

High Mn causes tiredness, changing moods, forgetfulness and damaged brain behaviour.

Excess Mn causes: Manganism, first identified in 1837 by James Couper, has occurred in those exposed to excess Mn in waters, foods, manganese-containing fungicides and drugs such as methcathinone and Maneb, a fungicide based on manganese used on fruit and vegetables, especially those grown in acid soils that can have up to 30 ppm of Mn, while ours grown in correctly limed and fertilised soils contain almost no Mn.

High Mn causes autism and poor cognitive (thinking) ability, as well as dementia, Alzheimers and Parkinson's disease, so Mn levels should be taken seriously. Mn damage occurs in the central nervous system, brains and lungs, and other parts of the body. It changes attitudes of some people, bullying, fighting, vehicle driving accidents where no cause is obvious, impaired memory, loss of appetite, ataxia (loss of full body control), iron deficiency, copper deficiency, schizophrenia, criminal behaviour, psychiatric illnesses, weakened muscles and tempers. A father could not play with his children. Read Rick in Testimonials Human Health. His doctor told him that his age of 36 was his health problem, when it was excess Mn prescribed by the doctor. After reading Mn in www.grazinginfo.com he threw his Mn medicines away and got better.

Environmental or occupational inhalation of manganese can cause an inflammatory response in the lungs, and can cause cough, acute bronchitis, and decreased lung function.

Additionally, recent studies have shown that children exposed to high levels of manganese through drinking water experience cognitive and behavioral deficits, and high levels of manganese in tap water has been associated with hyperactive behavioral disorders.

Manganese elimination: Manganese is removed from the body mainly in bile (made by the liver). Thus, impaired liver function may lead to decreased manganese excretion.

Symptoms of manganese toxicity generally appear over a period of months, therefore manganese supplementation in USA (where Mn is low to lacking) recommended daily allowance of 2 mg/day is not recommended. In New Zealand, none is needed.

Excessive exposure to manganese may be confirmed by measurement of blood or urine; however, these are NOT a good indicator of brain levels.

If you believe you have symptoms of manganese toxicity and are in USA, contact the Poison Help Line at 1-800-222-1222.

Mn has some items needed in minute amounts, but they are also in magnesium. Surplus absorbed Mn is transported directly to the brain and can result in multiple neurologic problems mentioned above.

When researching Mn, I found an article that claimed "Mn rarely causes side effects when taken orally." I can assure readers that is wrong. Read on. Cows fed palm kernel extract (PKE), which is high in Mn (See Feeds PKE) and high in copper, have become badly stressed, nervous and very unwell. Excess PKE has killed many dairy cows over many years in New Zealand and Australia.

Manganese toxicity can result in a permanent neurological disorder known as manganism with symptoms that include tremors, difficulty walking, and facial muscle spasms. These symptoms are often preceded by other lesser symptoms, including irritability, aggressiveness, and hallucinations.

Feeding Mn to cows made them stressed, which stressed the milking staff, because they

kicked and dinged more. Read Manganese in Minerals in Soils, Plants & Animals.

Mn toxicity has also occurred in people who received high amounts of intravenous nutrition (containing a little Mn - an USA design) administered for long periods.

Many wrote, "In addition, some experts believe that medications for schizophrenia and other forms of psychosis may suffer from the side effects from Mn supplements.

A diet with optimum (not excess) Mn may help prevent arthritis, osteoporosis and diabetes. Taking one 'Optimum Pure Boron' with all meals, can do the same.

Superphosphate fertiliser is usually high in Mn because it is made from the cheapest polluted phosphate costing only \$60/tonne, while the good ones cost up to \$450/tonne. The sulphuric acid used to make cheap phosphate available in Superphosphate fertiliser, also makes the heavy metals of mercury, cadmium and Mn higher and excessive, which plants then absorb an excess of from wet, acid soils, partly caused by Superphosphate, and insufficient calcium. Don't use it in any form in your gardens. Gafsa reactive phosphate has the lowest Mn level of those available in NZ.

The following are high in Mn so should be avoided in NZ. Mussels cooked, hazelnuts, pumpkin seeds, kale, spinach, and Black English (common) tea (without milk). Calcium (in milk) and zinc, help suppress excess manganese. Lots of waters in NZ are high in Mn.

Most of USA is very low in Mn. According to the University of Maryland Medical Center, up to 37 percent of Americans can fail to consume enough Mn regularly. Fava beans are an excellent source of Mn, providing 1.6 micrograms in every cooked cup which is nearly enough of the RDA for women and 70 percent of the requirement for men. Manganese supports the function of the nervous, immune and is required for the working of powerful antioxidants. A diet with the optimum 2 ppm, not an excess Mn may help prevent arthritis, osteoporosis and diabetes. A 'Pure Boron' capsule with each meal does the same. It may also help decrease the severity of premenstrual syndrome.

Brain

Alcoholism, schizophrenia, Wilson's disease, and Pick's disease, are brain disorders related to low zinc and high Mn levels. A little (1 to 2 ppm) of Mn is needed in the building and breakdown cycles of protein and nucleic acid.

High levels of Mn in the brain, are associated with dementia disorders, poor cognitive ability (thinking) in school children and Parkinson's disease in older people. These problems are also affected by some pesticides and herbicides, especially organo-phosphate ones, like Malathion.

Owing to the fact that zinc is well absorbed from the gut but Mn is poorly absorbed, all diagnostic categories may be harmed by large prolonged oral doses of zinc without any Mn. This is seldom a problem in New Zealand because our standard vegetables are high in Mn. Soils correctly limed to the optimum 0.9% calcium level in ryegrass, and organically grown ones, usually have lower Mn and optimum other levels.

Mn is also required by the body for proper enzyme functioning, nutrient absorption, wound healing, and bone development. Health benefits of Mn include strengthening weak bones, antioxidant protection, alleviating pre menstrual syndrome (PMS), anemia, arthritis, alopecia (spot baldness), and the prevention of epileptic seizures. I have written in newsletters about the problems of taking excess Mn in USA where it is often prescribed. USA Doctors and consultants in NZ have caused severe problems. before September 2015, the recommended Mn

level in foods was 1 to 3 ppm, now it is 1 to 2 ppm for normal health, brain and nerve function.

Manganese

- Optimum amounts (1 to 2 ppm) help control the glucose level.
- Aids in the calcification (hardening) of teeth.
- Works with magnesium to prevent muscle cramps.
- Helps prevent tingling and numbness in the limbs.
- Works with zinc in the prevention of birth defects.
- The action of Mn is blocked by mercury.
- It also plays a role in fat and carbohydrate metabolism, calcium absorption, and in blood sugar control.
- Low zinc and low Mn are frequently found in people with high copper levels.

Excesses

Mn toxicity is a health hazard for people who inhale manganese dust, such as from working in manganese mines and smelters and when welding, or eat or drink high Mn items.

Manganese overdose can cause impotency and nervous system disorders leading to “manganese madness”, characterized by irritability, hallucinations, and violent acts (in NZ now!?) Excessive levels of manganese tend to deplete copper and iron, both of which are needed.

Manganese toxicity can occur in people with chronic liver disease, as the liver is the means by which the body excretes excess manganese.

Excess Mn causes more stress in New Zealand dairy cows and dairy staff than anything I know of, so is a factor in humans abusing milking cows, calves and other animals. In New Zealand it is high in a lot of wet acid soils, waters, fruits and vegetables, even some approved organic ones, especially if calcium in soils is lacking. Applying sufficient agricultural lime and deficient elements (in LimePlus) based on analysing ryegrass to see and correct the levels, reduces the excess Mn that is in many NZ soils, especially wet acid ones like peats, and in some bore waters, fruits and vegetables, even some approved organic milks, because most NZ soils are acid and have an excess of heavy metals including Mn, unless the soil is limed adequately, which decreases after applying sufficient LimePlus, to get the ryegrass stem and leaf, calcium level, correct at 0.9% Ca.

Mn is very high (up to 50 ppm) in some New Zealand soils, vegetables and in many waters, so taking more of it poisons us and causes the problems mentioned. Doctors and consultants in NZ who recommend fertilising with it, or for people or animals to take in mineral mixes, should not be used, because they are prescribing a poison.

NZ supermarket vegetables often have 20 to 30 ppm of Mn. NZ Farmer Market's levels can be lower. Ours grown better than organically (all mineral levels measured and corrected) are about 2 to 7 ppm.

In an NZ supermarket, Danish Lurpak butter had 15 ppm of Mn and 20 of Hg, while NZ Lewis butter, both were zero. Hawaiian Macadamia nuts had 15 Hg and 15 Mn.

NZ supermarket bought silver beat had 20 Mn, flax 20, tomatoes 20 to 40, ours are 2 to zero, spinach supermarket 15, ours 2, custard can be 20, organic 3, bad farm concentrate feeds such as Palm Kernel Extract (PKE) have up to 47 Mn. PKE has killed dairy cows in NZ and Australia.

- Loss of appetite, headaches, leg cramps, muscle rigidity, tremors, convulsions, extreme

irritability, acts of violence, and hallucinations. Manganese toxicity has also been seen in people who received very high amounts of intravenous nutrition (containing manganese) over long periods of time.

Other points: Impaired thiamin (B1) metabolism. Increased need for vitamin C and copper.

Water for drinking should have less than 0.4 ppm of Mn because of the quantity consumed. An excess can cause manganism (poisoning first discovered in Calcification is the process in which calcium builds up in body tissue where there normally isn't any calcium).

Breast calcifications are small calcium deposits that develop in a woman's breast tissue. They are very common and are usually benign (noncancerous). In some instances, certain types of breast calcifications may suggest early breast cancer, which is an irreversible neurological problem like Parkinson's disease, from Mn being in some agricultural chemicals, welding fumes, long term exposure in Mn mines, and even from some farm well or bore waters. I've seen some in the Waikato with so much Mn that the water was almost black. Some USA drinking water from 384 sources in 46 states had Mn above 0.5 ppm. Read 'Manganese' in the Farming section's 'Minerals in Soils, Plants & Animals'.

Mn can be too high in river, bore and well waters, so more rural New Zealanders get Parkinson's than those drinking most town waters. Five farmers I knew drinking farm water, suffered the double whammy (a bad toxin or item with a negative effect on bodies) of using organo-phosphate sprays, suffered Parkinson's.

Read the chapter on Water and get yours tested by Hill Laboratories, 1 Clyde Street, Hamilton 3240. Phone 07-858-2000. Contact them for details of how to sample it, and they will send you instructions and containers. Chris Rhodes, now in Gisborne. See Human Health Specialists. Read Pastures > Plant analyses. Mn can be filtered out, which costs a lot, making it better to find clean Mn-free source water in the first instance - if possible.

Mn toxicity can occur in those who regularly inhale Mn vapours, such as from some steel mills and all Mn mines. It is so bad that most people who work in Mn mines around the world end up with Parkinson's disease.

Deficiencies

Mn deficiency is rare in New Zealand, but common in USA, it can cause poor bone health, joint pains, and fertility problems. Excess zinc fed for the antiquated Facial Eczema control system, causes a decrease in blood Mn levels.

Toxic

Manganese can cause manganism, which is an irreversible neurological problem like Parkinson's disease, which is also caused by some agricultural chemicals, some welding fumes, and as miners in Mn mines and even from some farm shower waters. Read more in the Farming section's Minerals in Soils, Plants & Animals. USA drinking water from 384 sources in 46 counties had Mn higher than 0.5 ppm. Manganism has occurred in workers exposed to manganese-containing fungicides such as maneb, and abusers of drugs such as methcathinone made with potassium permanganate. Some New Zealand consultants and fertiliser vendors, especially if trained in USA, wrongly add Mn to fertilisers and animal mineral mixes which makes animal health worse. Excess manganese causes more stress in New Zealand dairy cows than anything else, and is a factor in human stress and bad tempers when handling excess manganese stressed cows that become nervous, kick and scour. It is definitely a cause of human memory failure, so what does it do to animals' brains.

Excess Mn is a major problem in New Zealand

Symptoms

- Psychiatric (mental) illnesses
- Mental confusion
- Impaired memory
- Loss of appetite
- Mask-like facial expression and monotonous voice
- Spastic paralysis (faulty) gait
- Neurological (nerve disorder) problems
- Impaired thiamin (Vit B1) metabolism
- Increased demand for vitamin C and copper
- Kidney failure, hallucinations, as well as diseases of the central nervous system.
- Leg cramps, muscle rigidity, short term memory loss, loss of appetite, headaches, impaired memory, brain effects such as Parkinson's disease tremors, convulsions, mental confusion, extreme irritability, loss of appetite, hallucinations and acts of violence, mask-like facial expression and monotonous voice, neurological problems.

From the reputable NZ health specialist, Linda Lomborg. "Excess Mn causes anorexia, ataxia, iron deficiency, copper deficiency, neurological symptoms (body or nerve disorders), schizophrenia and criminal behaviour."

I (VJ) can vouch for the bad behaviour in animals high in Mn, and in staff handling them. Many suffering who I changed from Mn in their animal minerals to Solminix, which has none, fixed their problems in a week. In NZ, never, take, feed or fertilise with Mn. Those promoting Mn are usually doing it for money.

Low Mn Levels - almost never occurs in NZ

Symptoms and side-effects of Mn deficiency are - Infertility Impaired glucose metabolism, diseases of the skeletal structure, and impaired growth, pancreatic nerve (digestion) dysfunction elevated blood pressure, reduced protein metabolism, reduced immune function, ataxia (irregularity disorder), selenium deficiency, depressed activity of mammary glands in nursing mothers, mitochondria (body cells) abnormalities, Mn deficiency has been associated with cancer, rheumatic conditions, rickets, morning sickness, jaundice, and diabetes. Excessive ingestion of iron can cause an imbalance in the Mn/Fe ratio. The practise of analysing hair for deficiencies is increasing. I researched this for a laboratory and found that Mn levels are slightly lower in light coloured hair and slightly higher in dark coloured hair, from the same animal. If analysing hair, allow for the colour of hair. Copper makes the natural colour of hair stronger and reduces greying. See Human Health > Copper. Alzheimers Disease Alzheimers disease Alzheimers disease

In children, insufficient levels of zinc and Mn have been associated with lowered learning ability, apathy, lethargy and mental retardation. Excess Mn causes worse symptoms.

Sources

Mn sulphate is in two grades - Manganese sulphate, and Manganese sulphate soluble, for dissolving in water and for foliar sprays in areas low in manganese, mostly in USA.

Mn oxide is not a food and not water soluble and is slow release for fertilising, and almost never needed in New Zealand.

Mn carbonate is alkali and insoluble in water.

Welding can give off Mn fumes which can also cause Parkinson's Disease so is now band without masks.

Further reading

The Parkinson's Association of WA Inc, 320 Rokeby Road, Subiaco, WA 6008, Australia, wrote that numerous studies have indicated that Parkinson's disease is associated with rural living and farmers' drinking water from wells or bores containing high Mn levels.

Never consume, feed or fertilise with Mn without a blood and/or urine analyses, or experienced local advice from people other than scammers or spammers selling manganese. A farm consultant and a Waikato company that made a soluble mineral mix containing Mn caused sick cows and stressed staff abusing nervous cows that also suffered mastitis at 9%, dropping to 1% after applying LimePlus and changing to Solminix which is a nine mineral mix of soluble minerals that I designed in 1987. It goes in the drinking water, and was approved by Ruakura to feed with zinc for the old Facial Eczema control.

I got a farmer to apply LimePlus and feed Solminix, which improved his animal health better than any other mineral mix. Read 'Milk Profit & Quality' in Dairying and 'Solminix' in Minerals.

Manganese is eliminated from the body mainly in the bile which is made by the liver, so impaired liver function can lead to decreased manganese excretion, and an increase in the brain, damaging it.

If you believe you have symptoms of manganese toxicity and are in the United States, contact the Poison Help Line at 1-800-222-1222. This service provides a primary resource for poisoning information and helps reduce costly emergency department visits through in-home treatment.