

Floyd County Emergency Response Call list

Name	Agency	Office Phone	Home Phone	Cell Phone	E-mail Address
David Tice	AMR	641-228-4772	641-228-5489	641-220-2140	dtice@fai.net
Dawn Staudt	AMR	641-228-4772	641-228-3370	641-330-9869	dstaudt@amr-corp.net
Roy Schwickerath	Charles City Fire	641-257-6313	641-228-5788	641-330-6888	fdchief@cityofcharlescity.org
John Gohr	Charles City Police	641-228-3366	641-426-8124		dispatch@cityofcharlescity.org
Mike Wendel	Charles City Police	641-228-3366	641-228-7626	641-330-1430	chief@cityofcharlescity.org
Brad Gibson	Charles City Police	641-228-3366		641-330-9110	captain@cityofcharlescity.org
Jeff Sherman	Floyd County Board of Health	641-257-6145	641-228-1160	641-330-7440	Fcbh@floydcoia.org
Bridget Moe	Floyd County EMA	641-257-6144	641-590-1356	641-330-9900	floydema@floydcoia.org
Kathy Haus	Floyd County Medical Center	641-228-6830	641-228-4876	641-330-2099	khaus@fcmhosp.com
Joan Lore	Floyd County Medical Center	641-257-4345	641-435-4829	641-330-2247	jlore@fcmhosp.com
Gail Arjes	Floyd County Public Health	641-257-6111	319-278-4657	641-425-0613	garjes@floydcoia.org
Rick A Lynch	Floyd County Sheriff	641-228-1821	641-228-3097	641-330-2031	fcso@floydcoia.org

Division of Environmental Health

Program Directory

Division Director: Ken Sharp, (515) 281-5099

Updated: March/2010

Environmental Health Services Bureau

Bureau Chief: Carmily Stone

Phone: (515) 281-0921

Email: cstone@idph.state.ia.us

Tim Wickam
(515) 281-7462
twickam@idph.state.ia.us

Algae Bloom

Peg Buman
(712) 794-5390
pbuman@idph.state.ia.us

Backflow Prevention

Joyce Brown
(515) 281-3548
jbrown@idph.state.ia.us

Mike Magnant
(515) 281-8722
mmagnant@idph.state.ia.us

Bed Bugs

Bureau of Environmental Health Services
(515) 281-7726
http://www.idph.state.ia.us/eh/common/pdf/board_of_health_assistance/factsheet_bed_bugs.pdf

Carbon Monoxide

Consumer Product Safety

Debbi Cooper
(515) 242-6337
dcooper@idph.state.ia.us

Council of State and Territorial Epidemiologists' Fellow

Kaitlin Emrich
(515) 281-3773
KEmrich@idph.state.ia.us

Emergency Response

Heather Lloyd
(515) 281-8561
hlloyd@idph.state.ia.us

Environmental Epidemiologist

Tim Wickam

(515) 281-7462
twickam@idph.state.ia.us

Peg Buman
(712) 794-5390
pbuman@idph.state.ia.us

Fluoridation

Mike Magnant
(515) 281-8722
mmagnant@idph.state.ia.us

Food Safety

Tim Wickam
(515) 281-7462
twickam@idph.state.ia.us

Healthy Homes Initiative

Mindy Uhle
(515) 242-6131
muhle@idph.state.ia.us

Funeral /Crematorium

Carmily Stone
(515) 281-0921
cstone@idph.state.ia.us

Housing Concerns

Mindy Uhle
(515) 242-6131
muhle@idph.state.ia.us

**Hazardous Substances Emergency
Events Surveillance System (HSEES)**

Debbi Cooper
(515) 242-6337
dcooper@idph.state.ia.us

Local Board of Health issues

Carmily Stone
(515) 281-0921
cstone@idph.state.ia.us

Grade "A" Milk

Kurt Rueber
(515) 848-3299
krueber@idph.state.ia.us

Migrant Labor Camps

Heather Lloyd
(515) 281-8561
hlloyd@idph.state.ia.us

Scott Core
(515) 281-4937
score@idph.state.ia.us

Mold

Bureau of Environmental Health
Services
(515) 281-7726
[http://www.idph.state.ia.us/adper/comm
on/pdf/mold_facts.pdf](http://www.idph.state.ia.us/adper/comm
on/pdf/mold_facts.pdf)

Grants to Counties

Talisa Miller
(515) 281-7726
tmiller@idph.state.ia.us

Nuisance Complaints

Mindy Uhle
(515) 242-6131
muhle@idph.state.ia.us

Hazardous Waste Sites

Stu Schmitz
(515) 281-8707
sschmitz@idph.state.ia.us

Plumbing Code

Mike Magnant

(515) 281-8722
mmagnant@idph.state.ia.us

Public Health Veterinarian

Dr. Ann Garvey
(515) 281-4933
agarvey@idph.state.ia.us

Swimming Pools/Spas

Mike Magnant
(515) 281-8722
mmagnant@idph.state.ia.us

Tattoo Program

Talisa Miller
(515) 281-7726
tmiller@idph.state.ia.us

Water Treatment

Mike Magnant
(515) 281-8722
mmagnant@idph.state.ia.us

Water Quality

Carmily Stone
(515) 281-0921
cstone@idph.state.ia.us

Lead Poisoning Prevention

Bureau Chief: Rita Gergely
Phone: (800) 972-2026
Email: rgergely@idph.state.ia.us

(515) 242-5902
Kofficer@idph.state.ia.us

Adult Lead Surveillance

Rob Walker
(515) 281-0908
rwalker@idph.state.ia.us

Blood Lead Reporting

Janet Lemmermann
(515) 242-5200
Jlemmerm@idph.state.ia.us

Lead Professional Certification

Sylvia Gieseke
(515) 281-3479
sgieseke@idph.state.ia.us

Childhood Blood Lead Database

Pilar Logsdon
(515) 242-5189
plogsdon@idph.state.ia.us

**Lead Professional Training Providers
Pre-renovation Notification**

Joelle Stolte
(515)281-7464
jstolte@idph.state.ia.us

**Childhood Lead Poisoning
Prevention Program**

Kevin Officer

Mandatory Blood Testing Program

Rossany Brugger

515-281-3225
rbrugger@idph.state.ia.us

Rob Walker
(515) 281-0908
rwalker@idph.state.ia.us

Occupational Health

Kathy Leinenkugel
(515) 281-4930
kleinenk@idph.state.ia.us

Pesticide Surveillance

Plumbing and Mechanical Professional Licensing

Executive Officer: Cynthia Houlson
Phone: (515) 281-6881 or (866) 280-1521
Email: choulson@idph.state.ia.us

Radiological Health Bureau

Bureau Chief: Melanie Rasmusson
Phone: (515) 281-3478
Email: mras muss@idph.state.ia.us

(515) 281-0403
ATostleb@idph.state.ia.us

Mammography

Janet Kent
(515) 281-0405
jkent@idph.state.ia.us

Permits to Practice (RT)

Charlene Craig
(515) 281-0415
ccraig@idph.state.ia.us

Radioactive Materials

Amanda Tostlebe

Radon

Rick Welke
(515) 281-4928
Radon Hotline: (800) 383-5992
rwelke@idph.state.ia.us

(515) 281-0403
ATostleb@idph.state.ia.us

Tanning

Charlene Craig
(515) 281-0415
ccraig@idph.state.ia.us

X-Ray Machines

Amanda Tostlebe

Toxicology Services

Toxicologist: Stu Schmitz

Phone: (515) 281-8707

Email: sschmitz@idph.state.ia.us

- **Exposure to Chemicals and Toxicants**
- **Exposure to Hazardous and Contaminated Sites**
- **Fish Consumption Advisories**



Participating County Contact List
- Environmental Health Professionals/Sanitaricians -
 working with the Iowa Department of Natural Resources
 3/9/2010

COUNTY	Co.	CONTACT NAME	PHONE #	Address	City/State/Zip	¹ SEPTICS	² OSWAP	³ WELLS	⁴ GTC
Adair	1	Steve Patterson	641/747-8320	200 N. Fifth Street	Guthrie Center, IA 50115	X	X	X	X
Adams	2	Carl Goodson	641/322-3410	P.O. Box 28	Corning, IA 50841	X	X	X	X
Allamakee	3	Laurie Moody	563/568-3014	110 Allamakee St.	Waukon, IA 52172	X	X	X	X
Appanoose	4	Bill Milani	641/724-3511	12307 Hwy 5, PO Box 389	Moravia, IA 52571	X	X	X	X
Audubon	5	Steve Patterson	641/747-8320	200 N. Fifth Street	Guthrie Center, IA 50115	X	X	X	X
Benton	6	Marc Greenlee	319/472-3119	P.O. Box 327	Vinton, IA 52349	X	X	X	X
Black Hawk	7	Jon McNamee	319/291-2413	1407 Independence Ave.	Waterloo, IA 50703	X	X	X	X
Boone	8	Mike Salati	515/433-0550	201 State Street	Boone, IA 50036	X	X	X	X
Bremer	9	Doug Bird	319/352-0332	415 East Bremer	Waverly, IA 50677	X	X	X	X
Buchanan	10	Ed Fitzgerald	319/334-2873	210 5th Ave. NE, PO Box 2	Independence, IA 50644	X	X	X	X
Buena Vista	11	Kim Johnson	712/749-2555	P.O. Box 663	Storm Lake, IA 50588	X	X	X	X
Butler	12	Mike Weinberg	319/267-2630	Courthouse, P.O. Box 305	Allison, IA 50602	X	X	X	X
Calhoun	13	Shelly Schossow	712/267/8323	501 Court St.	Rockwell City, IA 50579	X	X	X	X
Carroll	14	Carey Kersey	712/792-9532	P.O. Box 702	Carroll, IA 51401	X	X	X	X
Cass	15	Steve Patterson	641/747-8320	200 N. Fifth Street	Guthrie Center, IA 50115	X	X	X	X
Cedar	16	Phil LaRue	563/886-2248	Courthouse	Tipton, IA 52772	X	X	X	X
Cerro Gordo	17	Brian Hanft	641/421-9340	22 N. Georgia Ave. Mohawk Sq., 3rd Floor	Mason City, IA 50401	X	X	X	X
Cherokee	18	Aimee Barritt	712/225-6721	Courthouse, Box D	Cherokee, IA 51012	X	X	X	X
Chickasaw	19	Ken Rasing	641/394-2406	P.O. Box 214	New Hampton, IA 50659	X	X	X	X
Clarke	20	Allan Mathias	641/342-6654	100 S. Main	Osceola, IA 50213	X	X	X	X
Clay	21	Tammy McKeever	712/262-8165	300 West 4th St., Suite 6	Spencer, IA 51301-3889	X	X	X	X
Clayton	22	Janet Ott	563/245-2451	P.O. Box # 456	Elkader, IA 52043	X	X	X	X
Clinton	23	Bob Summers	563/659-8148	329 East 11th Street	DeWitt, IA 52742	X	X	X	X
Crawford	24	Carey Kersey	712/792-9532	P.O. Box 702	Carroll, IA 51401	X	X	X	X
Dallas	25	Kathy Witkovski	515/993-5803	801 Court	Adel, IA 50003	X	X	X	X
Davis	26	Donnie Herteen	641/724-3511	12307 Hwy 5, PO Box 389	Moravia, IA 52571	X	X	X	X
Decatur	27	Allan Mathias	641/446-7131	Courthouse	Leon, IA 50144	X	X	X	X
Delaware	28	Dennis Lyons	563/927-5925	Courthouse	Manchester, IA 52057	X	X	X	X
Des Moines	29	Patrick Waters	319/753-8217	522 N. Third Street	Burlington, IA 52601	X	X	X	X
Dickinson	30	David Kohlhaase	712/336-2770	1810 Ithaca Ave.	Spirit Lake, IA 51360	X	X	X	X
Dubuque	31	Dr. Paul Buss	563/557-7396	13063 Seippel Road	Dubuque, IA 52002	X	X	X	X
Emmet	32	Terry Reekers	712/362-5702	508 South 1st Street	Estherville, IA 51334	X	X	X	X
Fayette	33	Joe Neary	712/852-3058	P.O. Box 271	Emmetsburg, IA 50536	X	X	X	X
Fayette	33	Catherine Miller	563/422-3767	P.O. Box 269, 114 N. Vine	West Union, IA 52175	X	X	X	X
Floyd	34	Jeff Sherman	641/257-6145	101 S. Main, Courthouse	Charles City, IA 50516	X	X	X	X
Franklin	35	Earl Kalkwarf	515/532-3461	115 1st Street SE	Clarion, IA 50525	X	X	X	X
Fremont	36	Mike Crecelius	712/3743355	2014 210th Avenue	Sidney, IA 51652	X	X	X	X
Greene	37	Tim Healy	515/386-8343	114 N. Chestnut	Jefferson, IA 50129	X	X	X	X
Grundy	38	Carie Sager	319/824-1212	704 H Avenue, Suite 5	Grundy Center, IA 50638	X	X	X	X
Guthrie	39	Steve Patterson	641/747-8320	200 N. Fifth St., Courthouse	Guthrie Center, IA 50115	X	X	X	X
Hamilton	40	Al Haberman	515/832-9510	821 Seneca Street	Webster City, IA 50595	X	X	X	X
Hancock	41	Steve Anderson	515/923-2702	109 W State St.	Algona, IA 50511	X	X	X	X
Hardin	42	Lori Kadner	641/858-5058	P.O. Box 534	Eldora, IA 50627	X	X	X	X
Harrison	43	Matt Pitt	712/644-2302	116 North Second Avenue	Logan, IA 51546	X	X	X	X
Henry	44	Jodi Suttler	319/385-6724	Co.Health Ctr, 407 S. White	Mt. Pleasant, IA 52641	X	X	X	X
Howard	45	LaCinda Altman	563/547-4505	Courthouse, 137 N. Elm	Cresco, IA 52136	X	X	X	X
Humboldt	46	Don McLain	712/335-4142	2221 220th St.	Humboldt, IA 50548	X	X	X	X
Ida	47	Cheryl Andresen	712/364-3498	401 Moorehead, Courthouse	Ida Grove, IA 51445	X	X	X	X
Iowa	48	Richard Heller	319/828-4401	P.O. Box 371	Marengo, IA 52301	X	X	X	X
Jackson	49	Frank Frieberg	563/652-5658	201 W. Platt	Maquoketa, IA 52060	X	X	X	X
Jasper	50	Sue Irving	641/792-7603	115 N 2nd Ave. E	Newton, IA 50208	X	X	X	X
Jefferson	51	Dan Miller	641/472-5929	2200 West Jefferson	Fairfield, IA 52556	X	X	X	X
Johnson	52	James Lacina	319/356-6040	1105 Gilbert Court	Iowa City, IA 52240	X	X	X	X
Jones	53	Paula Hart	319/462-4715	500 West Main	Anamosa, IA 52205	X	X	X	X
Keokuk	54	Travis Sines	641/622-2215	101 S. Main St., Courthouse	Sigourney, IA 52591	X	X	X	X
Kossuth	55	Jack Bradley	515/295-3813	109 W State St.	Algona, IA 50511	X	X	X	X
Lee	56	Diane Septer	319/372-5225	2218 Ave. H, Suite A	Fort Madison, IA 52627	X	X	X	X
Linn	57	Heidi Peck	319/892-6000	501 13th St. NW	Cedar Rapids, IA 52404	X	X	X	X
Louisa	58	Andrew Beaver	319/523-5271	8313 K Ave.	Wapello, IA 52653	X	X	X	X
Lucas	59	Bill Milani	641/724-3511	12307 Hwy 5, PO Box 389	Moravia, IA 52571	X	X	X	X
Lyon	60	Jeff Williams, P.E.	712/472-3154	206 S. Second Avenue	Rock Rapids, IA 51246	X	X	X	X
Madison	61	Elton Root	515/462-2636	Courthouse, Box 152	Winterset, IA 50273	X	X	X	X
Mahaska	62	Eric Dursky	641-660-3419	2074 Hwy. 163	Oskaloosa, IA 52577	X	X	X	X
Marion	63	Cory Frank	641/828-2243	214 E. Main St.	Knoxville, IA 50138	X	X	X	X
Marshall	64	John Kunc	641/754-6370	Courthouse	Marshalltown, IA 50158	X	X	X	X

Mills	65	Mike Sukup	712/527-9699	Box 209	Glenwood, IA 51534	X	X	X	X
Mitchell	66	Mark Ross	641/732-5468	509 State St.	Osage, IA 50461	X	X	X	X
Monona	67	Sandy Bubke	712/423-3400	610 Iowa Ave.	Onawa, IA 51040	X	X	X	X
Monroe	68	Donnie Herteen	641/724-3511	12307 Hwy 5, PO Box 389	Moravia, IA 52571	X	X	X	X
Montgomery	69	Richard Price	712/623-6543	1109 Highland	Red Oak, IA 51566	X	X	X	X
Muscatine	70	Jeremy Underwood	563/263-0482	3610 Park Ave. West	Muscatine, IA 52761	X	X	X	X
O'Brien	71	Aimee Devereaux	712/757-0105	155 S. Hayes, Courthouse	Primghar, IA 51245	X	X	X	X
Osceola	72	Dennis Davids	712/ 754-3996	300 7th St., Courthouse	Sibley, IA 51249	X	X	X	X
Page	73	Donny McCoy	712/542-2510	Courthouse, 112 E. Main	Clarinda, IA 51632	X	X	X	X
Palo Alto	74	Joe Neary	712/852-3058	P.O. Box 271	Emmetsburg, IA 50536	X	X	X	X
Plymouth	75	Noel Ahmann	712/546-7516	Courthouse, 215 4th Ave. SE	LeMars, IA 51031	X	X	X	X
Pocahontas	76	Don McLain	712/335-4142	99 Court Square	Pocahontas, IA 50574	X	X	X	X
Polk	77	Jim McCasland	515/286-3376	5895 N.E. 14th St.	Des Moines, IA 50313	X	X	X	X
Pottawattamie	78	Kay Mocha	712/328-5792	223 S. Sixth Street	Council Bluffs, IA 51501	X	X	X	X
Poweshiek	79	Carroll Smith	641/623-3762	P.O.Box 418	Montezuma, IA 50171	X	X	X	X
Ringgold	80	Allan Mathias	641/342-6654	100 S. Main	Osceola, IA 50213	X	X	X	X
Sac	81	Sherrie Wilson	712/662-7929	116 S. State St. - Suite A	Sac City, IA 50583-2340	X	X	X	X
Scott	82	Larry Linnenbrink	563/326-8618	428 Western Ave.	Davenport, IA 52801	X	X	X	X
Shelby	83	Joe Stroher	712/755-2609	1313 Industrial Parkway	Harlan, IA 51537	X	X	X	X
Sioux	84	Ken Oldenkamp	712/737-2248	P.O. Box 10	Orange City, IA 51041	X	X	X	X
Story	85	Margaret Jaynes	515/382-7242	Health Dept., Courthouse	Nevada, IA 50201	X	X	X	X
Tama	86	Bill Christensen	641/484-4788	Health Dept., 129 W High St.	Toledo, IA 52342	X	X	X	X
Taylor	87	Angela Green	712/523-2556	505 State St.	Bedford, IA 50833	X	X	X	X
Union	88	Louis Boeckman	641/782-7803	1701 Commerce Road	Creston, IA 50801	X	X	X	X
Van Buren	89	Jim Laughlin	319/293-2531	Box 475, Courthouse	Keosauqua, IA 52565	X	X	X	X
Wapello	90	Ross Glosser	641/683-0651	105 E. 3rd St.	Ottumwa, IA 52501	X	X	X	X
Warren	91	Curt Coghlan	515/961-1062	P.O. Box 456	Indianola, IA 50125	X	X	X	X
Washington	92	Jeff Thomann	319/653-7782	314 McCreedy Dr.	Washington, IA 52353	X	X	X	X
Wayne	93	Bill Yeager	641/872-1903	P.O. Box 435	Corydon, IA 50060	X	X	X	X
Webster	94	Kari Prescott	515/573-4107	330 1st Ave. N	Fort Dodge, IA 50501	X	X	X	X
Winnebago	95	Ron Kvale	515/582-3412	216 South Clark Street	Forest City, IA 50436	X	X	X	X
Winneshiek	96	Doug Groux	563/387-4120	201 West Main	Decorah, IA 52101	X	X	X	X
Woodbury	97	Ron Brandt	712/279-6119	1014 Nebraska St.	Sioux City, IA 51105	X	X	X	X
Worth	98	Shane Buenzow	641/845-2200	4125 Pheasant Avenue	Kensett, IA 50448	X	X	X	X
Wright	99	Yale Schutt	515/532-3461	115 1st Street SE	Clarion, IA 50525	X	X	X	X
¹ Septics = Contact for septic system permitting									
² OSWAP = County participates in the onsite loan program.									
³ Wells = Contact for private well permitting									
⁴ GTC = County participates in the Grants to Counties Program									

CHURCHES

All churches offer assistance and/or counseling. See the yellow pages of the telephone directory for the denomination of your choice.

HEALTH CARE

Adult Day Center 641-257-4004
Ambulance 911
American Cancer Society 800-227-2345
American Diabetes Association 800-678-4232
Cancer Information 319-356-4262
Easter Seal Society 515-289-1933
Floyd County Hospital 641-228-6830
Immunization Clinic 641-257-6848
Home Health Care 641-257-6363
Kidney Foundation 319-369-4474
Poison Control Center 800-222-1222
Public/Comm. Health Nursing 641-257-6848
Veterans General Assistance 641-228-1850
WIC Family Planning Service 641-228-2893
Homecare Medical Supply 800-662-5565

FINANCIAL ASSISTANCE

Floyd County Relief Office 641-257-6153
Floyd County Human Services 641-228-5713
Social Security Administration 800-772-1213
Unemployment Compensation 641-228-5136
Veterans Administration 800-827-1000
Veterans Benefits/Assistance 641-228-1850

FINANCIAL COUNSELING

Iowa State University Extension 641-228-1453
Small Business Counseling 800-827-5722

DISASTER QUICK REFERENCE

FEMA Disaster Application Hotline:
1-800-462-9029; TDD, 1-800-462-7585
Agricultural Conservation Service:
General Dept. of Agriculture
515-281-5321
Soil Conservation
515-281-6146

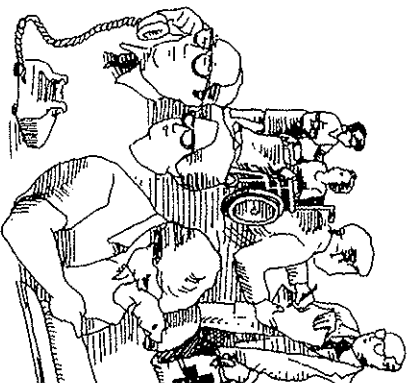
POLITICAL CONTACTS

U.S. Senator Charles Grassley 319-232-6657
U.S. Senator Tom Harkin 319-365-4504
U.S. Congressman James Nussle 641-235-1109
Iowa Representative Mark Kuhn 641-228-2566
Iowa Senator Amanda Ragan 641-424-0874
Iowa House Switchboard 515-281-3221
Iowa Senate Switchboard 515-281-3371

Iowa State University and U.S. Department of
Agriculture Cooperating

Extension programs are available to all without
regard to race, color, national origin, religion,
sex, or disability.

Floyd County



Resource Director

Floyd County Extension
615 Beck Stre
Charles City, IA 506
Phone/fax: 641-228-141
www.extension.iastate.edu/flo

COUNSELING & EMOTIONAL SUPPORT

Alcohol/Drug Abuse Hotline 800-ALCOHOL
Alliance for Mentally Ill 515-254-0417
Brennwood Children's Home 641-228-8030
Crisis Intervention Service 800-479-9071
Floyd County Human Services 641-228-5713
Hope House 641-228-7453
Lutheran Social Services 641-423-6313
North Iowa Mental Health Center 641-424-2075
Nutrition Counseling 800-433-3883
Prairie Ridge 641-228-1477
Iowa Concern Hotline 800-447-1985
Healthy Family Hotline 800-369-2229
Teen Hotline 800-443-8336

FOOD

Community Services Food Box 641-228-7022
Senior Citizen's Meal Site 641-228-3114
WIC 641-228-2893

UTILITY ASSISTANCE &

WEATHERIZATION

Floyd County Relief Office 641-228-6153
North Iowa Community Action 641-228-2893

EMPLOYMENT AND JOB TRAINING

I.A. Workforce Development 641-228-5136
Vocational Rehabilitation 641-422-1551

THRIFT CLOTHING

Salvation Army 641-424-4031
Treasure Chest 641-228-5055

SMALL BUSINESS DEVELOPMENT

ISU Extension/Floyd County 641-228-1453
IDED Small Business Helpline 800-532-1216

ABUSE/NEGLECT

Child Abuse/Neglect Report 800-362-2178
Crisis Intervention Services 800-479-9071
Domestic Abuse Hotline 800-942-0333
Floyd County Human Services 641-228-5713
Floyd County Sheriff 911
Parent Helpline 1010-275-00
Services for Abused Women 800-383-2988
Sexual Assault Center 800-433-3883
Shelter for Abused Women 800-383-2988

EDUCATION

Buena Vista College 800-798-8764
Charles City Comm. Schools 641-257-6500
GED Program 888-466-4222
ISU Extension/Floyd County 641-228-1453
Nashua-Plainfield 641-435-4835
Nora Springs-Rock Falls 641-749-5301
North Iowa Community College 641-228-4634
Rudd-Rockford-Marble Rock 641-756-3610
Wartburg College 800-772-2085

FARM CONCERNS

Attorney General-Farm 515-281-5351
ISU Farm On Program 800-447-1985
JTPA Farmworks Program 800-392-5685
Legal Services of Iowa 800-332-0419
Mediation Services 515-331-8081
Rural Concern Hotline 800-447-1985
Consumer Law 319-335-9023
Iowa Rural Development 515-242-4875

ISU PHONE NUMBERS

Answer Line (Home & Family) 800-262-3804
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ISU Soil & Plant Test Lab 515-294-3076
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shock-chlorinating small water systems

Sanitary water system components (well, pump, pipes, tanks and treatment equipment) are as essential to a hygienic drinking water supply as clean cooking and serving utensils are to wholesome food.

A properly designed well and water distribution system incorporates sanitary features that keep contamination from entering under normal operating conditions, but there are occasions when contaminants will get in. During well construction, or when pumps and other water system components are being installed, soil, grease, joint sealing compound, and other foreign materials that carry bacteria adhere to interior surfaces of the equipment. Furthermore, most water system repairs must usually be accomplished in trenches, well pits, or other locations where opportunities for contamination are numerous.

To combat disease-causing bacteria and viruses that remain in a water system following construction, repair, or maintenance, some means of disinfecting the interior surfaces is necessary. Shock chlorination is a convenient method for doing this through the use of a concentrated chlorine solution.

Shock chlorination is occasionally confused with the type of chlorination provided in public water systems, but the two processes differ substantially. Public water supply disinfection is accomplished with

a *continuous* application of small amounts of chlorine. The major purpose is to disinfect the water itself, and water from community water supplies commonly contains less than 1 part per million (ppm) of chlorine. Shock chlorination, however, uses chlorine concentrations ranging from 50 to 200 ppm, and the primary purpose is to sanitize wells, piping, and other equipment that the water passes through.

Shock chlorination is *not* a continuous process and it cannot protect a defective well or plumbing system from continuous entry of contaminants. Only water systems that are protected against

further contamination will benefit from shock chlorination. Poorly designed or deteriorated water system components that allow contamination to enter should be repaired or replaced, *then* shock chlorinated. For further information on the sanitary construction features that should be incorporated in a well, see *Good Wells for Safe Water*, ISU Extension publication PM 840.

Control of nuisance organisms that can live in a water system is another use for shock chlorination. Iron bacteria, for example, are commonly found in water supply equipment. This type of bacteria is not known to cause disease,

Table 1. Pounds of HTH* needed to shock chlorinate wells of various depths and diameters.

Well water depth (feet)	Well diameter (inches)							
	4	6	8	12	18	24	30	36
25	0.04	0.09	0.16	0.35	0.8	1.4	2.2	3.2
50	0.08	0.18	0.31	0.7	1.6	2.8	4.4	6.4
75	0.12	0.26	0.47	1.1	2.4	4.2	6.6	9.5
100	0.16	0.35	0.6	1.4	3.2	5.6	8.8	12.7
125	0.20	0.44	0.8	1.8	4.0	7.1	11.0	15.9
150	0.24	0.5	0.9	2.1	4.8	8.5	13.2	19.1
175	0.27	0.6	1.1	2.5	5.6	9.9	15.4	22.2
200	0.31	0.7	1.3	2.8	6.4	11.3	17.6	25.4
250	0.39	0.9	1.6	3.5	7.9	14.1	22.1	31.8
300	0.47	1.1	1.9	4.2	9.5	16.9	26.5	38.1
350	0.5	1.2	2.2	4.9	11.1	19.8	30.9	44.5
400	0.6	1.4	2.5	5.6	12.7	22.6	35.3	50.8
450	0.7	1.6	2.8	6.4	14.3	25.4	39.7	57.2
500	0.8	1.8	3.1	7.1	15.9	28.2	44.1	63.5

*For products containing 65 to 75 percent $\text{Ca}(\text{OCl})_2$.

but it thrives in some iron-bearing waters and forms large amounts of rust-colored slime that clogs wells, pipelines, and water filters. Though extremely difficult to eliminate from a water system, iron bacteria growth can be controlled with periodic shock chlorination.

How to Shock Chlorinate

Sources and Amounts of Chlorine

Liquid and powdered forms of chlorine are readily available at grocery or hardware stores and swimming pool supply outlets. Liquid household bleach, which commonly contains 5.25 percent sodium hypochlorite (NaOCl), is a convenient product to use if your well is not extremely large or deep. High-test hypochlorite powder, commonly referred to as HTH, is a highly concentrated source of chlorine suitable for large or deep wells. It generally contains 65 to 75 percent calcium hypochlorite (Ca(OCl)₂).

Tables 1 and 2 indicate approximately how much HTH or bleach is needed to yield a chlorine concentration of 200 parts per million (ppm) in wells of various depth and diameter. Water containing substantial amounts of iron, hydrogen sulfide, or organic material will require more chemical because chlorine is depleted by these substances.

Example 1: A weighted string lowered into a 6-inch diameter well indicates water in the well is about 100 feet deep. Approximately **how much HTH** would be used to shock chlorinate this well?

From Table 1—enter the column for a 6-inch well and read down to the row for 100 foot depth. Approximately 0.35 pounds of HTH is needed.

Example 2: How much **household bleach**, containing 5.25 percent NaOCl, would be needed to shock chlorinate the well in Example 1? **From Table 2**—again, read down the column for a 6-inch well until the row for 100 feet of water depth is reached. In this case 4.7 pints of bleach is recommended.

It is not necessary that chlorine levels in the well be exactly 200 ppm; 100 to 200 ppm is adequate. A strong chlorine odor, however, should be present in water pumped from the well to other parts of the plumbing system. If a

strong odor is not noticeable, you will need to add more chlorine.

Disinfecting the Water System

Only the surfaces that are contacted by the chlorine solution will be disinfected. The following recommendations will help to accomplish a thorough job.

To avoid adding more contaminants to the well during the disinfection procedure, clean up the work area around the top of the well. Remove grease, mineral deposits, and other encrustation from accessible parts of the well interior and scrub these surfaces with a solution of 1/2 cup of laundry bleach in 5 gallons of water. Be sure to wash pumping equipment and piping with the chlorine solution as it is lowered into the well.

Table 2. Pints of bleach* needed to shock chlorinate wells of various depths and diameters.

Well water depth (feet)	Well diameter (inches)								
	4	6	8	12	18	24	30	36	48
25	0.5	1.2	2.1	4.7	10.6	18.8	29.3	42.2	75.1
50	1.0	2.3	4.2	9.4	21.1	37.5	58.7		
75	1.6	3.5	6.3	14.1	31.7	56.3			
100	2.1	4.7	8.3	18.8	42.2	75.1			
125	2.6	5.9	10.4	23.5	52.8				
150	3.1	7.0	12.5	28.2	63.4				
175	3.7	8.2	14.6	32.9	73.9				
200	4.2	9.4	16.7	37.5					
250	5.2	11.7	20.9	46.9					
300	6.3	14.1	25.0	56.3					
350	7.3	16.4	29.2	65.7					
400	8.3	18.8	33.4	75.1					
450	9.4	21.1	37.5						
500	10.4	23.5	41.7						

*For bleach containing 5.25 percent NaOCl.

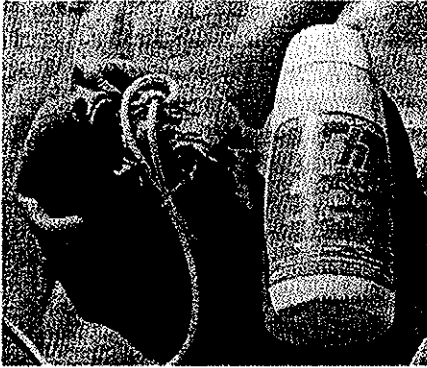


Fig. 1. Cloth sack filled with powdered chlorine is ready to be lowered into the well.



Fig. 2. Weighted sack filled with chlorine powder is lowered into the well.



Fig. 3. Strong chlorine solution is recirculated back to the well.

Newly constructed wells, or those that have been submerged by flood waters, may contain substantial amounts of sediment that cloud the water and interfere with disinfection. Pump the well until the water clears before proceeding with shock chlorination.

Liquid sources of chlorine can be poured directly into the well. Powdered chlorine compounds can be introduced in two ways:

1. Mix the required amount of dry compound with a small amount of water and stir thoroughly to dissolve. Let the undissolved calcium carbonate particles settle. Pour off the clear chlorine solution and use this to disinfect the well.

OR

2. Place the required amount of chemical in a weighted cloth sack (fig. 1) or in a section of perforated pipe that has been capped on both

ends. Attach a rope and alternately raise and lower the chemical throughout the water-bearing portion of the well to dissolve the compound and distribute the disinfectant (fig. 2).

Pumping will help to mix the disinfectant with the water standing in the well. Use a garden hose to recirculate the strong chlorine solution directly back into the well (fig. 3). Direct the return flow onto the pump piping and interior portions of the well casing that are above the water level.

Open the faucets and hydrants on each water line, one by one, and allow water to flow until a strong chlorine odor is detected. If a strong chlorine odor is not detectable, add more chlorine at the well. This will be necessary if the water contains substantial amounts of iron, hydrogen sulfide, or organic materials that deplete the chlorine in solution.

Drain water heaters and bleed the air from pressure tanks so that chlorinated water can completely fill and sanitize them. Water softeners, sand filters, and iron removal filters should be backwashed with the strongly chlorinated water. *Do not* chlorinate carbon or charcoal filters because this will deplete their capacity.

It takes time for the chlorine to do a thorough job of disinfecting. Allow the chlorine to remain in the water system for at least 2 hours—longer, if possible.

Before using the water supply, thoroughly flush the remaining chlorine from the system. Mini-

mize the amount of chlorinated water that enters a septic tank by flushing the well, pressure tank, and other large volumes of disinfecting solution through outside hydrants. Vegetation may be harmed by the strongly chlorinated water; dispose of it on ground where damage will be minimal. Pipes that serve indoor plumbing fixtures can be flushed after the well and pressure tank have been filled with fresh water.

Observe These Precautions

All concentrated chlorine solutions are corrosive, and care should be taken to avoid splashing them onto skin or into eyes. Rubber gloves, goggles, and protective aprons are recommended when handling chlorine solutions. Skin areas contacted by the disinfecting solution should be flushed immediately with clean water.

Never mix chlorine solutions with compounds containing acids or ammonia to improve their cleansing ability because toxic gases will form.

Both liquid and powdered chlorine sources lose strength with time. Exposure to heat, light, and moisture (if the compound is powdered) accelerates decomposition of the materials. Accordingly, buy fresh chemicals in small quantities to avoid storage losses. Always read and follow the manufacturer's recommendations for handling and storing powdered and liquid chlorine compounds.

Strongly chlorinated water may damage the elastic air-water separator or air bladder used in some pressure tanks. Check the manufacturer's recommendations if your pressure tank is equipped with this feature.

Retest Before Drinking

Follow-up testing for bacteria is an essential part of the shock chlorination procedure. Wait a few days after shock chlorinating before collecting the water sample. If bacteria are still entering the water system, it may take several days for detectable amounts to show up in a water sample.

Do not drink the water until results from the water test indicate the supply is safe. It's a good idea to retest a few weeks later to be sure that all points of entry for contamination have been blocked. Bacterial contamination is most likely to enter a well during wet weather when the water table is high and excess surface water seeps into the ground. A well that shows little or no signs of bacterial contamination during dry weather may be heavily contaminated during wet seasons.

If a water system continues to show bacterial contamination following shock chlorination, it may be necessary to hire a plumber or well driller to help locate and repair places where contamination enters.



Hygienic Laboratory
 The University of Iowa
 102 Oakdale Campus #H101 OH
 Iowa City, Iowa 52242-5002
 (319) 335-4500

Drinking Water Safety Testing

Instructions for collection on back

Complete this section (Please print clearly)

Report Results To:

Name: _____

Address: _____

City: _____

State, Zip: _____

Phone: _____

Depth of well _____ ft. Well Number _____
(if known) (if known)

Collection Date/Time: ____ / ____ / ____ 24-hr. clock
MM DD YY

Collection Address: _____

Collection Town: _____

Owner Name: _____
(first and last name)

Collector Name: _____
(first and last name)

Sample Location: _____
(e.g. kitchen faucet)

Check Tests Desired

Under normal circumstances, total coliform bacteria (present/absent) and nitrate testing will indicate general drinking water quality. If there are other situations or tests needed, call the Laboratory at 1-800-421-4692 or visit our website: www.uhl.uiowa.edu (quick link: well water)

Total Coliform Bacteria, *E. coli*, and Nitrate \$17

OR Total Coliform Bacteria and *E. coli* ONLY \$12

OR Nitrate ONLY \$12

The total coliform bacteria and *E. coli* tests (as marked above) will be reported as present or absent in your sample. If you want the bacteria results reported as a number (most-probable number per 100 mL), check this additional box. \$ 3

Please enclose check or money order for test/tests marked.

Amount Enclosed PREPAID \$14.00
 Check Number Total Coliform, *E. coli* AND Nitrate

NOV 23 2009

For Lab Use Only

Test	Method	Start of Analysis YY-MM-DD	Time	Result	Count (if Present)	Date Read YY-MM-DD	Time	Reject Code	Analyst
Total Coliform	9223B			<input type="checkbox"/> Present <input type="checkbox"/> Absent					
<i>E. coli</i>	9223B			<input type="checkbox"/> Present <input type="checkbox"/> Absent					
Nitrate	4500-NO3F				mg/L				

Date Rec'd
 Sample Number

Internal:

External:

Drinking Water Safety Testing for Private Water Supplies

Sample Collection Instructions

1. Fill out the top half of the report form, especially **DATE AND TIME OF COLLECTION** or the sample will not be tested.
2. Use the sample bottle(s) supplied by the laboratory. At a minimum, write on the bottle label your name and collection date and time. One bottle is needed for total coliform & *E.coli* testing and one bottle for nitrate testing.
3. To assess overall drinking water quality, collect sample from drinking water tap, avoid leaking faucets and outside hydrants.
4. Remove aeration screens from faucet before collecting sample. If unable to remove, select another tap.
5. Open cold water tap to obtain smooth-flowing stream at moderate pressure without splashing. If water flow not steady, select another tap.
6. Allow water to run to waste at least 2-3 minutes (time sufficient to clear line). Note: For an outside collection site, special tap disinfection (flame or chlorine) and longer flushing (10-15 minutes) is usually required to obtain valid bacterial results.
7. Reduce water flow slightly (to pencil-width) to fill bottle without splashing.
8. Fill bottle to one inch of top and replace cap tightly. **Caution:** Inside sample bottle is sterile – avoid placing fingers inside bottle or cap. Do not place cap down. Do not rinse out bottle(s).
9. Include check payable to the **Hygienic Laboratory** for the tests requested unless the form is stamped "PREPAID" signifying that the analytical fees have already been paid for. Do not send cash.
10. Mail or ship sample bottles immediately after collection (same day collected). Samples must be received within **48 hours** after collection – avoid weekend or holiday mailings. First-class postage, UPS – ground, or other carrier service may be necessary to insure rapid delivery from your area.

For further information contact:



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