweigh the risks.

Danielson said the \$2.5-million study wasn't designed to determine if San Diego should be turning waste water into drinking water. "We're strictly involved in a data-collection and analysis kind of thing," Danielson said. "We're here to provide . . . technical information." Whether San Diego uses the plant for potable water or not is up to it, Danielson said.

The Mission Valley plant provides secondary treatment for 300,000 gallons of waste water a day. About 50,000 gallons receive advanced water treatment and are used to irrigate state-owned lands bordering nearby highways.

The proposed aquaculture plant in the San Pasquale Valley would treat about a million gallons of waste water a day. Half of that water would receive advanced treatment. The treated water would be used by industry to irrigate land or would be reinjected into natural aquifers underneath the Earth's surface, according to Ken Thompson, the city's project manager for aquaculture facilities.

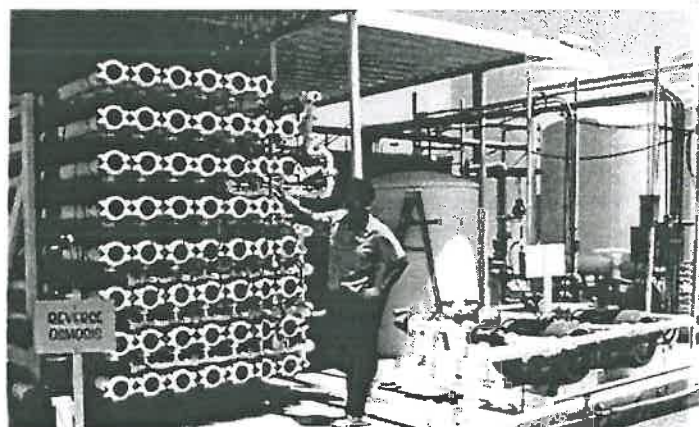


Sewage Treatment

For more than a decade NASA's National Space Technology Laboratory (NSTL), Bay St. Louis, Mississippi, has been conducting research on the use of aquatic plants—principally water hyacinths—for treatment and recycling of wastewater. Already serving a number of small towns, the "aquaculture" technique has advanced significantly with its adoption by a major U.S. city. The Water Utilities Department (WUD) of San Diego, California is using water hyacinth filtration as part of a multi-step reclamation process designed to recover potable water from sewage.

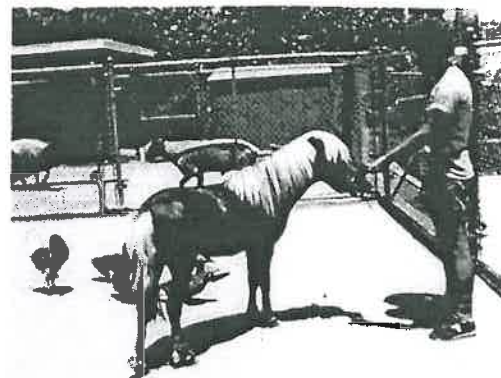
In the early 1970s, NSTL discovered that the glossy green water hyacinths literally thrive on sewage; they absorb and digest nutrients and minerals from wastewater, converting sewage effluents to clean water. Thus, they offer a means of purifying water at a fraction of the cost of a conventional sewage treatment facility. Additionally, they provide bonus value in byproducts. The protein-rich hyacinths must be harvested at intervals; the harvested plants can be used as fertilizer, as high protein animal feed, or as a source of energy.

NSTL first tested the practical application of aquaculture in 1975, when hyacinths were planted in a 40-acre sewage lagoon at Bay St. Louis; the once-noxious lagoon soon became a clean water garden.



NSTL published a study report that attracted considerable attention and followed up by providing technical guidance to communities interested in applying the technology. Several southern towns, with populations ranging from 2,000 to 15,000, use water hyacinths as their year-round primary method of treating wastewater. Other towns employ aquaculture as a part-time or supplementary process in sewage treatment operations. In its Experimental Prototype Community of Tomorrow, Walt Disney World, Buena Vista, Florida operates a water hyacinth facility to explore advanced applications. Wastewater treatment capacity of these installations ranges from 50,000 to 350,000 gallons a day.

San Diego has been involved in experimental water reclamation projects since the 1950s because the city does not have enough potable water to meet the needs of its population; it must import water from the Colorado River and from northern California.



In the late 1970s, WUD developed a two-phase reclamation system involving a process called "reverse osmosis," which removes most of the salt and viruses from the sewage, and a carbon absorption technique that further purifies the wastewater. Early tests found the system efficient and cost-effective, but there was need for a means of removing other pollutants, such as metals and suspended solids. After consultation with NSTL, the city added a water hyacinth treatment facility and the combined processes began operation as an experimental system in 1981, treating 25,000 gallons of sewage daily. Additional testing demonstrated the system's capability for producing reclaimed water of extremely high quality; the tests also showed that toxic waste buildup, a normal result of other methods of treatment, does not occur in the aquaculture facility because the hyacinths reproduce rapidly and must be harvested frequently, thus toxin accumulation is limited. The prototype facility operated so successfully over a two-year span that San Diego built a one million gallon per day plant for service in 1984. The new facility has an aquaculture component that employs—in addition to water hyacinths—a reed-rock filter unit, the latest wastewater treatment developed at NSTL. The hybrid aquatic plant/microbial filter combination, unlike the water hyacinth system, will operate in cold as well as warm climates.

The accompanying photos illustrate the sewage treatment process in the initial San Diego facility. At upper left on the opposite page is the first step, in which the sewage passes through a screening device for removal of large solids. The raw sewage is pumped into greenhouse-like aquaculture tanks, such as the one shown below the screening device. After aquaculture cleansing, the water is further treated by an "ultrafilter," then it passes into the reverse osmosis facility (left center) where it is demineralized. A final cleanup is provided in a carbon absorption tank. San Diego's WUD projects that, within the next decade, the system will be able to treat 40 percent of the city's sewage, substantially reducing water and sewage bills and providing drinking water of much better quality than could be obtained by other reclamation methods.

WUD is also investigating the byproduct bonus potential of harvested water hyacinths. The photo at lower left shows hyacinths being harvested. The left-hand photo above pictures an experimental garden in which hyacinths are used as compost. Animals are fed chopped harvested hyacinths (top right) and they also drink the processed water. Other harvested plants are ground up and pumped into a bacterial digester (right center) that produces methane gas (right) for use in generating electricity.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 26 1993

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

BY FAX @ (503) 528-7105; direct line (503) 528-7151
2 pages total

To: Ms. Carol van Strum, Watershed Watch Alliance

Dear Ms. van Strum:

I apologize for my delay in responding to your request for information on dioxin and furan contamination of 2,4-D and other pesticides. You had asked for which pesticide active ingredients the EPA required dioxin/furan contamination data, and how to interpret the table included in Dr. Funk's March 2, 1993 memo on dioxins and furans in 2,4-D.

I have enclosed a list of compounds for which the contamination data were required by two different Data Call-In (DCI) notices issued several days apart in 1987. Many of the pesticides covered by these DCIs are no longer registered; some were cancelled through Special Review and Reregistration action (but I do not think any were canceled as a direct result of dioxin/furan contamination).

Dr. Funk has confirmed that the limit of quantitation (loq) is not a limit of detection, but is established by the EPA as a level of concern, based on acute or chronic toxicity tests in laboratory animals. The loq is determined using "worst case" testing scenarios and assumptions. The concentrations of some dioxins and furans in 2,4-D are detectable but do not exceed the levels of concern, and are recorded in the memo as observed maximum concentrations with values less than the loq. Dr. Funk has offered to speak with you if you desire more information on this subject. He can be reached at (703) 305-5430. If I can be of further assistance, feel free to call me at (703) 308-8018.

Sincerely,

Jill Bloom, Review Manager
Special Review Branch
Special Review and
Reregistration Division (H7508W)

Enclosure

cc: Stephen Funk



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PESTICIDE ACTIVE INGREDIENTS FOR WHICH ANALYTICAL DATA
ON DIBENZO-P-DIOXIN/DIBENZOFURAN CONTAMINATION WERE REQUIRED
(DCIs issued June 9, 1987 and June 15, 1987)

* = No active registrations (as of 5/93)

2-chlorophenol*	fenvalerate
2,4-D and derivatives	fluvalinate
2,4-DB and derivatives	hexachlorophene
2,4-DP and derivatives	and derivatives*
4-CPA	lrgasan
bromophos*	linuron
bromoxynil	MCPB, Na salt
carbophenothion*	MCPP and derivatives
chloramben salts*	methyl parathion
chlorfenviphos*	metobromuron*
chlorophene and salts	mtln FF
chlorothalonil	monuron TCA*
crufomate*	o-dichlorobenzene*
DCNA	oxyfluorfen
DOPA	p-dichlorobenzene
DDT*	PCMX
dicamba and derivatives	propanil
dichlobenil	ronnel*
dichloro	tetrachlorophenols
dichlorophene and K salt*	and derivatives*
diflubenzuron	tetrachlorvinphos
diuron	trichlorophenol and derivatives*
ethyl parathion	troyen 192*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF THE ASSISTANT
ADMINISTRATOR
TO THE DIRECTOR

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MAR 2 1983

MEMORANDUM

Subject: 2,4-D, 2,4-DB, and 2,4-DP and Their Salts and Esters:
Survey of Dibenzo-p-Dioxin and Dibenzofuran
Determinations. DP Barcode D188268. CARS No. 11419.

From: Stephen Funk, Ph.D., Chemist *S. R. Funk*
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (H7509C)

Through: Andrew Rathman, Section Head *AR*
Special Review Section I
Chemistry Branch II - Reregistration Support
Health Effects Division (H7509C)

To: Jill Bloor
Special Review Branch
Special Review and Reregistration Division (H7509)

In June 1982 a data call-in was issued for information on the polyhalogenated dibenzo-p-dioxin and dibenzofuran contents of certain pesticides. The call-in consisted of two parts. One part requested detailed manufacturing information for those pesticides whose structure or mode of synthesis indicated a potential for dioxin/dibenzofuran contamination. The other part required the actual analysis of certain technical pesticides for 18 chlorinated dibenzo-p-dioxins and dibenzofurans. The latter group of pesticides are manufactured by processes documented to produce dioxin/dibenzofuran contaminants. Included in the list of pesticides that required analysis were 2,4-D, 2,4-DB, 2,4-DP, and the esters and salts of these herbicides.



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Several dioxin/dibenzofuran data submissions for 2,4-D and related pesticides were reviewed. Each manufacturer of the registered technical pesticide was requested to randomly select seven samples of the pesticide and to analyze by a gc/ms method capable of quantitation to specified concentration levels, or limits of quantitation (log), for each dioxin and dibenzofuran of toxicological interest. The resulting submissions were reviewed for compliance with the analytical chemistry requirements of the data call-in and for scientific validity.

Table 1 summarizes the findings for 2,4-D. Only 2,3,7,8-tetrachlorodibenzo-p-dioxin and 1,2,3,7,8-pentachlorodibenzo-p-dioxin were found at or above the EPA log's. Two of eight technical 2,4-D's contained 2,3,7,8-TCDD slightly above the 0.1 ppb log. Three of eight technical 2,4-D's contained 1,2,3,7,8-PCDD at concentrations greater than the 0.5 ppb log. None of the remaining thirteen chlorinated dibenzo-p-dioxins and dibenzofurans were found at or above the EPA log's in the technical 2,4-D. Data on the 2,4-DB and 2,4-DF acids and derivatives of all three acids are too limited at this time to be useful to the 2,4-D panel.

Table 1: Summary of Results for Chlorinated Dibenzo-p-Dioxins and Dibenzofurans in Technical 2,4-D Herbicides

Analyte	EPA log ¹ (ppb)	2,4-D		
		Total Number of Techniques	Number of Techniques Greater Than log	Observed Maximum Concentration (ppb)
2,3,7,8-TCDD	0.1	8	8	0.19 ²
1,2,3,7,8-PCDD	0.6	8	3	2.9 ³
1,2,3,4,7,8-HxCDD	2.5	8	0	0.51
1,2,3,5,7,8-HxCDD	2.5	8	0	0.77
1,2,3,7,8,9-HxCDD	2.5	8	0	0.80
1,2,3,4,6,7,8-HpCDD	100	8	0	1.5
2,3,7,8-TCDF	1	8	0	0.27
1,2,3,7,8-PCDF	5	8	0	0.62
2,3,4,7,8-PeCDF	6	7	0	0.73
1,2,3,4,7,8-HxCDF	25	8	0	1.0
1,2,3,6,7,8-HxCDF	25	8	0	1.0
1,2,3,7,8,9-HxCDF	25	8	0	1.4
2,3,4,6,7,8-HxCDF	25	8	0	1.1
1,2,3,4,6,7,8-HpCDF	1000	8	0	2.9
1,2,3,4,7,8,9-HpCDF	1000	8	0	1.8

¹ Limit of quantitation required by the Agency and a reflection of the level of toxicological concern.

² Average 0.07 ppb, where 50% of demonstrated log used for analytes not found.

³ Average 0.63 ppb, where 50% of demonstrated log used for analytes not found.



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Water

All PHGs developed as of July, 2011

<http://www.oehha.ca.gov/water/phg/allphgs.html>

Chemical (follow links below to download a copy of the PHG document)	California PHG (ppb)
1,1-Dichloroethane	3
1,1-Dichloroethylene	10
1,1,1-Trichloroethane	1000
1,2-Dibromo-3-chloropropane	0.0017
1,2-Dichloroethane (updated 09/16/05)	0.4
1,2-Dichloroethylene, cis	100
1,2-Dichloroethylene, trans	60
1,2-Dichloropropane	0.5
1,1,2-Trichloroethane	0.3
1,1,1,2-Tetrachloroethane	0.1
1,2,3-Trichloropropane	0.0007
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene(updated 08/13/09)	600
1,3-Dichloropropene (Telone II®) (updated 12/22/06)	0.2
1,4-Dichlorobenzene	6
2,4-Dichlorophenoxyacetic acid (updated 01/02/09)	20
Alachlor	4
Aluminum	600
Antimony	20
Draft Antimony PHG	
Arsenic	0.004
Asbestos	7x10 ⁶ fibers/L
Atrazine	0.15
Barium	2,000
Bentazon (updated 09/28/09)	200
Benzene	0.15
Benzo[a]pyrene (updated 09/16/10)	0.007
Beryllium	1
Bromate	0.1
Cadmium (updated 12/22/06)	0.04
Carbofuran	1.7

Carbon Tetrachloride	0.1
Chlordane (updated 12/22/06)	0.03
Chlorite	50
Chlorobenzene	200
Chromium (total)	withdrawn
Chromium, Hexavalent	0.02
Copper (updated 02/08/08)	300
Cyanide	150
Dalapon (updated 06/19/09)	790
Dichloromethane	4
Diethylhexyl adipate	200
Diethylhexylphthalate (DEHP)	12
Dinoseb (updated 06/17/10)	14
Diquat	15
Endothall	580
Endrin (updated 10/10/08)	1.8
Ethylbenzene	300
Ethylene dibromide	0.01
Fluoride	1,000
Glyphosate (updated 06/29/07)	900
Gross Alpha Particle Activity	N/A
Gross Beta Particle Activity	N/A
Heptachlor	0.008
Heptachlor epoxide	0.006
Hexachlorobenzene	0.03
Hexachlorocyclopentadiene	50
Lead (updated 04/24/09)	0.2
Lindane (updated 06/22/05)	0.032
Mercury, inorganic (updated 06/01/05)	1.2
Methoxychlor (updated 09/16/10)	0.09
Methyl tertiary butyl ether (MTBE)	13
Molinate	1
N-Nitrosodimethylamine	0.003
Nickel	12
Nitrate	10,000 as N
Nitrate and Nitrite	10,000 as N
Nitrite	1,000 as N
Oxamyl (updated 04/24/09)	26
Pentachlorophenol (updated 04/24/09)	0.3
Perchlorate	6
Picloram	500
Polychlorinated Biphenyls (PCBs)	0.09 ppb
Radium-226	0.05 pCi/L
Radium-228	0.019 pCi/L

<u>Selenium</u>	30
<u>Silvex</u>	25
<u>Simazine</u>	4
<u>Strontium-90</u>	0.35 pCi/L
<u>Styrene</u>	0.5
<u>2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)</u>	0.00005 parts per trillion (ppt)
<u>Tetrachloroethylene</u>	0.06
<u>Thallium (updated 11/16/04)</u>	0.1
<u>Thiobencarb</u>	70
<u>Toluene</u>	150
<u>Toxaphene</u>	0.03
<u>Trichloroethylene (updated 7/09/09)</u>	1.7
<u>Trichlorofluoromethane (Freon 11)</u>	700
<u>Trichlorotrifluoroethane (Freon 113) updated 02/11/11</u>	4,000
<u>Tritium</u>	400 pCi/L
<u>Uranium (updated 08/17/01)</u>	0.5
<u>Vinyl Chloride</u>	0.05
<u>Xylene</u>	1,800



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Water

All PHGs developed as of July, 2011

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1,2,3-Trichloropropane	0.0007
1,2,4-Trichlorobenzene	5
1,2-Dichlorobenzene(updated 08/13/09)	600
1,3-Dichloropropene (Telone II®) (updated 12/22/06)	0.2
1,4-Dichlorobenzene	6
2,4-Dichlorophenoxyacetic acid (updated 01/02/09)	20
Alachlor	4
Aluminum	600
Antimony	20
Draft Antimony PHG	
Arsenic	0.004
Asbestos	7x10 ⁶ fibers/L
Atrazine	0.15
Barium	2,000
Bentazon (updated 09/28/09)	200
Benzene	0.15
Benzo[a]pyrene (updated 09/16/10)	0.007
Beryllium	1
Bromate	0.1
Cadmium (updated 12/22/06)	0.04
Carbofuran	1.7

California State Department of Health, Drinking Water Program – Sacramento, CA

The Water Quality Data is available to download from the "EDT Library and Water Quality Analyses Data and Download Page" at:

<http://www.cdph.ca.gov/certlic/drinkingwater/pages/EDTlibrary.aspx>

Download nine files for all the information you will need:

Chemical.zip
Chemhist.zip
Chemarch.zip
Chemxarch.zip
Siteloc.dbf
Watsys.dbf
Lab.dbf
Storet.dbf
WQM Documentation.doc

For More Information Contact:

California Department of Public Health
Anthony Meeks
Drinking Water Program
PO Box 997377, MS-7416
Sacramento, CA 95899-7377
1616 Capitol Avenue, Suite 74.421
Sacramento, CA 95899-5052
Telephone: (916) 449-5568
Fax: (916) 440-5602
EDT Email Address: edt@cdph.ca.gov
Personal Email Address: ameeks@cdph.ca.gov

Drinking Water Quality Monitoring Schedule Notification documents list upcoming and Over Due required contaminant testing of drinking water of water systems in California. It can be viewed at the website: <http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Monitoring.aspx>

All drinking water quality analyses data are available to download at the EDT Library and Water Quality Analyses Data and Download Page at the website:
<http://www.cdph.ca.gov/certlic/drinkingwater/pages/EDTlibrary.aspx>

Additional Information:

CALIFORNIA STATE DEPARTMENT OF HEALTH DRINKING WATER TEST RESULTS

The California State Department of Health, Drinking Water Division, Sacramento, California, has all of the water test data from every public drinking water source in the State of California, dating back to 1980s.

These tests are required by the EPA and the State of California, due to possible health effects, when various metals, herbicides, pesticides and other toxic contaminants are found in drinking water sources. The California EPA has complete listings of these chemicals, associated health effects, and drinking water standards for these water contaminants. The results of all drinking water tests are available free of charge online from the California State Department of Health.

- 1) A review of all water tests conducted in the State of California between 1984 and 2008, for every water test result over -0-, has been completed in the last year to find any unusual water contaminant readings which are over State of California standards and that could have negative consequences for human health.
- 2) The review demonstrated unusual spiking patterns, across California, for some toxic drinking water contaminants that raise concerns about air borne and other pollution sources. This review raises serious questions about why the public has not been informed of these unusual spiking patterns by the California State Department of Health. This list includes, but is not limited to, the following contaminants:

Aluminum	Barium	Iron	Manganese	Magnesium
Sodium	Boron	Arsenic	Strontium	Uranium
Strontium-90	Antimony	Beryllium	Bromine	Cadmium
Calcium	Copper	Lead	Nickel	Silver
Thallium	Titanium	Vanadium	Zinc	Sulfide
Sulfate				

(The California Air Resources Board tested for most of these airborne contaminants between 1989 and 2002, and found significant increases or spiking in these many of these pollutants.)

Perchlorate, Sulfur Hexafluoride (SF6), Phosphorus, Lithium, Rubidium, Silicon, Silica, Tin, Tritium, Tungsten, and Yttrium are not currently being tested for in California Drinking Water Supplies and should be added to the list of chemicals tested by the State of California due to health effects associated with exposure.

Many of these same contaminants are showing up in California State Air Resources air testing results throughout many parts of California. Neonicotinoids and other insecticides should also be added to the list of water contaminants as they may be responsible for Honey Bee and other pollinator declines. (Note that carbon black and silver iodide should be also added to this list.)

A review of water temperatures, specific conductance, and pH should also be considered in any examination of these test results. (Please note that many contaminants were not reviewed due to the large database - all drinking water contaminants will be under review in the future.)

- 3) Many of the contaminants listed above that were found in drinking water tests spiked in the same years in different parts of the State. There may be an airborne link to these water contaminants which will need to be studied in the future.

(In an article in the Sunday, February 23, 2003, edition of the Sacramento Bee, written by Chris Bowman, it was noted that Tungsten, not normally tested for in public drinking water supplies, was found in Elk Grove, Sacramento, in drinking water supplies, and in tests conducted on trees rings in that area as well. Similar results were found in Fallon, Nevada and Sierra Vista, Arizona. Tree ring tests are showing increases in Tungsten.)

THE GRAPHED DATA ON THE ADC WEBSITE, WATER TEST RESULTS, ARE ALL FROM THE DATA SUPPLIED BY THE CALIFORNIA STATE DEPARTMENT OF HEALTH DRINKING WATER PROGRAM.

In the next several months special California Graphed Water Test Data and some Drinking Water Spreadsheets will be available on this site: <http://www.agriculturedefensecoalition.org/>

All drinking water tests are public record and are available upon request from any state in the United States and local water purveyors. Remember that your local water supplies may or may not test for these contaminants on a regular basis. The data one should request is not summary data but actual test results.

Water tests do not take into account the synergistic effects of multiple contaminants. In addition, water treatment facilities vary from county to county as well as state...thus, your water treatment facility may not be able to remove all contaminants in your drinking water.

(Note: If contaminants are found in your drinking water supplies then they are also showing up in rivers, ponds, streams, shallow wells, and the ocean. All of these areas, along with most irrigation water, cannot be treated for contamination problems. This means that these chemicals will show up in our soils, food supplies and also have negative impacts on wildlife and marine life.)

It is time to lobby the California Air Resources Board to test for all of these chemicals individually and to release their test data as individual results instead of just summary data. In addition, all particulates that are collected should be tested for type of particulates not just the size of the particulates. The public also needs to know how much aluminum coated fiberglass particulates (CHAFF), released by multiple military service branches, are being found in California particulate testing and how they impact human health in California. <http://www.arb.ca.gov/homepage.htm>

California Environmental Protection Agency: <http://www.calepa.ca.gov/>

Note:

In California, information is available in a timely manner under the California Public Records Act. Under this act no agency may overcharge for copying costs or charge California residents money for time spent on researching this data (no labor charges are allowed under this law), to residents requesting information.

Mother Jones

'Superweeds' Revive an Old, Highly Toxic Herbicide

Don't call it a comeback; 2, 4-D's been here for years. It even played a role in Agent Orange.

By [Tom Philpott](#) | Wed Oct. 19, 2011 12:57 PM PDT

Ecologists call it the "pesticide treadmill": pests like weeds and bugs evolve to resist the poisons designed to destroy them, forcing farmers to apply ever-higher doses or resort to novel poisons.

But Monsanto's empire of Roundup Ready crops—designed to resist lashings of its own herbicide, Roundup—appears on the verge of sending the pesticide treadmill into reverse. As Roundup loses effectiveness, swamped by a galloping plague of resistant superweeds [1], farmers have already played the card of dramatically boosting Roundup application rate [2]s.

Now they're being urged to resort to an herbicide called 2,4-D that first hit farm fields in 1948, and that made up half of the formula for Agent Orange, the infamous defoliant applied to disastrous effect in the Vietnam War. Reports Southeast Farm Press [3]:

2,4-D is coming back. What many might consider a “dinosaur” may be the best solution for growers fighting weed resistance today, said Dean Riechers, University of Illinois associate professor of weed physiology.

To be fair, 2, 4-D made up the less toxic half of the Agent Orange formula, according to this Beyond Pesticides report [4](PDF) on it. The other half, known as 2,4,5-T, carried most of the dioxin contamination that made Agent Orange such a nightmare [5]for everyone exposed to it in Vietnam.

But 2,4-D isn't completely off the hook for its role in Agent Orange. Beyond Pesticides reports that "several forms of dioxin have also been found in 2,4-D," citing both EPA and State of Washington studies. And 2,4-D has quite a dossier of destruction in its own right. Beyond Pesticides points to both epidemiological and lab-based evidence linking it non-Hodgkin's lymphoma and other cancers. It's also an endocrine disruptor, Beyond Pesticides reports, meaning it can "interfere with the body's

hormone messaging system and can alter many essential processes." It can also act as a mutagen, or a "substance that induces genetic mutations." Here's Beyond Pesticides:

Workers who apply 2,4-D had a higher number of white blood cells with multiple nuclei than people who were not exposed. In rabbits, 2,4-D exposure resulted in unusual numbers of chromosomes in brain cells. Genetic problems like these can have further consequences in terms of cancer and reproductive problems.

So why is this nasty chemical, long ignored by farmers, being called back into the arsenal of industrial agriculture? According to *Southeast Farm Press*, the 2,4-D revival reflects the fact that agrichemical industry has stopped even trying to develop new, less toxic herbicides to replace Roundup. The publication quotes Dean Riechers, a University of Illinois weed physiologist who has been pushing 2,4-D as the best Roundup alternative, thusly:

Ideally, chemical companies would come up with a new herbicide to fight these resistant weeds. But new herbicide development is expensive and time-consuming. Riechers said he does not know of any new compounds on the horizon.

"If we don't find completely novel and new herbicides, our next best bet is to mix glyphosate [Roundup] and another herbicide with relatively minor resistance problems," Riechers said.

Here's my analysis. The ag-related "chemical companies" are all now in the business of peddling genetically modified seeds. Rather than spending R&D cash coming up with less-toxic herbicides, they're spending it on novel seeds engineered to be resistant to their old herbicides, toxicity be damned, in hopes of coming up with a blockbuster product worth billions, like Monsanto's now-failing Roundup Ready corn, soy, and cotton seeds.

Indeed, Dow AgroSciences, which is the chief US maker of 2, 4-D, is hard at work [6] on new 2, 4-D-resistant seeds, which it hopes to roll out over the next few years. These seeds would allow farmers to spray as much of the the highly toxic stuff as they want without harming their crops. Wouldn't that just lead to the next round of superweeds? Well, yes. Riechers, the University of Illinois scientist, admitted as much to *Southeast Farm Press*:

We have resistance to almost all herbicide families now. Tank-mixing auxin herbicides [2, 4-D] with glyphosate [Roundup] may work for the short-term, but I expect that auxin resistance will likely increase over time. Nature always finds a way.

Meanwhile, Monsanto is busily trying to revive yet another nasty old herbicide, called dicamba, rated by Pesticide Action Network [7] as a "bad actor" because it acts as a "developmental or reproductive toxin." Monsanto claims to have conjured up crops resistant to both Roundup and dicamba [8], and currently has an application into the USDA for approval of them.

As these agrichemical giants shift the pesticide treadmill into reverse, trotting out their old Rachel Carson-era poisons as the next big thing, we should reflect that *these* are the companies that are often hailed as the true and only solution to "feeding the world" going forward. [9]

Source URL: <http://motherjones.com/tom-philpott/2011/10/superweeds-revive-old-highly-toxic-herbicide>

Links:

- [1] <http://motherjones.com/tom-philpott/2011/07/monsanto-superweeds-roundup>
- [2] http://www.organic-center.org/reportfiles/13Years20091126_ExSumFrontMatter.pdf
- [3] <http://southeastfarmpress.com/management/can-24-d-solve-weed-resistance-problem?page=1>
- [4] <http://www.beyondpesticides.org/pesticides/factsheets/2,4-D.pdf>
- [5] <http://www.publichealth.va.gov/exposures/agentorange/>
- [6] http://www.agprofessional.com/agprofessional-magazine/more_herbicide-resistant_crops_in_pipeline_120033049.html
- [7] http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC32871
- [8] <http://www.prnewswire.com/news-releases/monsanto-completes-key-regulatory-submission-for-soybeans-with-dicamba-herbicide-tolerance-trait-98330124.html>
- [9] <http://www.fastcompany.com/1772987/global-agricultural-challenges>



**THE AGRICULTURE DEFENSE COALITION
&
CALIFORNIA SKYWATCH
PRESENT**

Geoengineering Climate Remediation Solar Radiation Management

The U.S. House Science & Technology Committee (3 U.S. House Hearings), and the UK House of Commons in England held separate hearings in 2009-2010 and are working together to initiate additional Geoengineering experiments, under proposed "Global Geoengineering Governance" rules, which exclude public debate, participation, knowledge, consent or oversight.

Solar Radiation Management = Reduction of Direct Sunlight Reaching the Earth

Today any government, government agency, university, private citizen, city, state, county, private corporation...anyone may modify or mitigate our atmosphere or weather without your knowledge, oversight or consent.

**WE INVITE EVERYONE TO "LOOK UP" & TAKE NOTE OF THE ATMOSPHERIC
GEOENGINEERING EXPERIMENTS GOING ON IN OUR SKIES!**

Man-Made Changes in the Weather & Climate and Weather Modification Programs (Almost Daily).

Geoengineering Programs and Experiments Result in escalating impacts that are being felt today across the United States:

- **Increases Human Health Problems Such As: Asthma, Eye & Skin Irritations, Raspy throats, Pneumonia-Like Symptoms, & More (Many Toxic Chemicals & Particles Released)**
- **Increases in molds, mildew, and viruses**
- **Lack of Vitamin D and Associated Human Health Problems**
- **Reduces Solar Panel Power Production**
- **Decline in Tree and Plant Health, Increasing Acid Rain, Air, Soil & Water Pollution**
Why are the trees dying or in decline in your area?
- **Jet Fuel and Rocket Emissions from Geoengineering Experiments increase Air, Water Soil Pollution, changes in Soil pH, and Increase Health Problems and Crop Damage**
- **Reduced Photosynthesis = Lower Crop Production and increased declines in tree health**
- **Increasing Acid Rains, Air, Soil and Water Pollution from Geoengineering Experiments**
- **Negative Effects on Biodiversity and Oceans (Ocean Iron Fertilization + Other Experiments)**

For more information please contact:

Rosalind Peterson Telephone: (707) 485-7520

E-Mail: info@californiaskywatch.com

Website: <http://www.agriculturedefensecoalition.org>

If you click on the categories section you will find two sections on Geoengineering along with my 2011 Power Point Presentation on Geoengineering (Climate Remediation).



**THE AGRICULTURE DEFENSE COALITION
&
CALIFORNIA SKYWATCH**

PRESENTS

**GEOENGINEERING
Climate Remediation**

GEOENGINEERING (Climate Remediation) is defined as “planetary-scale environmental engineering of our atmosphere, our weather, the oceans, and the Earth itself”. These experimental schemes, that will be or have been implemented, require no public notification, consent or oversight.

GEOENGINEERING schemes include **SOLAR RADIATION MANAGEMENT** which involves intentionally introducing particles, chemicals or gases into our upper atmosphere to reduce the amount of direct sunlight reaching the Earth. These schemes also include cloud whitening experiments (using salt and other particulates), and putting more water vapor (a greenhouse gas), into the atmosphere to create man-made clouds; an artificial cloud cover.

“LOOK UP” AND YOU WILL SEE SOME OF THESE EXPERIMENTS.

When was the last time you observed clear, deep blue skies all day?

Research studies show that increasingly persistent jet contrails turn into “man-made clouds” (or white haze), and are “...trapping warmth in the atmosphere and exacerbating global warming...Clouds are the largest variable controlling Earth’s atmospheric temperature and climate. Any change in global cloud cover may contribute to long-term changes in Earth’s climate...(persistent) contrails, represent a human-caused increase in the Earth’s cloudiness...” (NASA 2005)

Patrick Minnis, NASA 2007 (Discovery Channel Program): “...This one particular aircraft produced a contrail that covered an area of four thousand square kilometers and lingered for six hours. But we also found that there were (jet produced) contrails covering much larger areas and lasting more than twenty hours...”

SHORT LIST OF A FEW UNCONTROLLED GEOENGINEERING EXPERIMENTS:

- **Intentional & Experimental Weather Modification Programs & Experiments**
- **Upper Atmospheric Experiments Using Rockets and Airplanes**
- **NASA Particle & Chemical Release Experiments (CRRES) Barium-Strontium-Lithium-Calcium-SF6 (Sulfur hexafluoride) and other ionospheric experiments – Rockets**
- **Man-Made Cloud Experiments – Water Vapor Experiments – Cloud Whitening Experiments**
- **U.S. Navy / NASA Charged Aerosol Release Experiment (CARE-2009) using Rockets to Release an atmospheric aluminum oxide dust cloud over the East Coast of the U.S.**
- **U.S. Air Force / NASA Trimethyl-Aluminum Night Cloud Experiments (CRRES-Rockets)**
- **Aluminum Coated Fiberglass Releases (Chaff) – All branches of the U.S. Military (tons)**

Where to Find More Information: Rosalind Peterson E-Mail: info@californiaskywatch.com (707) 485-7520
Visit the Geoengineering Sections on this Website: www.agriculturedefensecoalition.org