Alfalfa Variety Selection and Planting Dates

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Topics

- Alfalfa in Nebraska
- Important variety selection factors
- Preferred planting dates
- Summary
- Questions/Discussion

Alfalfa in Nebraska

Year	Total acres	Planted acres	Harvested acres	Yield ton/acre	Price $ ton	Total value $	Value $/acre
2023					**210***		
2022	915,000	110,000	805,000	3.1	201	499,083,000	545
2021	1,015,000	90,000	925,000	4.1	160	605,280,000	596
2020	980,000	100,000	880,000	3.8	113	382,166,000	389
2010	1,015,000	120,000	895,000	4.1	-	-	
2005	1,440,000	180,000	1,260,000	3.8	-	-	

Alfalfa Variety Selection

- Yield potential
- Pest resistance
  - Insects
  - Diseases
- Seed price

https://www.alfalfa.org/pdf/2023_Alfalfa_Variety_Leaflet.pdf

What Affects Alfalfa Yield Potential?

- Plant genetics
- Persistence/Longevity
- Site productivity (moisture availability/drainage, fertility)
- Harvest management
- Climate/Weather

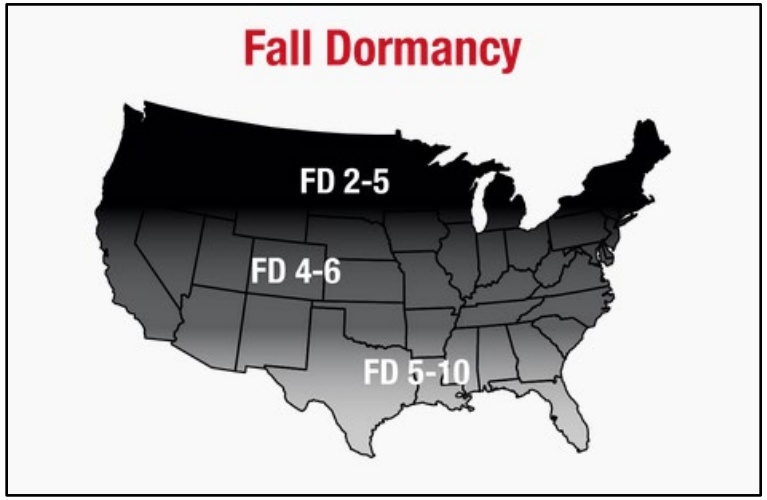
What Do the Ratings Mean?

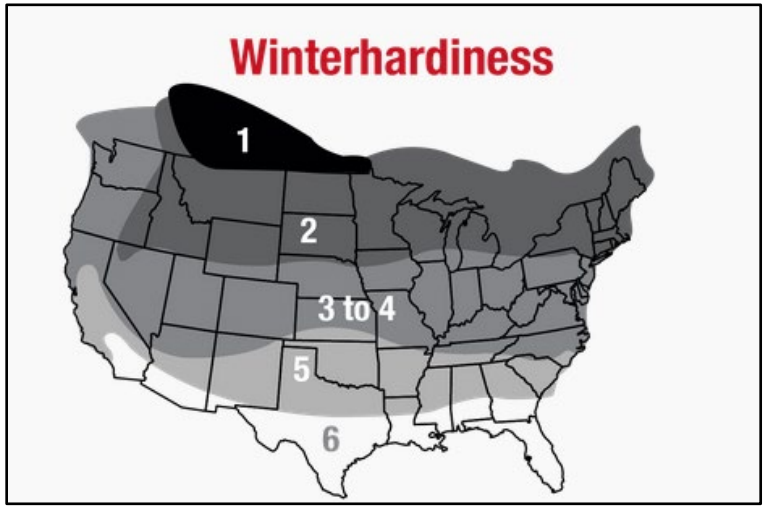
Table 1. Fall dormancy (FD) ratings and descriptions	
FD Rating	**Description**
1, 2	Very dormant
3, 4	Dormant
5	Moderately dormant
6, 7	Semi–dormant
8, 9	Non-dormant
10, 11	Very non-dormant
Source: National Alfalfa & Forage Alliance (NAFA)	

Nebraska

Table 2. Winterhardiness ratings and descriptions	
Rating	**Description**
1	Extremely winterhardy
2	Very winterhardy
3	Winterhardy
4	Moderately winterhardy
5	Slightly winterhardy
6	Non-winterhardy
Source: National Alfalfa & Forage Alliance (NAFA)	

Nebraska





What's the difference between fall dormancy and winterhardiness?

Fall Dormancy

Ability to regrow in the fall after harvest and spring following winter (scale=1-11)

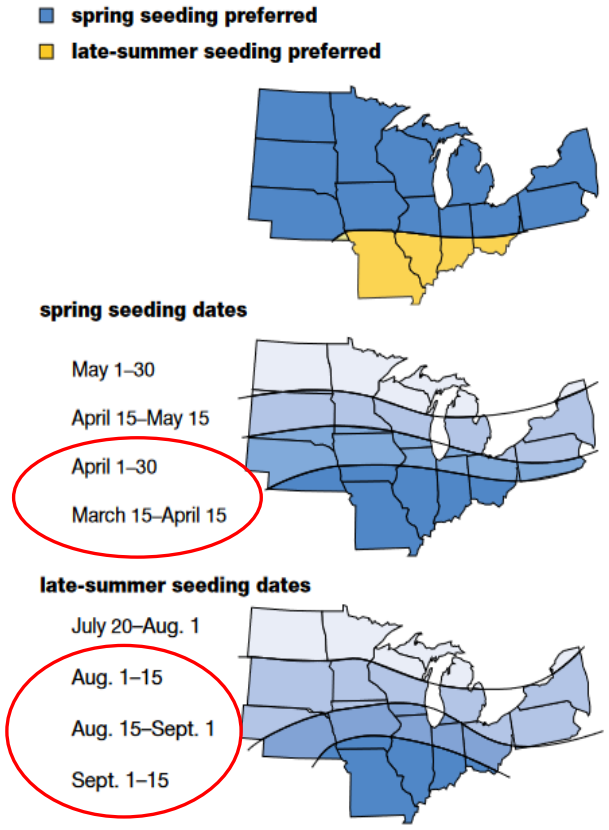
- **Low fall dormancy**
  - Slower regrowth after harvest
  - Slow fall growth
- **High fall dormancy**
  - Faster regrowth after harvest
  - Greater fall growth

Winter Survival

Historically, fall dormancy was linked to winter survival (scale=1-6)

- **Low winterhardiness**
  - Greater ability to withstand cold temperatures
- **High winterhardiness**
  - Decreased winter survival

When is the Best Planting Date for Alfalfa in Nebraska?

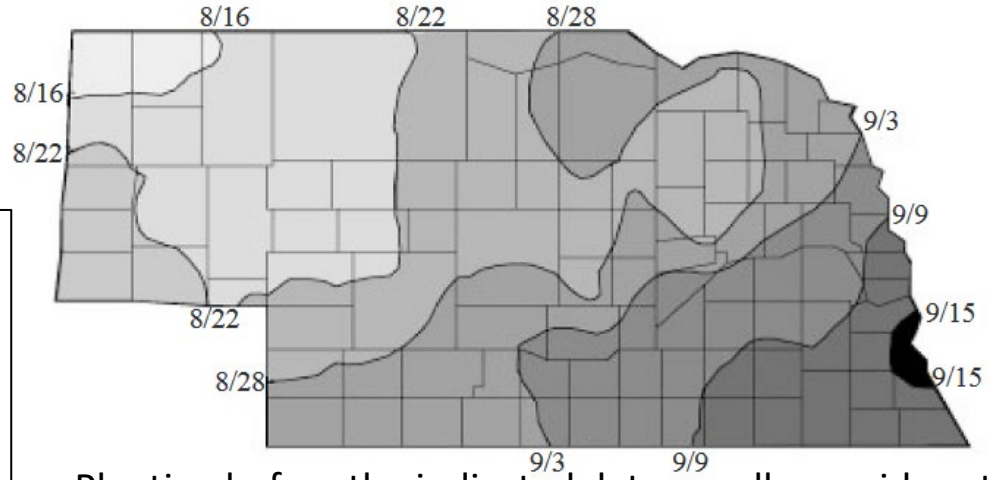


Spring Seeding Dates

- In eastern and southern Nebraska
  - ➢ April 1 to May 15
- In western and northern Nebraska
  - ➢ April 15 to May 15

Fall Seeding Dates

- Statewide
  - ➢ August 1 to 31



Planting before the indicated date usually provides at least 6 weeks before the first hard freeze (28°F).

https://www.agronomy.org/files/publications/alfalfa-management-guide.pdf

NebGuide G2247, *Seeding Alfalfa*

Insect Resistance

- **Alfalfa weevil**, the most damaging insect pest in late winter and early spring every year.
- **Spotted alfalfa aphid**, great potential to cause stand loss in seedlings and established alfalfa.
- **Pea aphid**, can cause severe damage in early spring.
- **Potato leafhopper**, commonly causes yellowing and stunting of alfalfa in summer.
- **Foliage-feeding caterpillars**, nearly always present during summer months.
- **Nematodes**, commonly present.

Disease Resistance

- **Wilt** (**Bacterial, Verticillium,** Fusarium), bacterial wilt has been the primary disease of alfalfa. favored by cool and wet conditions. Irrigation can enhance the infection rate, but dryland alfalfa rarely shows symptoms. These diseases commonly appear in stands 3 years and older.
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- **Anthracnose**, one of the most serious alfalfa diseases in Nebraska. It usually appears after the 2nd cutting in stands 2 years or older; can appear in seedling alfalfa before the initial cutting.

NebGuide G2081, *Alfalfa Anthracnose*

- **Root rots** (**Phytophthora, Aphanomyces** Race 1/Race 2), Phytophthora root is another serious alfalfa disease. It occurs throughout most alfalfa producing regions and causes a progressive decline of established stands. Aphanomyces is more common in seedling stands and stands less than 2 years old. Both can be present in seasonally wet and poorly drained soils.

NebGuide G2078, *Phytophthora Root Rot of Alfalfa*

Stand Longevity Management

- First, select winter-hardy varieties resistant to **bacterial wilt**, **anthracnose**, **Phytophthora root rot**, **stem nematode**, and **Verticillium wilt**.
- Second, follow recommendations for *Seeding Alfalfa* (**NebGuide G2247**).
- Control insect (alfalfa weevil, aphid, and potato leaf hopper) infestations.
- Adjust harvest intervals to plant growth.
- Do not harvest after September 15 to allow for a minimum of 6 inches regrowth before the first killing frost.
- Graze when alfalfa is fully dormant, and the ground is dry. Stop once the aftermath is depleted (2 inches).
- For irrigated alfalfa,
  - Irrigate stands prior to cutting.
  - Delay irrigation until new growth has begun.

Adapted from **NebGuide 2080**, *Alfalfa Crown and Root Rots and Stand Longevity*

Take Home Messages

- In Nebraska, **first two harvests usually ~60% total** production.
- *Stand longevity* is key to profitable alfalfa production.
- *Variety choice* affects production for 3 to more than 10 years.
- **Fall dormancy,** varieties **5 or lower** (balance of yield + winter survival)
- **Winterhardiness**
  - Lower winter hardiness for **long-term stands**.
    - ➢Varieties with a **3 or less** (4+ years).
  - For **short-term stands**, moderate winterhardiness is adequate.).
    - ➢Varieties with a **4 or greater** (<3 years)
- Both fall and spring planting dates can result in *satisfactory stands*.

Questions

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