

Alfalfa (*Medicago sativa* L.)

Background

- Origination is in the Near East, 'alfalfa' means 'best fodder' in Arabic
- Oldest recorded crop grown for forages (over 3300 years)
- Grown widely across the U.S. to lower Canada, considered the queen of the forages

Soils & Fertility

- Requires near neutral pH, large quantities of K and medium quantities of P
- Produces nodules for N supply if inoculated with N-fixing rhizobia
- Best-adapted to deep, well-drained, highly fertility soils

Quality

- Highly palatable forage, highest yielding legume
- High quality if harvested before full bloom stage

Disease

- Susceptible to many diseases, although resistant varieties are now available.
- Best methods for diseases control include: proper site selection (well-drained soils), newer disease resistant varieties, proper soil pH, fertility and harvest schedules, controlling insects and weeds, minimizing traffic compaction, and crop rotation.

Insect Pests

- Alfalfa weevil and potato leafhopper (PLH) are most destructive pests in the Midwest.
- Other minor pests in the Midwest include meadow spittlebug, pea aphid, clover weevil, clover root curculio (may not be so minor, wounding on root is entry point for pathogens). Various aphids and nematodes are problems in other parts of the country.

Advantages

- Highest yielding and quality of all legumes
- Long-lived perennial
- Good seedling vigor
- Deep root system – excellent drought tolerance
- Recovers rapidly after harvest
- Increased resistance to diseases over other legumes

Disadvantages

- Low productivity and stand persistence on poorly drained soils
- Requires high soil pH, Frost heaving is usually more severe than other legumes

Identification

- First true leaf is unifoliate
- Trifoliate leaves are pinnately compound
- Pubescent are lacking (non PLH resistant varieties)
- Elongated – less than ½ of the leaf is serrated
- Grows from a crown once established

Agronomy

- plant at 15-18 lb/ac (lower rates in mixtures) (higher rates for coated seed)
- Old varieties: Vernal
- New varieties: Over 200 modern varieties available with key traits such as disease resistance, traffic tolerance (Ameristand varieties) potato leafhopper resistance (e.g. 54H91, Evergreen-II, Trailblazer), higher forage quality, Roundup-ready varieties in advanced testing