

Nitrate-ka ku jira Biyaha la Cabo

Nitrate waa macdan si dabiici ah u sameysanta oo sidoo kalena leh ilo faraban oo kale oo ay ka abuurantto oo uu bini'aadamku sameeyo. Nitrate waxay ku jirtaa qaarkood harooyinka, webiyada, iyo biyaha dhulka hoose ee Minnesota. Ma dhadhamin kartid, ma urin kartid, mana arki kartid nitrate-ka biyaha ku jirta. Qaadashada/isticmaalka badan ee Nitrate-ka waxyeelo ayuu keeni karaa — gaar ahaan dhallaanka.

Saamaynta Caafimaadka

Qaadashada/cunida nitrate-ka badan wuxuu saameyn karaa sida dhiiggu u qaado ogsijiinta wuxuuna keena cudurka methemoglobinemia (sidoo kale loo yaqaan cudurka blue baby syndrome [Ilamaha buluuga ka dhiga]). Ilmaha caanaha la qasho dhalada lagu siiyo ee ka yar lix bilood ayaa halista ugu badan ugu jira inay qaaditaanka cudurka methemoglobinemia. Jirradani waxay sababi kartaa in maqaarku midab buluug sababna u noqda keenida jiro halis ah ama dhimasho. Calaamadaha kale ee la xiriira methemoglobinemia waxaa ka mid ah cadaadiska dhiigga oo yaraada, garaaca wadnaha oo kordha, madax xanuun, calool xanuun, iyo matag.¹ Xaaladahan soo socdaa waxay sidoo kale dadka gelin karaan khatar sare oo ah inay ku dhacaan methemoglobinemia ay u keenyah maadada nitrate-ku: dhiig-yaraan, cudurrada wadnaha iyo xididdada dhiigga, sepsis, gulukoos-6-phosphate-dehydrogenase oo yaraanta, iyo dhibaatooyinka kale ee dheefshiidka la xiriira.²

Dhawaan, waxaa soo baxday caddayn saynis ah oo qiimeyn ku sameysay saameynta caafimaad ee biyaha la cabbo ee leh nitrate sare ee dadka waaweyn. Xogta badan daraasadaha lagu helay waxay tilmaamtay xiriirka ka dhexeeya nitrate/nitrite qaadashada iyo saameynaha kale ee caafimaadka sida garaaca wadnaha oo kordha, lallabbo, madax-xanuun, iyo calool xanuun. Daraasadaha qaar ayaa sidoo kale soo jeedinaya khatarta sii kordheysa ee kansarka, gaar ahaan kansarka caloosha, oo la xiriira soo gaarista nitrate-ka cuntada, laakiin weli ma jiro isku raac cilmi ku saleysan oo ku saabsan su'aashan.

¹ Agency for Toxic Substances and Disease Registry (ATSDR). 2015. [ToxFAQs™ for Nitrate and Nitrite](http://www.atsdr.cdc.gov/toxfaq/faq/tf.asp?id=1186&tid=258) ([http://www.atsdr.cdc.gov/toxfaq/tf.asp?id=1186&tid=258](http://www.atsdr.cdc.gov/toxfaq/faq/tf.asp?id=1186&tid=258)). La galay Oktoobar 2016.

Sida loo Ilaaliyo Naftaada iyo Qoyskaaga

Heerka nitrate-ka ee biyaha la cabbo ee Wakaaladda Ilaalinta Deegaanka ee Maraykanka (The U.S. Environmental Protection Agency [EPA]) waa 10 miligram oo nitrate ah (oo lagu qiyaasay sida nitrogen) halkii liitar ee biyaha la cabbo (mg/L)* taas ayaa loo tixgaliyay in ay ammaan qof walba u tahay.

*1 milligram litirkiiba (mg/L) waxay la mid tahay 1 qayb halkii milyanba

Haddii aad leedahay ceel gaar ah

Noocyada soo socda ee ceelasha ayaa ah kuwa ugu nugul wasakhawga Nitrate-ka, gaar ahaan haddii ay u dhow yihiin taangiyada septic-ga ama meelaha ay ka jiraan howlaha beero falashada:

- Ceelal gacmeed.
- Ceelasha meelaha biyo-mareennada ciidda ah.
- Waxaa la qoday oo tuubada biyaha soo qaada aan si fiican loo dhuujing.
- Ceelasha ay tuubada bihayaha soo qaada ama biyo ka diiqayaan ama daboolkoodu waxyeeloobeen.

Kahortagga Faddaraynta

- **Kadhis Ceelkaaga meel ammaan ah.** Ka eeg bogga *Ilaalinta Ceelkaaga (Protecting Your Well)* wixii hagiis ah.
- **Ka fogee ilaha Nitrate-ka ceelkaaga.** Ilaha waxaa ka mid noqon kara waxyaalaha bacriminta, nidaamka suuliga septic, iyo qashinka/digada xoolaha. Ka eeg *Ilaalinta Ceelkaaga (Protecting Your Well)* wixii talooyin ah.

ATSDR 2013. [ATSDR Case Studies in Environmental Medicine Nitrate/Nitrite Toxicity](http://www.atsdr.cdc.gov/csem/nitrate_nitrite_toxicity) (http://www.atsdr.cdc.gov/csem/nitrate_nitrite_toxicity). Bogga 37. La galay Oktoobar 2016.

- **Si joogto ah uga hubi ceelkaaga burburka** (eeg *Ilaalinta Ceelkaaga [Protecting Your Well]*). La xiriir qandaraaslaha ceelasha shatiga leh haddii aad aragto wax dhaawac ah (eeg Tusaha Liiska Qandaraasleyaasha Shatiga leh ee Ceelasha qoda [*Licensed Well and Boring Contractor Directory*]).
- **Baar nitrate sanad walba.** Adiga ayaa mas'uul ka ah inaad si joogto ah u baarto biyaha ceelkaaga. Waaxda Caafimaadka ee Minnesota (Minnesota Department of Health [MDH]) waxay ku talinaysaa in la isticmaalo shaybaarada la aqoonsan yahay si loo baaro biyaha ceelkaaga (eeg *Search for Accredited Labs* [Raadinta Shaybaarada La aqoonsan yahay]). La xiriir shaybaarka si aad u hesho weel lagu qaado saamiga la baarayo iyo tilmaamo ama weydii degmadaada adeegyada deegaanka ama caafimaadka dadweynaha haddii ay bixiyaan adeegyada baarista biyaha ceelasha.

Ka hadal Fadaraynta

Haddii Nitrate laga helo biyaha ceelkaaga, waxaa laga yaabaa inay sidoo kale wasakh/fadaro kale ay ku jiraan biyaha. Haddii Nitrate-ka laga helo biyahaaga gaarsiisan ayahy heerar ka sarreeya 10 mg/L, raac tillaabooyinkan:

- **Ka hel biyahaaga la cabbo meel nabdoon,** sida biyaha sifeysan ee caagagga/dhalada ku jira. Tani waxay si gaar ah muhiim u tahay haddii carruurta lix bilood ka yar ay cabbaan biyaha ama caanaha lagu sameeyay biyaha. Biyaha la kariyey ma aha beddel badbaado leh; biyaha karkaraya waxay ka dhigi doonaan nitrate-ka mid badan.
- **Keenso qandaraasle shati haysta oo soo kormeera ceelkaaga.**
- **Raadi kana saar ilaha suurtagalka ah ee fadareynta Nitrate-ka** ee gurigaaga (eeg boga interneta *Ilaalinta Ceelkaaga [Protecting Your Well]* ilaha aad hubineysid).
- **Sifeynta biyaha gurigu waxay noqon kartaa ikhtiyaar** haddii aad qaaday tillaabooyin aad ku yareynayso ama aad ku baabi'inayso dhammaan ilaha suurtagalka ah ee Nitrate-ka, qandaraasle ceelasha oo shati ah ayaa baaritaan ku sameeyay ceelkaaga oo go'aamiyay inuu si sax ah u shaqeynayo, mana jiraan ilmo lix bilood ka yar oo biyaha caba.

Haddii aad isticmaasho nidaamka biyaha dadweynaha ee bulshada

Nidaamkaaga biyaha dadwaynaha ayaa si joogto ah u baaraya nitrate-ka oo hubiya in heerarku ay

buuxinayaan heerka ay dejisay EPA. Waxaad ka heli kartaa heerka nitrate-ka laga helay nidaamka u adeegaya degaanka aad ku nooshahay adiga oo akhriya warbixinta tayada biyaha ee nidaamka (sidoo kale loo yaqaan Warbixinta Kalsoonida Macmiilka [Consumer Confidence Report (CCR)]). Wac nidaamka biyaha si aad u hesho nuqul ah warqaddaada CCR ama ka raadso onlayn (eeg Warbixinta Kalsoonida Macmiilka [Consumer Confidence Report (CCR)]). Haddii aad rabto inaad ogaato heerka nitrate-ka biyaha ee meel gurigaaga aan ahayn, la xiriir nidaamka biyaha ee u adeegaya goobtaas.

Xogta Dhabta ah

Nitrate-ku si dabiici ah ayuu cuntooyinka qaarkood ugu sameysmaa isaga oo ah heerar badbaado iyo caafimaad leh (tusaale, isbinaajka iyo karootada/dabacasaha) waxayna ka timaaddaa hababka dabiiciga ah, sida dhirta quranta. Nitrate-ku waxa uu ku jiraa bacrimin badan oo loo isticmaalo deyrarka, koorsooyinka golf-ka, iyo dalagyada. Ilaha kale ee Nitrate-ka waxaa ka mid ah dheecaanka ka imaanaya habka bulaacadaha iyo qashinka/digada xoolaha.

Nidaamyada dabiiciga ah waxay sababi karaan heerarka hoose ee nitrate-ka ee biyaha la cabbo — badanaa wax ka yar 3 mg/L. Walaaca caafimaadku waa heerarka nitrate-ka ee ka sarreeya 10 mg/L. Heerarka sare ee Nitrate-ka ee biyuhu waxay noqon karaan qulqulka ama diiqitaanka biyaha ciidda bacriinsan, biyaha wasakhda ah, meelaha qashinka lagu shubo, meelaha xoolaha lagu quudiyo, hababka septic-ga, ama qulqulka biyaha magaalada.

Nitrate-ka ku dhex jirta Biyaha Minnesota

Nitrate-ka ayaa laga helay biyaha dhulka hoostiisa ah iyo biyaha sare ee meelo badan oo Minnesota ah. Icticmaalka dhulka iyo hydrogeology-ga waxay saameeyaan heerarka Nitrate-ka ee biyaha.

Qiyaastii boqolkiiba 4 ceelasha gaarka loo leeyahay ee laga dhisay Minnesota ilaa 1991 waxay leeyihiin heerar nitrate ah oo ka sarreeya 3 mg/L. Inkasta oo 3 mg/L ay ka yar tahay heerka EPA, waxay soo jeedinaysaa in ilaha nitrate-ka ee bani'aadamku sameeyay ay wasakheeyeen biyaha, heerkuna wuu kordhin karaa wakhti ka dib. Minnesota Department

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of Agriculture Township Testing Program (Waaxda Beeraha ee Minnesota Barnaamijka Baaritaanka Magaalada) waxay ogaatay in in ka badan boqolkiiba 10 ee ceelasha gaarka loo leeyahay ee cilmi baarista loo isticmaalay ee qaar ka mid ah magaalooyinka koonfur-galbeed, koonfur-bari, dhexe, iyo waqooyi-bartamaha Minnesota ay leeyihiin heerar Nitrate ah oo ka sarreeya 10 mg/L.

Hay'adda Xakamaynta Wasakhowga Minnesota (Minnesota Pollution Control Agency) waxay ogaatay in 27 boqolkiiba shaybaarrada biyaha oogada sare ay leeyihiin heerar nitrate ah oo ka sarreeya 10 mg/L. Koonfurta Minnesota waxay lahayd heerarka ugu sarreeya ee Nitrate-ka ee biyaha oogada (eeg *Report on Nitrogen in Surface Water [Warbixinta Nitrojiinka ee Biyaha Dushiisa]*).

20-kii sano ee la soo dhaafay, dhowr hab oo biyaha dadweynaha Minnesota ah ayaa ogaaday heerarka nitrate-ka oo ka sarreeya 10 mg/L ee biyaha la sifiiyay; waxay ka shaqeeyeen sidii ay wax uga qaban lahaayeen. Ka eeg *Nitrate nidaamka biyaha jaaliyadda (Nitrate in community water systems): xaqiiqooyinka iyo tirooyinka iyo Warbixinta Sannadlaha ee Ilaalinta Biyaha La-cabbida ee MDH (facts and figures and MDH Drinking Water Protection Annual Reports)* wixii macluumaad dheeraad ah.

Ilaha

- [Consumer Confidence Reports \(Warbixinnada Kalsoonida Macaamilka\)](http://www.health.state.mn.us/ccr)
(www.health.state.mn.us/ccr)
- [Drinking Water Protection Annual Reports \(Warbixinta Sannadlaha ah ee Ilaalinta Biyaha Cabbitaanka\)](http://www.health.state.mn.us/communities/environment/water/dwar)
(www.health.state.mn.us/communities/environment/water/dwar)
- [Home Water Treatment \(Daaweynta Biyaha Guriga\)](http://www.health.state.mn.us/communities/environment/water/factsheet/hometreatment)
(www.health.state.mn.us/communities/environment/water/factsheet/hometreatment)
- [Hagaha Qandaraaslaha Ceelasha ee shatiga leh \(Licensed Well and Boring Contractor Directory\)](http://www.health.state.mn.us/lwcsearch)
(www.health.state.mn.us/lwcsearch)
- [Nitrate-ka ku jira nidaamka biyaha Jaalidda](https://data.web.health.state.mn.us/nitrate-messaging)
(https://data.web.health.state.mn.us/nitrate-messaging)
- [Nitrate-ka Kujira Biyaha Ceelasha \(Nitrate in Well Water \[PDF\]\)](#)

(www.health.state.mn.us/communities/environment/water/docs/wells/waterquality/nitrate.pdf)

- [Ilaalinta Ceelkaaga \(Protecting Your Well\)](http://www.health.state.mn.us/communities/environment/water/wells/construction/protect)
(www.health.state.mn.us/communities/environment/water/wells/construction/protect)
- [Warbixin ku saabsan Nitrojiinka ku jira Biyaha Dushiisa](http://www.pca.state.mn.us/featured/report-nitrogen-surface-water)
(www.pca.state.mn.us/featured/report-nitrogen-surface-water)
- [Nidaamyada Daaweynta Bullaacadaha Dhulka Hoostiisa](http://www.pca.state.mn.us/water/subsurface-sewage-treatment-systems)
(www.pca.state.mn.us/water/subsurface-sewage-treatment-systems)
- [Barnaamijka Imtixaanka Magaalada \(Township Testing Program\)](http://www.mda.state.mn.us/townshiptesting)
(www.mda.state.mn.us/townshiptesting)

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