



Cov tshuaj Ntsev Nitrate Nyob hauv cov dej ntawm cov qhov dej khawb

Cov tshuaj ntsev nitrate yog cov tshuaj siv tov es tshwm sim yam thas mab xaj thiab yeej muaj ntau qhov es yog tib neeg tsim tawm. Cov tshuaj ntsev nitrate muaj nyob rau hauv tej cov pas dej, cov dej ntws, thiab cov dej nyob hauv av hauv lub xeev Minnesota. Thaum cov tshuaj ntsev nitrate nrhiav pom nyob hauv lub xeev Minnesota cov dej nyob hauv av, feem ntau nws kuj muaj me me xwb. Txawm li ntawd los, tej cov dej nyob hauv av es muaj cov tshuaj ntsev nitrate muaj kev phom sij rau kev noj qab nyob zoo – tshwj xeeb yog rau cov menyuam mos ab. Koj saj los tsis paub, tsis pom, los yog hnia los tsis tsw cov tshuaj ntsev nitrate nyob hauv koj cov dej.

Muaj siab npaum cas thiab puaj phais

Cov dej haus es muaj cov tshuaj ntsev nitrate (luj es yog hom tshuaj ntsev nitrate-nitrogen) qis dua li 10 milligrams ntawm cov tshuaj ntsev nitrate tau ib liter ntawm cov dej (mg/L) yeej muab xam tias puaj phais rau txhua tus nyob hauv koj tsev neeg. Tus qauv ntawm lub tuam tsev txog cov dej haus The U.S. Environmental Protection Agency rau cov tshuaj ntsev nitrate ntawm cov dej rau pej xeeb haus yog 10 mg/L.

Kev phom sij rau kev noj qab haus huv

Hau tau cov tshuaj ntsev nitrate ntau heev muaj kev cuam tshuam rau qhov cov ntshav nqus tau cov pa oxygen thiab yuav ua rau cov ntsav nqus tsis tau cov pa cua oxygen hu ua methemoglobinemia (ib lub npe hu ua blue baby syndrome). Cov menyuam mos ab muaj hnuv nyoog qis dua li rau lub hlis es noj raj mis muaj kev phom sij siab dua txog qhov es tau txais tus mob ua rau cov ntsav nqus tsis tau cov pa cua oxygen hu ua methemoglobinemia. Tus mob ua rau cov ntsav nqus tsis tau cov pa cua oxygen hu ua methemoglobinemia kuj ua tau cov tawv nqaij tig ua xim xiav tsawm tsawv thiab, yog tsis kho, yuav ua rau muaj mob nyhav los yog tuag taus. Kawm kom paub ntau dua tias vim li cas cov menyuam mos ab ho muaj kev phom sij loj dua ntawm [Cov Dej Haus Puaj Phais rau koj tus Menyuam mos ab](http://www.health.state.mn.us/communities/environment/water/wells/waterquality/safebaby.html) (www.health.state.mn.us/communities/environment/water/wells/waterquality/safebaby.html) (tsuas muaj rau hom lus Askiv thiab lus Mev rau lub sij hawm no xwb).

Cov yam ntxwv mob hauv qab no kuj ua tau tib neeg muaj kev phom sij loj thaum cov tshuaj ntsev nitrate nov ua rau cov ntshav nqus tau cov pa oxygen thiab yuav ua rau cov ntsav nqus tsis tau cov pa cua oxygen hu ua methemoglobinemia: ntshav tsis txaus, kab mob plawv, kab mob ntsws, kab mob sepsis, tsis muaj ntshav liab txaus glucose-6-phosphate-dehydrogenase, thiab tej yam teeb meem ntsig txog lub cev nruab nrog metabolic problems.

Tsuas yog cov pov thawj tshawb fawb scientific nyuam qhuav muaj nov tawm los kuaj txog qhov es tsis zoo ntawm cov dej haus es muaj cov ntshev nitrate siab rau cov neeg laus. Muaj ib co ntawv sau tawm ntau qhia txog qhov kev cuam tshuam thaum raug cov ntsev nitrate/nitrite thiab lwm yam kev noj qab haus huv rau lub cev xws li lub plawv dhia ceev zog, xeev siab, mob taub hau, thiab tu leeg ntawm plab. Tej co kev tshawb fawb kuj hais qhia tias muaj kev phom sij ntxiv rau qhov kab mob khees xaws, tshwj xeeb yog hom khees xaws gastric cancer, muaj feem xyuam nrog noj tau cov tshuaj ntsev nitrate/nitrite, tabsis tseem tsis tau muaj kev pom zoo los ntawm kev tshawb fawb scientific txog kab lus nug no.

Kawm kom paub ntau dua txog cov tshuaj ntsev nitrate thiab qhov mob ua rau cov ntsav nqus tsis tau cov pa cua oxygen hu ua methemoglobinemia, koj yee mus saib tau los yog nqus tau peb daim ntawv qhia txog cov tshuaj ntsev [Nitrate thiab Methemoglobinemia \[PDF\]](#) (www.health.state.mn.us/communities/environment/water/docs/contaminants/nitratmethemog.pdf) (tsuas muaj rau hom lus Askiv rau lub sij hawm no xwb).

Kuaj cov dej hauv koj lub qhov dej khawb

Kuaj seb puas muaj tshuab ntsev nitrate ib xyoos ces kem ib xyoos. Thiab koj yuav tsum kuaj koj cov dej seb puas muaj ntsev nitrate yog tias koj npaj siab yuav xeeb tub hauv plab los yog cov menyuam mos ab yuav siv cov dej haus.

Koj yog tus lav phib xaub ceev kom koj cov dej hauv koj lub qhov dej puaj phais thiab kuaj cov dej thaum yuav tsum tau kuaj. MDH tau hais tias xav kom koj siv cov chaw kuaj kom muaj ntaub ntawv pov thawj los kuaj koj cov dej. Tiv tauj ib lub chaw es muaj ntaub ntawv pov thawj kom tau lub thawv thiab cov ntaub ntawv cob qhia kom paub kuaj, los yog nug koj lub zos county es pab rau faim kev noj qab haus huv rau pej zeem seb lawv puas muaj kev pab kuaj cov qhov dej khawb. [Cov Chaw Muaj Daim Ntawv Kuaj Dej Hauv Minnesota Txais Cov Dej Hauv Lub Qhov Dej Khawb Muaj Tswv Kuaj \[PDF\]](#) (www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/labmap.pdf) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb).

Kawm kom paub ntau dua txog kuaj cov dej ntawm cov qhov dej tshau [Kuaj cov dej hauv qhov dej khawb, kuaj tas muaj dabtsi, thiab lwm txoj kev xaiv](#) (www.health.state.mn.us/communities/environment/water/wells/waterquality/tipshmong.pdf)

Tiv thaiv koj qhov kev noj qab haus huv!

Kuaj koj cov dej hauv koj lub qhov dej seb puas muaj:



Kuaj cov dej mas haj yam tseem ceeb yog tias cov menyuum tseem yau haus cov dej.

MDH tej zaum kuj xav kom koj kuaj seb puas muaj lub yam kev tsuas tsis huv rau cov dej ntxiv raws li qhov chaw es koj nyob.

Tiv Thaiv kev tsuas tsis huv

- **Ceev kom tej yam ua muaj cov tshuaj ntsev nitrate kom deb ntawm koj lub qhov dej khawb.** Tej yam es ua rau muaj cov nov yog cov chiv rau av, lub thawv ntim quav, thiab tsiaj cov quav.
- **Khawb koj lub qhov dej kom nyob rau ib qho chaw puaj phais.** Saib rau [Tiv Thaiv Koj Lub Qhov Dej Khawb](http://www.health.state.mn.us/communities/environment/water/wells/construction/protect.html) (www.health.state.mn.us/communities/environment/water/wells/construction/protect.html) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb) lub vas sab kom paub cov tswv yim qhia.
- **Kuaj xyuas koj lub qhov dej tas mus li seb puas muaj tej qhov es puas lawm.** Tiv tauj tus neeg muaj daim ntawv tso cai rau khawb qhov dej yog tias koj lub qhov dej khawb puas contractor ([Daim ntawv teev cov npe muaj Daim ntawm tso cai/Cov npe cuv cia txog cov neeg khawb thiab tshau qhov dej](http://www.health.state.mn.us/communities/environment/water/wells/lwc/index.html)) (www.health.state.mn.us/communities/environment/water/wells/lwc/index.html) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb)

Cov qhov dej khawb es muaj cov tshuaj ntsev Nitrate nkag tau rau

- Cov qhov dej khawb ntiav ntiav
- Cov qhov dej khawb es muaj dej xuab zeb
- Khawb qhov dej es muaj tus kav dej es dej nkag mus tau.

- Lub qhov dej khawb es puas los yog tus kav dej xau dej los yog xau dej ntawm qhov cov kav dej sib dhos.

Yuav ua li cas daws qhov teeb meem dej tsuas tsis huv no

Haus cov dej es muaj cov ntsev nitrate siab tshaj 10 mg/L yuav ua rau muaj mob sai sai. Yog tias nrhiav pom tias muaj ntsev nitrate nyob hauv koj cov dej es siab tshaj 10 mg/L, ua raws nraim li cov kauj ruam nov:

- Nrhiav cov dej haus los ntawm ib qho chaw kom puaj phais, xws li yuav cov kaus poom dej.
- kom zoo tsis txhob pub cov menyuam hnuv nyoog qis tshaj rau lub hlis haus cov dej qhov lub qhov dej khawb.
- Tsis txhob sim rhaub cov dej kom cov ntsev nitrate tawm ntawm cov dej los. Rhaub dej yuav ua rau cov ntsev nitrate haj yam muaj ntau.
- Nrhiav ib tug neeg muaj daim ntawv tsocai khawb qhov dej tuaj kuaj koj lub qhov dej khawm.
- Nrhiav thiab tshem tawm tej yam es ua rau muaj cov ntsev nitrate tsuas tsis huv rau cov dej. Saib rau [Tiv Thaiv Koj Lub Qhov Dej Khawb](http://www.health.state.mn.us/communities/environment/water/wells/construction/protect.html) (www.health.state.mn.us/communities/environment/water/wells/construction/protect.html) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb) lub vas sab kom pab qhia rau koj txog tej yam es koj mus kuaj.

Cov cuab yeej tua cov kab mob ntawm cov dej siv hauv lub tsev kuj yog ib qho kev xaiv thiab. Txawm muaj lub cuab yeej tua cov kab mob ntawm cov dej siv hauv lub tsev, MDH hais tias xav kom tsis txhobg pub cov menyuam hnuv nyoog qis tshaj rau lub hlis haus cov dej (ib qho kev ceev faj tiv thaiv tsam ces lub cuab yeej ho tsis ua hauj lwm). Ua ntej yuav tua cov dej kom txhob muaj cov ntsev nitrate, MDH hais tias xav kom koj tshem tawm tej yam es ntxim li yog cov ua rau muaj cov ntsev nitrate nyob ze ntawm koj lub tsev thiab kom muaj neeg tuaj kuaj thiab kho koj lub qhov dej.

Saib hauv [Tua Kab Mob ntawm cov Dej Hauv Tsev](http://www.health.state.mn.us/communities/environment/water/factsheet/hometreatment.html)

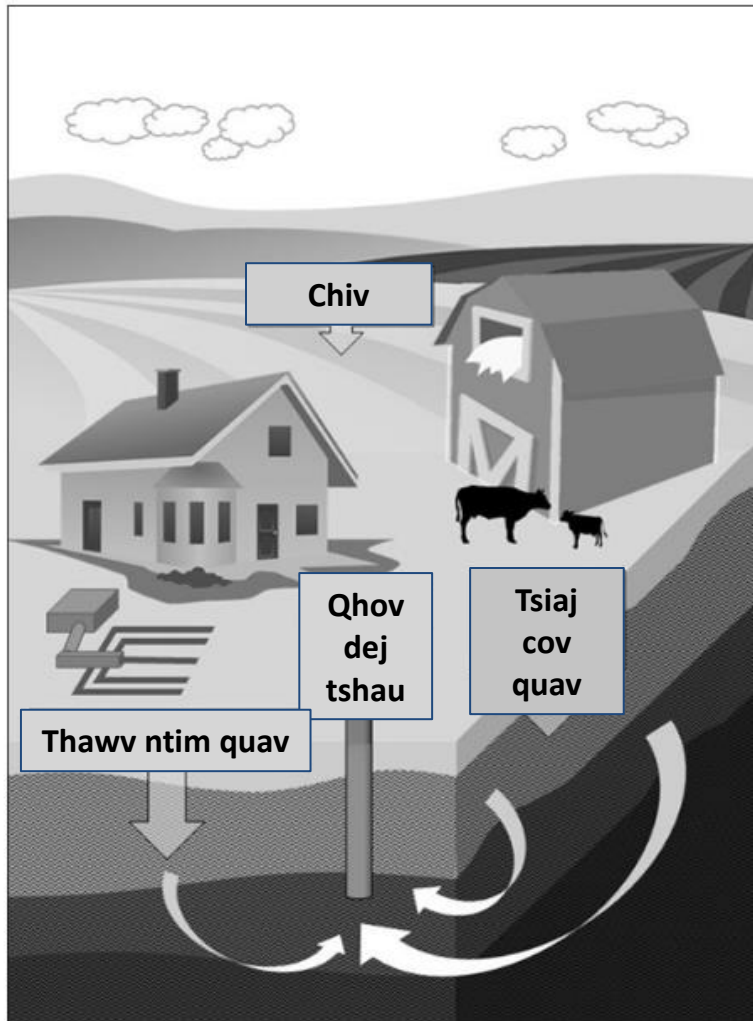
(www.health.state.mn.us/communities/environment/water/factsheet/hometreatment.html) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb) lub vas sab los yog tiv tauj MDH kom tau cov kev cob qhia.

Cov tshuaj ntsev Nitrate nkag rau mus rau cov dej hauv av li cas

Cov tshuaj ntsev Nitrate tshwm sim yam thas mab xaj thiab muaj nyob rau tej zaub noj tabsis tsis muaj siab es puaj phais rau lub cev (zaub xws li spinach thiab zaub ntug hauv paus) thiab tshwm sim los ntawm tej zaub es lwj. Cov tshuaj ntsev Nitrate mas muaj nyob rau ntau hom chiv es siv rau nram qab vag tsib taug, lub ntiaj ntaus golf, thiab cov qoob loo. Lwm yam tshuaj ntsev Nitrate kuj muaj los ntawm cov qhov thaus dej thiab tsiaj cov quav.

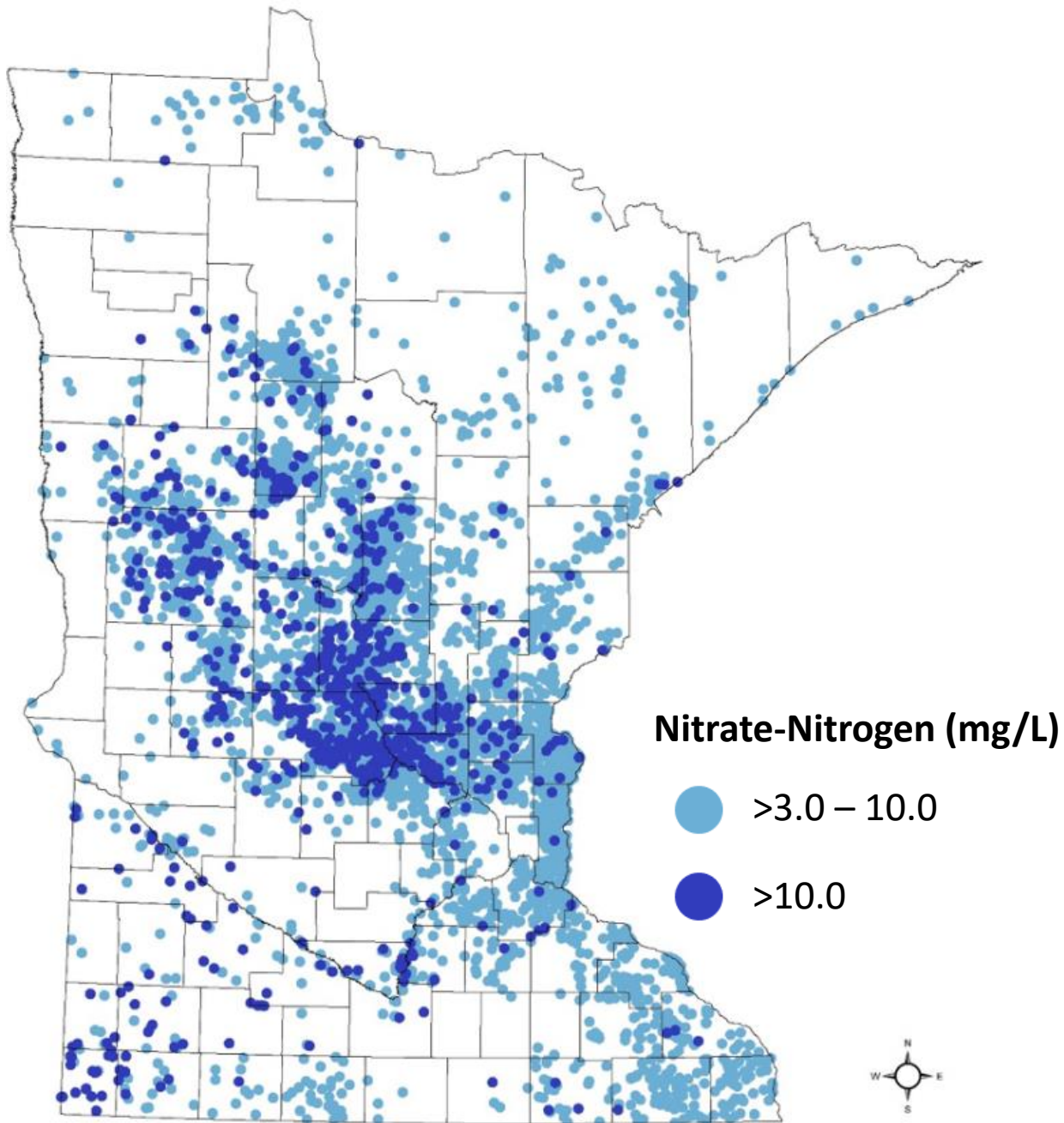
Cov tshuaj ntsev Nitrate ntawm thas mab xaj hauv lub xeev Minnesota muaj nyob rau cov dej hauv av mas feem ntau yeej muaj qis qis xwb (qis tshaj li 3 milligrams per liter [mg/L]). Txawm li ntawd los, tej yam es ua rau muaj cov tshuaj ntsev Nitrate xws li cov chiv, tsiaj cov quav, los yog tib neeg cov quav yang mus rau cov qhov thaus mas muaj nyob ze rau npoo av, cov tshuaj ntsev Nitrate xau mus rau hauv cov dej thiab tsuas cov dej. Qhov es muaj Cov tshuaj ntsev Nitrate siab hauv cov dej kuj yog los ntawm siv cov chiv es xau mus rau hauv av, muab cov dej tsis huv

pov tseg, chaw pov kib nyiab, qhov chaw tsiaj ncig uasi noj zaub, lub thawv ntim quav, los yog cov qhov thaus nyob hauv nroog. Nws yog ib qho nyuaj kom paub tseeb tias cov dej muaj Cov tshuaj ntsev Nitrate los qhov twg los vim yog muaj ntau txoj hauv kev tshwm sim tau.



Cov tshuaj ntsev Nitrate hauv Minnesota cov dej

Muaj li ntawm 4 paws xees ntawm cov qhov dej tshau muaj cov tshuaj ntsev nitrate siab li 3 mg/L hauv lub xeev Minnesota. Thaum es 3 mg/L muaj tsawg tshaj li cov qauv ntawm EPA, nws qhia tau tias tej yam es tib neeg tsim ua rau muaj tshuaj ntsev nitrate los mus tsuas rau cov dej thiab muaj siab ntiv tuaj thaum lub sij hawm dhau mus zuj zus.



Feem ntau ntawm qhov es muaj siab tshaj 3 mg/L nyob rau central thiab southeastern Minnesota. Cov chaw mus es muaj siab tshaj 10 mg/L ces yog cov chaw nyob hauv central thiab southwestern Minnesota.

Lub tuam tsev saib xyuas kev kuaj dej Minnesota Department of Agriculture Township Testing Program pom tau tias muaj ntau li 10 paws xees ntawm cov qhov dej ntawm ntiag tug tau kuaj hauv tej lub zos hauv southwestern, southeastern, central, thiab north-central Minnesota muaj cov ntsev nitrate siab tshaj 10 mg/L. Kawm kom paub ntau dua txog [Kev Kuaj Dej Ntawm Cov Zos](http://www.mda.state.mn.us/township-testing-program) (www.mda.state.mn.us/township-testing-program) (tsuas muaj rau hom lus Askiv lub sij hawm no xwb)

Kuv puas yauv tsum tau kuaj kuv cov dej hauv qhov dej khawb seb puas muaj lwm yam khes mis es tsis yog cov tshuaj ntsev Nitrate?

Yuav tsum tau kuaj. Qhov es yeej cia li muaj cov khes mis los ntawm thas mab xaj thiab tej yam es tiv neeg ua yeej tsuas tau rau cov dej hauv qhov dej khawb thiab ua rau muaj kev mob nkeeg rau lub cev sai sai thiab ntev ntev lawm yav tom ntej. Kuaj cov dej hauv koj lub qhov dej yog tib txoj kev es nrhiav tau seb yam tshuaj khes mis twg es tsuas rau cov dej hauv av heev tshaj plaws hauv lub xeev Minnesota; koj yeej saj tsis tau, tsis pom, los yog hnia tsis muaj tus ntxhiab rau feem ntau ntawm cov khes mis es tsuas rau cov dej. Lub tuam tsev saib kev noj qab haus huv hu ua Minnesota Department of Health tau hais tias xav kom kuaj seb puas muaj:

- **Cov kab mob Coliform txhua txhua xyoo** thiab lub sij hawm twg cov dej hloov es tsw txawv, los yog xim txawv. Cov kab mob coliform yeej qhia tau tias cov kab mob me me hu ua microorganisms tej zaum yeej muaj nyob rau hauv koj cov dej. Saib ntawm [Kev Puaj Phais Txog Civ Kab Mob hauv cov qhov Dej Khawb](http://www.health.state.mn.us/communities/environment/water/wells/waterquality/bacteriahmong.pdf) (www.health.state.mn.us/communities/environment/water/wells/waterquality/bacteriahmong.pdf).
- **Khes mis Arsenic tsawg kawg mas kuaj ib zaug.** Ntau li 40 paws xees ntawm cov qhov dej tshau hauv lub xeev Minnesota mus cov khes mis arsenic nyob hauv cov dej. Haus cov dej muaj khes mis arsenic rau hauv ntev ntev mus yuav ua rau txo qhov kev ntse rau cov menyuam yaus thiab muaj kev pom sij ntxiv rau kab mob khees xaws, ntsav qab zig, kab mob siab, thiab muaj teeb meem rau daim tawv nqaij rau cov neeg laus. [Saib Khes mis Arsenic nyob hauv cov dej hauv Qhov Dej Khawb](http://www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/arsenichmong.pdf) (www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/arsenichmong.pdf).
- **Kua txhuas Lead tsawg kawg kuaj ib zaug.** Lub qhov dej khawb thiab cov chaw tso dej tuaj tej zaum muaj tej co khoom siv es muaj hmoov txhuas nyob rau hauv lawv, thiab cov hmoov txhuas nov yeej nkag tau mus rau hauv cov dej haus. Cov hmoov txhuas yeej ua tau rau puas hlwb, raum tuag, thiab puas tsuaj rau qhov es tswj kom tus kheej txhob qaij doj qaij de. Hmoov txhuas kuj ua tau rau qhov kev loj hlob qeeb los yog ua rau kawm tsis tau ntawv zoo, tus cwj pwm tsis zoo, thiab teeb meem txog kev hnov lus. [Saib cov Hmoov Txhuas hauv Cov Kav Dej](http://www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/leadhmong.pdf) (www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/leadhmong.pdf).
- **Cov hmoov tooj Manganese ua ntej ib tus menyuam mos ab haus cov dej.** yog muaj cov khes mis manganese siab yuav tsim teeb meem rau kev cim xeeb, nyob tsis tswm, thiab tswj tsis tau kom tus kheej sawv tus yees. Nws kuj yuav ua tau rau cov menyuam mos ab thiab cov menyuam yaus muaj teeb meem txog kev kawm ntawv thiab teem meem txog tus cwj pwm. Saib hauv cov hmoov tooj [Manganese hauv cov Dej Haus](http://www.health.state.mn.us/communities/environment/water/contaminants/manganese.html) (www.health.state.mn.us/communities/environment/water/contaminants/manganese.html). (Tsuas muaj rau hom lus Askiv lub sij hawm no xwb).

Lwm yam es tsuas tej thaum tshwm sim nyob rau cov dej es muaj tswv, tabsis kuj tshwm sim tsawb tshaj li cov es tsuas tau teev sab saud. Xav txog qhov es kuaj rau:

- **Cov khes mis volatile organic chemicals** Yog tias koj lub qhov dej khawm nyob ze cov thawm ntim roj los yog ze qhov chaw ua lag luam loj los yog ua hauj lwm txua hlau.
- **Cov chaw es siv tshuaj khes mis tua rau liaj teb** Yog tias koj lub qhov dej khawb ntiav ntiav thiab nyob ze cov teb cog qoob loo los yog qhov chaw siv cov tshuaj khes mis tua qoob loo los yog nyob ze ib cheeb tsam ntawm qhov chaw es muaj pob zeb tawg yooj yim. (xws li cov pob zeb limestone hauv av)
- **Tshuaj Fluoride** yog tias cov menyuum los yog cov tub ntxhais hluas haus cov dej.

Yuav kom tau cov ntaub ntawv no rau lwm hom format hu rau 651-201-4600.
Publications\ Nitrate in Well Water 06/15/2023 – Hmong