

# MANGANESE



## MAIN FUNCTIONS

- Structural component of antioxidant enzymes
- Facilitates bone development
- Helps make and break down glucose and amino acids

## GOOD SOURCES

### Whole Grains

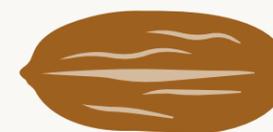
- Brown Rice (cooked), ½ cup, 1.1 mg



### Nuts

peanuts · almonds

- Pecans, 1 ounce (19 halves), 1.3 mg



### Pineapple

- Pineapple (raw, chunks), ½ cup, 0.77 mg



mg = milligrams

## DAILY RECOMMENDATION

2.3  
mg

Men

1.8  
mg

Women

## SPECIAL NOTES

- Manganese deficiency is not common.
- Excessive manganese is neurotoxic and can cause irreversible brain damage. Tolerable Upper Intake Levels from food and supplements range from 2 mg/day for infants to 11 mg/day for adults.
- Newborns, children, and individuals diagnosed with iron deficiency or chronic liver disease are especially sensitive to manganese overexposure.