Small Grain Silage as a Feed Source for a Dairy Farm: How to Make It Work

Why we grow small grains for forage

- Fits into some windows in our crop rotation
- Keeps soil covered
- Helps keep ration cost down

Small Grains We Utilize

- Winter Wheat
- Triticale
  - Winter & spring seeded
- Winter Rye/ Italian Ryegrass
- Oats
- Sorghum/Sudan

Winter Wheat

- Pros
  - Great winter hardiness
  - Easy to kill off for next crop
  - Can easily be grazed/chopped
  - Slow to maturity
- Cons
  - Lower yield potential
  - Needs to be in early
- Use in Rotation
  - Heaviest use on last year transitional ground
  - Establishing contour strips

Oats

- Pros
  - Most early season forage growth
  - Easily established anytime of year
  - Quick growing
- Cons
  - Limited yield potential
  - Not winter hardy
- Use in Rotation
  - Nurse crop
  - Patching areas of overrun pasture
  - If need to grow some forage quickly before winter, can be best option

Winter/Spring Triticale

- Pros
  - High quality potential
  - Good yield potential
- Cons
  - Winter triticale yield heavily depends on fall tillering
- Use in Rotation
  - Go to fall seed if corn silage off in time
  - Spring seed as nurse crop for alfalfa seeding
Winter Rye

• Pros
  • Get it in the ground it will grow
  • High yield potential
  • Forms great sod, good weed suppression

• Cons
  • Difficult to kill off without chemicals
  • Can have a quality downside

• Use in Rotation
  • After corn

Sorghum or Sorghum-Sudan grass

• Pros
  • High yield potential
  • High quality potential
  • Great weed suppression

• Cons
  • Likes dry feet and hot summers
  • Quality can escape due to rapid growth

• Use in Rotation
  • Break up need for corn on corn
  • Cover crop before fall seeded alfalfa

Why our Crop Rotations have evolved

• Ability to grow lots of high-quality forages
  • High amount of digestible fiber
  • Wasn’t satisfied with rations of corn silage & alfalfa

• Ability to grow lots of corn consistently & cheaply
  • Lots of green manure
  • Weed control

How we started

• Corn
• Seeding
• Hay
• Hay
• Hay
• Wash, Rinse, Repeat

Splitting Land Base into a few rotations

Ground we can hose manure on
• Corn
• Winter Triticale or Rye
• Cocktail mixes
• Keep in rotation until weed pressure picks up

Farther Ground
• Basically old rotation
• Using Winter Wheat/PS SS instead of corn on poorer ground
• Foraging our nurse/cover crops

5-year average per acre

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<th>Crop</th>
<th>Tons DM</th>
<th>Crop</th>
<th>Tons DM</th>
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<td>Corn</td>
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<td>Total</td>
<td>22.25</td>
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12.25 tons per acre over 5 years
Harvesting

- Simplest for us to cut, merge, chop
- Cut height typically about 3 inches
- Can easily be baled and wrapped
- Quality vs quantity
- Weather
- Maturity

So we grew all this random forage... Now what do we do with it?

Match silages with correct animal groups

- Lactating Cows
  - Typically need to be harvest boot to late boot stage
  - Possibly a way to feed some at milk stage
  - Replacement for CS or Haylage?
- Heifers
  - Heading - Milk stage
  - Can make up almost all of rations if harvested correctly
- Dry Cows
  - I typically avoid spring harvested
  - Case for wheat silage at the milk to dough stage

In our Lactating Rations

- High group
  - Feed at 5-10% inclusion rate

- Later lactation
  - Can feed at 20% DM
  - Feed has enough energy and protein
  - Mix with a little supplement, dry hay, and pasture

Heifer Rations

- Look to feed about 60%TDN for pregnant
- Target 65%ish for 450#-bred
- Using these small grain forages simple to balance just adding a little corn silage & concentrate
Dry Cow Diets

- Do not like to feed spring harvested forages
- Will feed to far off dry cows if spring planted at harvest at dough or later
- Exception might just be wheat silage harvested at dough stage
- Matures much later
- K uptake not as great

Bringing all back together...

- Helps our crop rotation
- Grow more feed on same acres
- Keep ground covered year round