

| Lead Author | Location | Crop(s) / Evaluation | Product | Positive | Neutral/ Negative | Yr/Journal |
|--------------|-----------|---------------------------------------|-------------------------------------|------------|-------------------|------------|
| McGrath | Maryland | Corn | Avail | | X | 12/CM |
| Dudenhoeffer | Missouri | Corn | Avail | | X | 12/JAS |
| Dudenhoeffer | Missouri | Corn | Avail | | X | 13/JAS |
| Dunn | Missouri | Rice | Avail | X | | 08 / CM |
| Guertal | Auburn | GH / ryegrass | Avail | X | | 12 / BFS |
| Karamanos | Canada | Wheat | Avail | | X | 10 / CJSS |
| Cahill | N. Carol | Corn | Avail | | X | 13/CM |
| Wiatrak | S. Carol | Soybean | Avail | | X | 13/AJABS |
| Wiatrak | S. Carol | Wheat | Avail | | X | 13/AJABS |
| Degreyse | Australia | Pot- P Availability No yield | Avail PMax Tiron glutamate | | X X X X | 13/SSSAJ |
| Hopkins | Utah | Potato | Avail | X | X | 13/JPN |
| Stark | | Potato | Avail | | | 14/JPN |
| Summerhays | | Corn Hydroponic | Avial Carbond P | | X | 14/JPN |
| Summerhays | | Corn | Carbond P | X | X | 14/JPN |
| Hopkins | | Potato,corn, alfalfa, sugerbeet | Carbond P | X | | 14/JPN |
| Hill | | Greenhouse Corn and bean | Carbond P | X | | 14/JPN |
| Hill | | Pots (P solubility) | Carbond P | X | | 14/JPN |
| Chien | Alabama | Lit Review | Avial Nutrisphere | | X X | 14/AJ |
| Franzen | ND/AR/MS | Rice/Wheat/Lab | Nutrisphere | | X | 11/ JPN |
| Cahill | N. Carol | Corn/Wheat | Nutrisphere/ESN | | X | 10/ AJ |
| Connell | Georgia | Bermudagrass | NBPT Nutrisphere ESN | X X | X X | 11/ CS |
| Farmaha | Minnesota | R. Spring Wheat | ESN | X(Protein) | X(Yield) | 13/AJ |
| Henning | Illinois | Irrigated Turf | Nutrisphere/Uflexx | | X | 13/ BFS |

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|-------------|-------------|--------------------------|--------------------------------|----------|----------------------|------------|
| Norton | Wyoming | Sugarbeet | Nutrisphere/ESN | | X | 11/ CM |
| Goos | N. Dakota | Laboratory (Urease Act.) | Agrotain Nutrisphere | X | X | 13/ SSSAJ |
| Goos | N. Dakota | Laboratory (NH3 Vol) | Agrotain Nutrisphere ATS | X X | X | 13 / CSSPA |
| Heiniger | N Carolina | Corn | Nutrisphere | X | | 14/AJABS |
| Linguist | UC-Davis | Meta-beta Review | NBPT Neem PPD DCD | X X | X X | 13/FCR |
| Wiatrak | S Carolina | Corn | Nutrisphere | X | | 14/AJABS |
| Wiatrak | S Carolina | Soil Nitrate | Nutrisphere | X | | 14/AJABS |
| Wiatrak | S Caroline | Corn (Timing) | Nutrisphere | X fall | X Spring | 14/AJABS |
| Slaton | Arkansas | Wheat | Agrotain | X | X | 11 / CM |
| Edwards | Oklahoma | Wheat | Agrotain | X | | 09 / CM |
| Massey | Arkansas | Bermudagrass | Agrotain | X | | 11 / SSSAJ |
| Engel | Montana | Soil | Agrotain | X | | 11 / SSSAJ |
| Halvorson | Colorado | Irrigated Sys. | ESN/SuperU | X | | 10 / SSSAJ |
| Norman | Arkansas | Rice | Agrotain | X | | 09 / SSSAJ |
| Frame | Virginia | Soil | Agrotain | X | | 12 / AJ |
| Dillon | La Ms | Rice | Agrotain/DCD* | X | | 12 / AJ |
| Jantalia | Colorado | Chambers | ESN SuperU | X | X | 12 / AJ |
| Grant | Canada | Canola | Agrotain | X | | 10 / AJ |
| McKenzie | Canada | Wheat | ESN/Agrotain | | X | 10 / AJ |
| Dawar | New Zealand | GH/ Ryegrass | Agrotain | X | | 12 / SSPN |
| Malhi | Canada | Durum/Canola | Agrotain | X | | 11 / CSSPA |
| Scharf | Missouri | No-till Corn | Agrotain | X | X | 05/AJ |
| Blackshaw | Canada | Canola | ESN | X | X | 11 / AJ |
| Hyatt | Minnesota | Potato | ESN | X | | 10 / SSSAJ |
| Golden | Arkansas | Rice | ESN | | X | 09 / SSSAJ |

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| Asegedom | Canada | N2O emissions And Yield | ESN SuperU | X N2O X N2O | X Yield X Yield | 14/AJ |
| Gordon | Kansas | Corn | ESN Nutrisphere Agrotain | X X X | | 13/JPN |
| Khan | Pakistan | Corn | Agrotain | X | | 14/ES |
| Bradley | UK | Metadata | Agrotain | X | | 14/JAS |
| Halvorson | Colorado | N2O | ESN SuperU Agrotain+ NFusion | Xnotill X X X | Xconvtill | 14/AJ |
| Bernardi | Brazil | Pots-NH3 Vol Ryegrass Yld | Agrotain Zeolite | | X X | 14/CSSPA |
| | | | | | | |
| Li | Canada | Canola | ESN | X | | 12 / STR |
| Sistani | Kentucky | Soil/Litter Chambers Corn yld | ESN Super-U AgrotainPlus | X | X X X | 11 / JEQ |
| Hatfield | Iowa | Corn | Super U UAN+Agrotain+ ESN | X X X | | 14/AJ |
| Watts | Alabama | No-till Cotton* | ESN Super U | | X X | 14/AJ |
| Sistani | Kentucky | No-till Corn* | ESN Super U UAN+Agrotain + Litter +Agro+ | | X X X X | 14/AJ |
| Halvorson | Colorado | notill corn N2O Emissions | ESN/ Duration III SuperU / AgrotainPlus | X X X | | 10 / JEQ |
| Gagnon | Canada | Corn | ESN ENTEC 46 | X | X | 12 / CISS |
| Halvorson | Colorado | Stip Till Corn N2O Emissions | ESN, SuperU, AgrotainPlus, N- Fusion | X | no Yld Dif. | 11 / JEQ |
| Parkin | Iowa | Corn (No Yieldreported) N2O Emissions | Agrotain Plus Super U ESN Nutrisphere | | X X X X | 14/AJ |

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| Grant | Canada | Spring Wheat | Agrotain ATS | XUAN | Xurea X | 14/CJPS |
| Wilson | Minnesota | Potato | ESN | X | | 09 /AJ |
| Nelson | Missouri | Corn NO3leach | ESN | X | | 09 / AJ |
| Nelson | Missouri | Corn No-till Reduced till | ESN | X | X X | 13/JACS |
| Bero | Wisconsin | Potato | ESN | | X | 14/AJ |
| Ziadi | Canada | Potato | ESN | X | | 11 / AJ |
| Hopkins | Idaho | Potato | ESN Avail | X X | | 08/CM |
| Halvorson | Colorado | Corn | ESN SuperU | X | X | AJ/14 |
| Frame | Virginia | Corn | Arborite | X | X | 13/CM |
| Dell | Penn | Corn | ESN SuperU Agrotain+ PiNT | | X X X X | 13/AJ |
| Noellsch | Missouri | Corn | ESN | X | | 09 / AJ |
| Fageria | Brazil | Greenhouse Rice | ESN | | X | 14/AJ |
| Blackshaw | Canada | Canola | ESN | X | X | 11 / AJ |
| Hyatt | Minnesota | Potato | ESN | X | | 10 / SSSAJ |
| Golden | Arkansas | Rice | ESN | | X | 09 / SSSAJ |
| Randall | Minnesota | Corn | Nitrapyrin ^o | X | | 05/AJ |
| Randall | Minnesota | Corn | Nitrapyrin | X | | 03/AJ |
| Buresh | La/Ms | Flooded Rice | DCD | X | | 88/AJ |
| Touchton | Illinois | Corn | Nitrapyrin | X | | 78/AJ |
| Touchton | Illinois | Corn | Nitrapyrin | | X | 79/AJ |
| Bundy | Iowa | Soil | Nitrapyrin DCD | X X | | 73/SSSAJ |
| Swezey | Kansas | Cotton Sweet Corn Sugar Beets | Nitrapyrin | X X X | | 62/AJ |
| Burzaco | Indiana | Corn | Nitrapyrin | X | | 14 AJ |
| Omonode | Indiana | GreenHouse N2O | Instinct | X | | 13/AJ |

Generalized Summaries, please see each paper.

Research results both Positive or Neutral are likely Situational.

Always pay attention to number of positive site years versus neutral.

Multiple Extension Bases Pubs Available, but none were Peer Reviewed.

Some of the Journals require membership to view papers. We are not legally allowed to share pdf of articles protected by memberships.

| Journal Abrev. | Journal Name | Link to Journal |
|-------------------------|---------------------------------------|---|
| AJ | Agronomy J. | https://www.agronomy.org/publications/aj |
| CM | Crop Management | http://www.plantmanagementnetwork.org/cm/ |
| CJSS | Canadian J. Soil Science | http://pubs.aic.ca/journal/cjss |
| JAS | J. Agricultural Sciences | http://ccsenet.org/journal/index.php/jas/ |
| JPN | J. Plant Nutrition | http://www.tandfonline.com/toc/lpla20/current |
| BFS | Biology and Fertility of Soils | http://link.springer.com/journal/374 |
| CS | Crop Science | https://www.crops.org/publications/cs |
| SSSAJ | Soil Science Society America J. | https://www.soils.org/publications/sssaj |
| SSPN | Soil Science and Plant Nutrition | http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1747-0765 |
| CSSPA | Comm. Soil Science & Plant Analysis | http://www.tandfonline.com/toc/lcss20/current |
| NZJAR | New Zealand J. of Ag. Research | http://www.tandfonline.com/toc/tnza20/current |
| STR | Soil and Tillage Research | http://www.journals.elsevier.com/soil-and-tillage-research/ |
| JEQ | J. Environmental Quality | https://www.soils.org/publications/jeq |
| JACS | J. Of Agronomy & Crop Sci. | http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1439-037X |
| AJABS | American J. of Ag and Biological Sci. | http://thescipub.com/journals/ajabs |
| FRC | Field Crops Research | www.elsevier.com/locate/fcr |
| SE | Soil and Environment | http://www.se.org.pk/ |
| CJPS | Canadian J. Plant Science | http://pubs.aic.ca/journal/cjps |
| | | |
| Nitrapyrin [®] | Active ingredient of N-Serve and | instinct |
| NBPT [§] | Active ingredient of Agrotain | |
| DCD [*] | One AI used in Agrotain +, | |