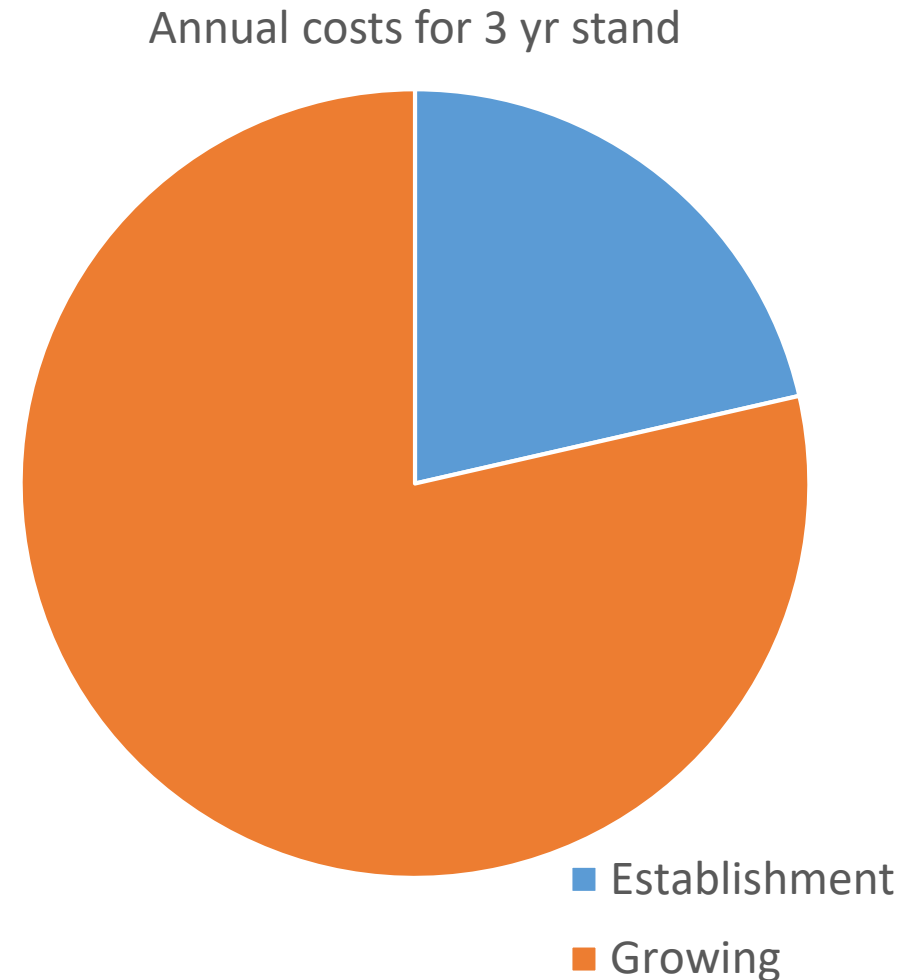


# Alfalfa Production: Getting a Good Start

Mike Ottman  
Extension Agronomist  
University of Arizona

# Cost of Establishment (Maricopa Co, AZ)

- Establishment ~ \$900/A
- Growing costs ~ \$1100/A/yr



# Land Preparation

**Deep ripping**



**Laser leveling**





# Reduced tillage





# Fertilizer

- Phosphorus
  - Soil test for phosphorus
  - 100 lbs  $P_2O_5$ /acre maximum rate per year
- Nitrogen
  - N stimulates weed growth
  - N reduces nodulation
  - Some starter fertilizer (~25 lb N/acre) may be beneficial



# Planting Date

- October optimum
- Late planting effects measured for life of stand

*October*



# Variety Selection

- Fall dormancy
- Pest resistance
- Traits
  - Roundup ready
  - Low lignin
- Yield
- Stand
- Use certified seed
  - VNS
  - Saved seed



# Seed inoculation

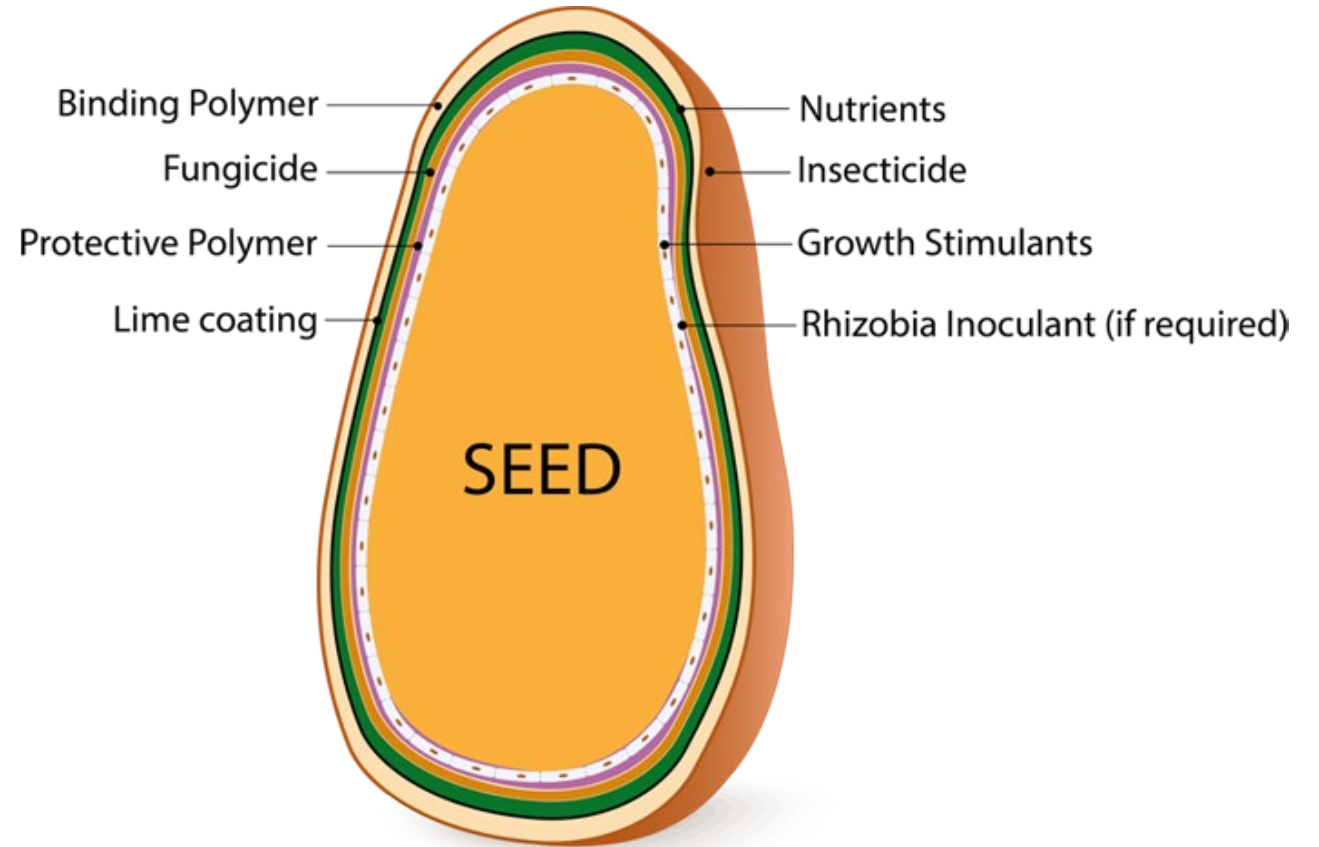
- Not needed in areas where alfalfa grown
- Inoculum dispersed by dust
- May be needed on new ground in isolated areas
- Live inoculum must be kept cool
- Inoculated seed must not be past expiration date (~ 1 yr)





# Seed coatings

- Rhizobium bacteria
- Fungicide
- Insecticide
- Nutrients
- Growth promoters
- Lime coating



# Seeding machinery

- Grain drill
- Brillion seeder
- Broadcast followed by cultipacker





# Seeding Rate

- Uniformity of stand establishment more important than seeding rate
- Optimum rate with uniform emergence could be 10-15 lbs/acre
- Recommended rate 20 lbs/acre
  - 100 seeds/sq ft seeded
  - 50 seeds/sq ft established
  - Lose roughly half of stand per year



# Seedbed

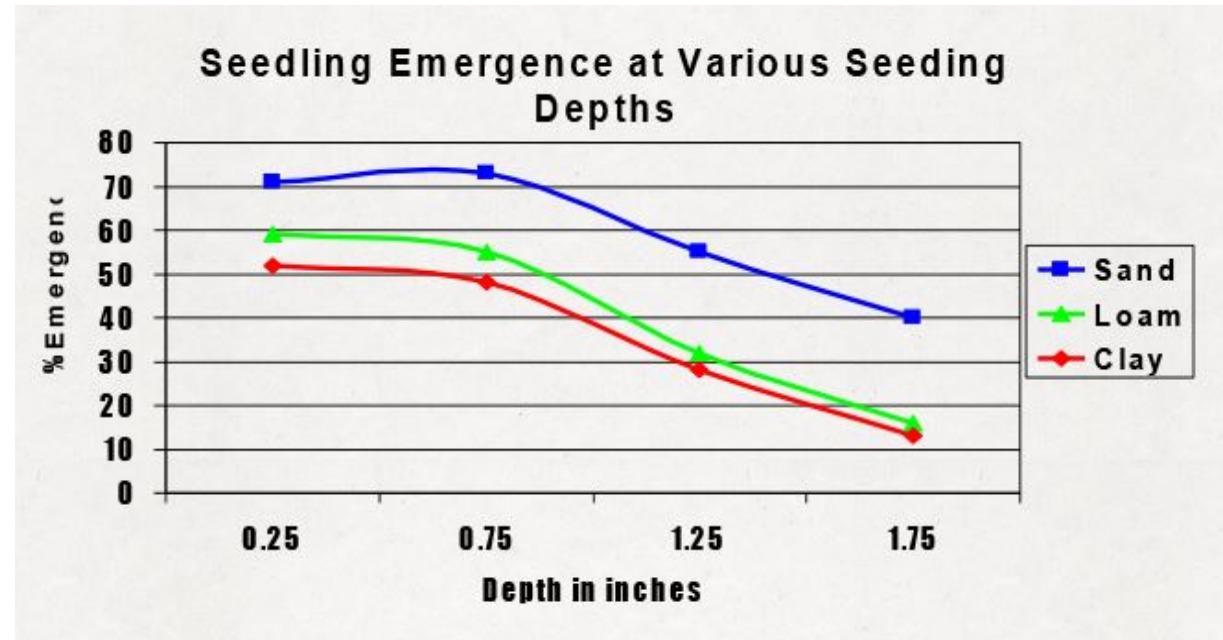
- Firm (1/2 inch footprint)
- Not overworked





# Seeding depth

- Optimum depth is  $\frac{1}{4}$  to  $\frac{1}{2}$  inch
- Alfalfa emergence drops significantly if seeded below 1 inch
- Seeding too deep can delay or inhibit emergence
- Planting too shallow can result in desiccation of the seed



Source: Legacy Seeds

# Seeding method

- Flat
- Corrugations
- Beds





# Weed control

- Preplant
  - Eptam and Balan
  - Injury a concern
- Post emergence
  - Broadleaves
    - Pursuit and Raptor
  - Grasses
    - Clethodim or Sethoxydim



# Insect control

- Preplant
  - None
- Post emergence
  - Whiteflies
    - Chemical treatment?
  - Spotted alfalfa aphid
    - Dimethoate
  - Pale striped flea beetles
    - Pyrethroid or diamide class insecticide



(Source: M. D. Rethwisch)



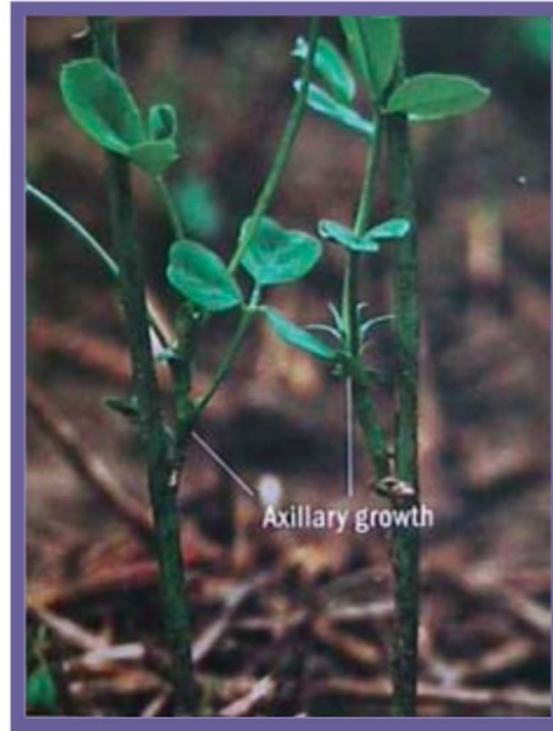
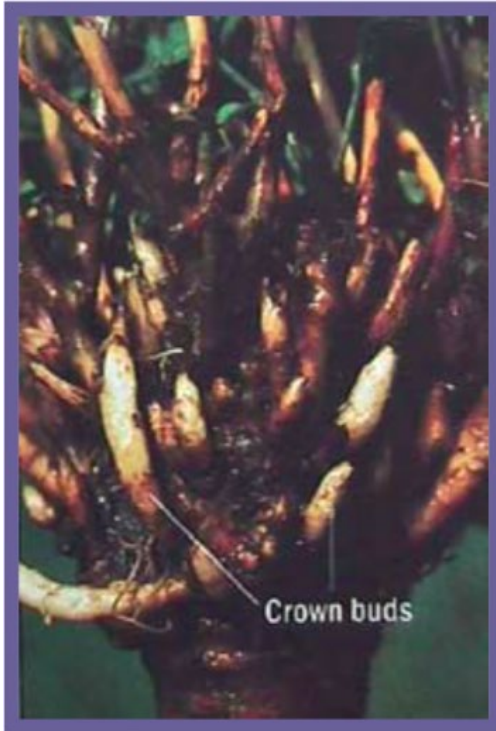
# Irrigation

- Initial
- 1-2 weeks later
- Once per 1-2 months



# First post plant cut

**Regrowth buds 1 inch**



**Taproot > 14 inches**





# Conclusions

- Plant in October

