

Opportunities with Diverse Cover Crops

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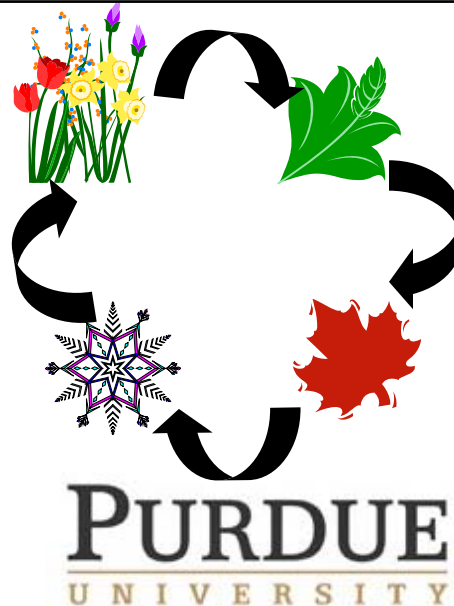
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Objective Today

To create awareness about under-exploited crops that could enhance agricultural production systems in Indiana and surrounding states.



Your Assignment



- Listen today and be a critical thinker
- Determine where some of the crops discussed might work in production systems



- Put your resources to work
- Smile as improvements are made
- Communicate the results

Missed Opportunities



The Midwest USA has distinct seasons that create unique opportunities for farmers to enhance their production enterprises.

Keeping the Landscape Green with Cover 24/7/52

Jan

Dec

Missed Opportunities

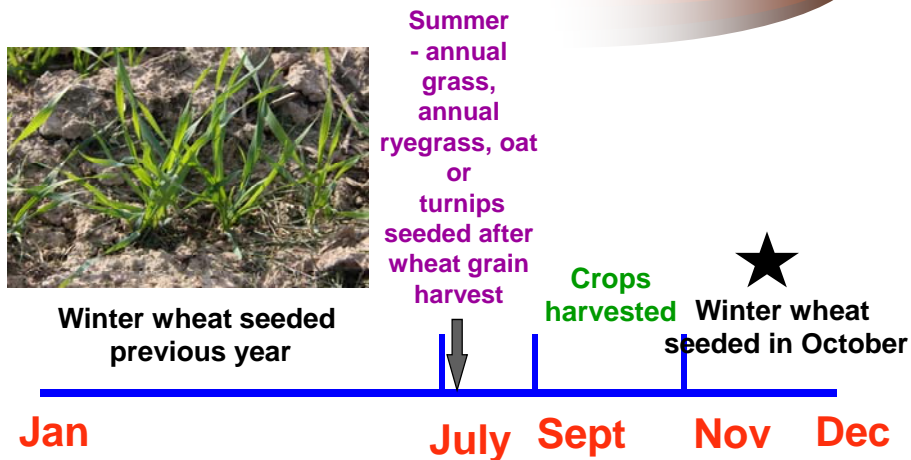
- Double cropping state wide
 - Wheat/soybean not successful in northern Indiana, but opportunities exist with use of other crop choices as cover crops/forage crops
- N value from legumes

All crop choices have strengths and weaknesses.
What are your needs?

Study, Evaluate, Ask before seeding.

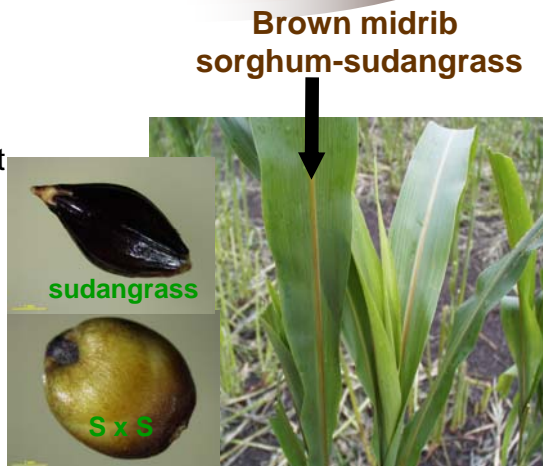
- Adaptation to soil type, soil pH and fertility
- Winterhardiness
- Drought tolerance
- Quality traits
- Ability to “spring back” from harsh situations
- Growth characteristics
 - grass vs. legume vs. forb
 - sod vs. bunch
 - warm-season vs. cool-season
 - winter annual vs. summer annual vs. perennial
- Invasiveness

Wheat Grain / Annual Grass or Turnip Calendar



Sorghum-Sudangrass and Sudangrass Realities

- Summer-annual grass
- Drought tolerant
- Improved digestibility as compared to normal
- Better regrowth than millet and corn
- **Has** prussic acid potential
- Best grazed or ensiled
- BMR genes discovered are **not** created equal!!



Pearl Millet Realities

- Summer-annual grass
- Can grow better than sorghums in low pH conditions
- Drought tolerant
- **NO** prussic acid
- Best grazed or ensiled



Foxtail Millet Realities

- Summer-annual grass
 - looks like a robust giant foxtail
- Can grow better than sorghums in low pH conditions
- Drought tolerant
- **NO** prussic acid
- Greater chance of making dry hay as compared to pearl millet, sudangrass or sorghum-sudangrass



Spring Oat Realities

- Traditional companion crop when seeding perennial forages
- Complements forage turnip in a mixture
- Spring annual
- Multiple methods of use



Annual Ryegrass Realities

- Cool-season weak perennial
- Excellent seedling vigor
- Excellent quality
- Poor drought tolerance
- Many differences within varieties
- As a species, not as winterhardy as adapted soft red winter wheat varieties
- Slower kill than small grain cover-crops
- Will see remnants in future seasons



Forage Turnip Realities

- Member of *Brassica* genus
- Annual forb
- High Net Energy (Too high?)
- Excellent with oat in a mixture
- Tolerant of frost but not freeze
- Best used by grazing
- **Major** differences among varieties
- Stand loss occurs with each successive round of grazing



Red Clover Realities

- Excellent seedling vigor
- Weak perennial legume
- Adapted to most soils in Indiana
- Multiple use possibilities
- To get excellent stand will need to lower wheat yield expectation

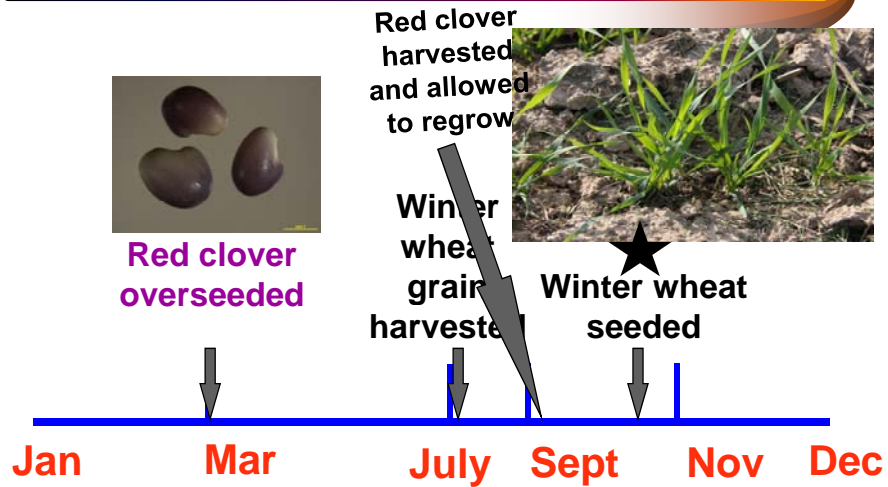


Teff Realities

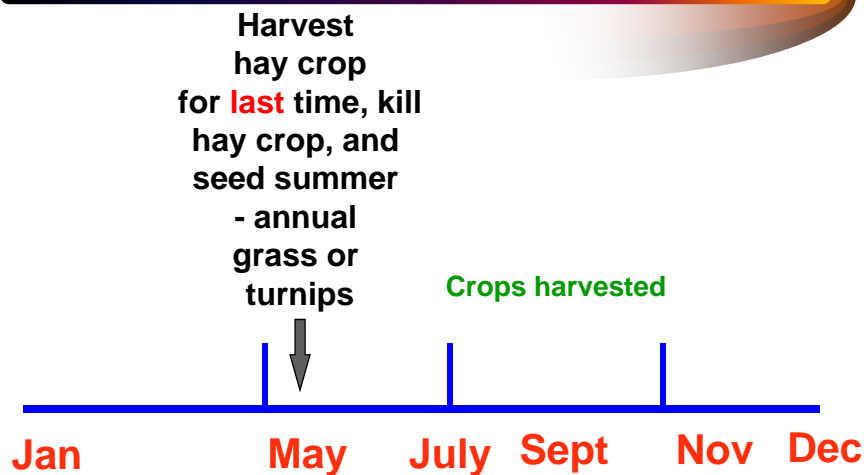
- Annual grass in a temperate environment
- Relatively new in USA
- Seed is extremely small
- Multiple harvests possible
- Multiple use possibilities
- Evaluation is warranted; several varieties



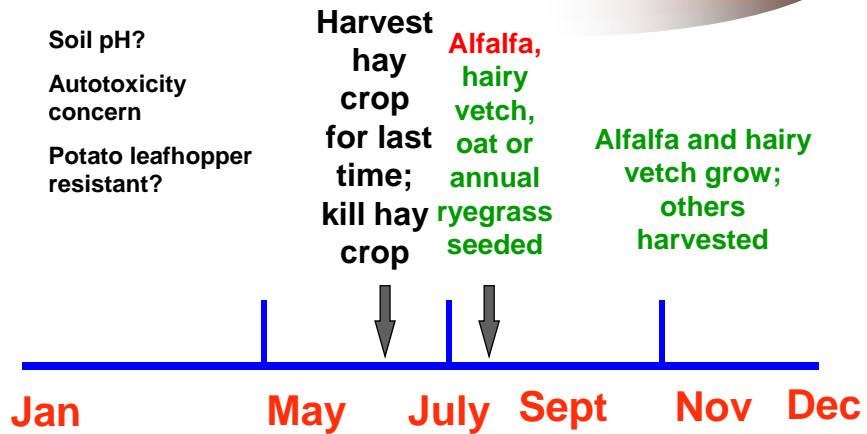
Wheat Grain / Red Clover Overseeding Calendar



Hay Harvest / Summer - Annual Grass or Turnip Calendar



Hay Harvest / Alfalfa, Hairy Vetch, Oat, Turnip or Annual Ryegrass Calendar

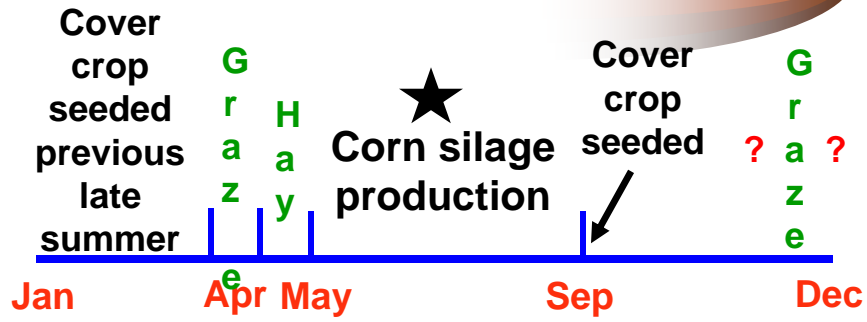


Hairy Vetch Realities

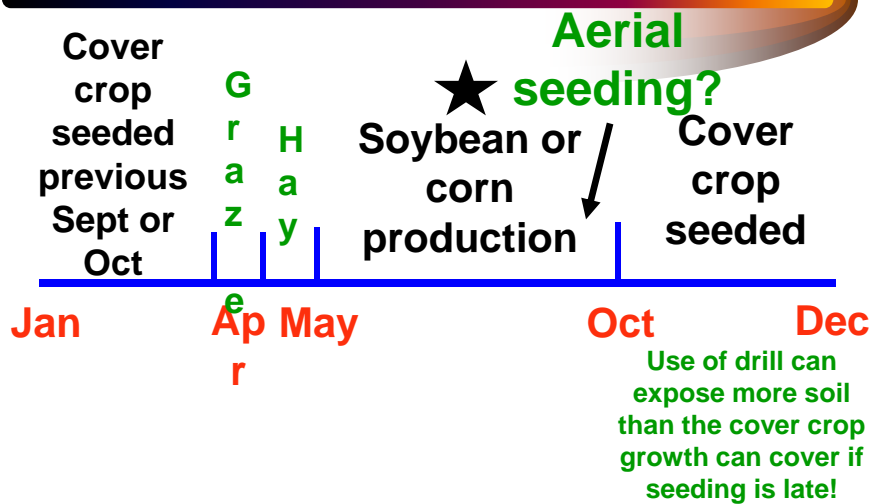
- Winterhardy legume
- Inoculate with specific *Rhizobium* inoculant
- Hard seed (physical dormancy)
- Viny
- Volunteer plants probable
- Nitrogen contribution excellent if crop to follow is planted in late May



Winter - Annual Cover Crop Use Calendar



Winter - Annual Cover Crop Use Calendar



Winter-Annuals

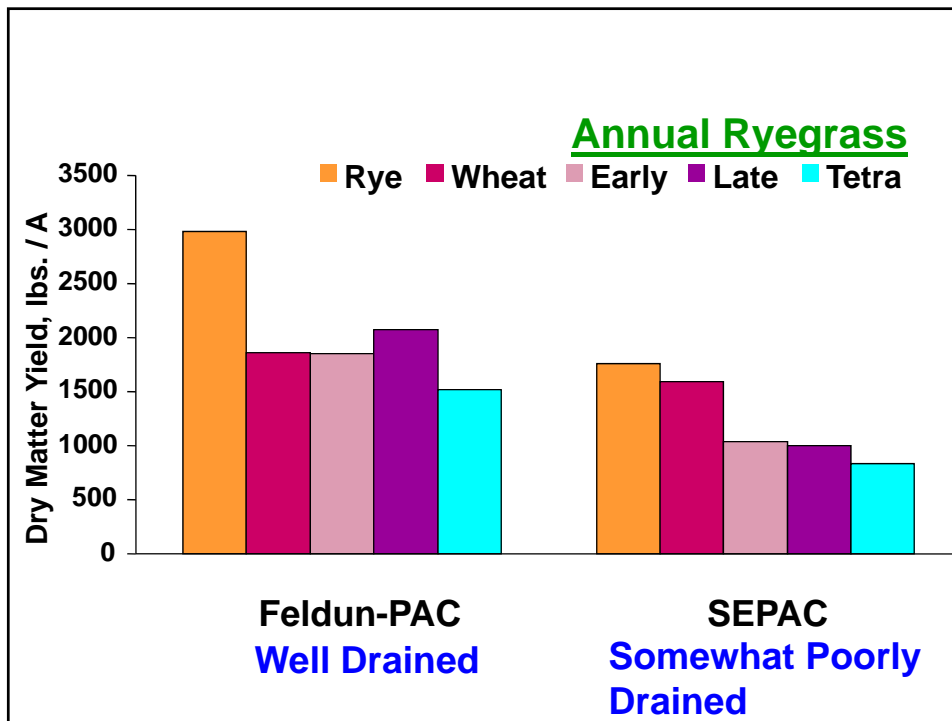
Small grains

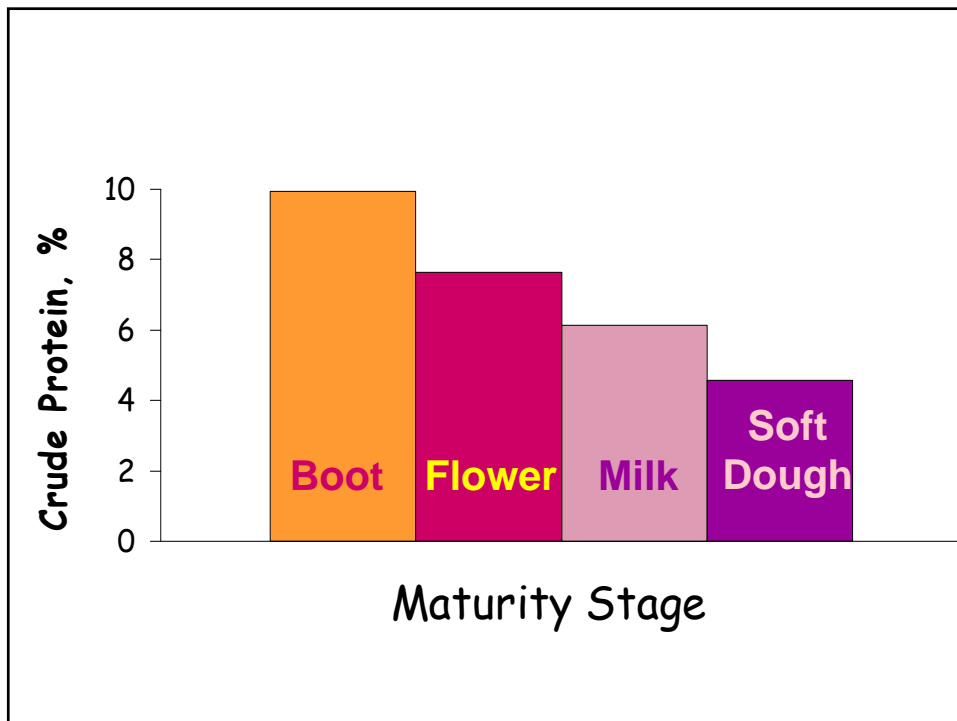
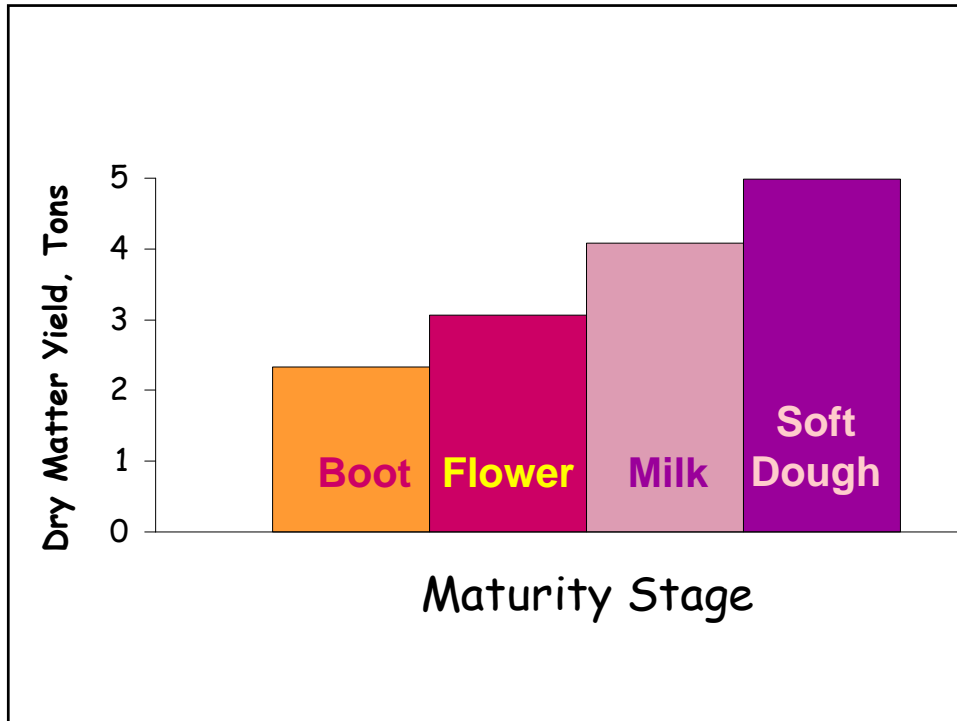
- Winter wheat
 - Market available for cover crop taken to grain
- Winter rye (**not** ryegrass)
 - Very winterhardy
 - Tall growth needs to be managed
 - Allelopathic??
- Winter triticale
 - Cross between wheat and rye
Triticum x Secale = Triticale
 - Seed cost?

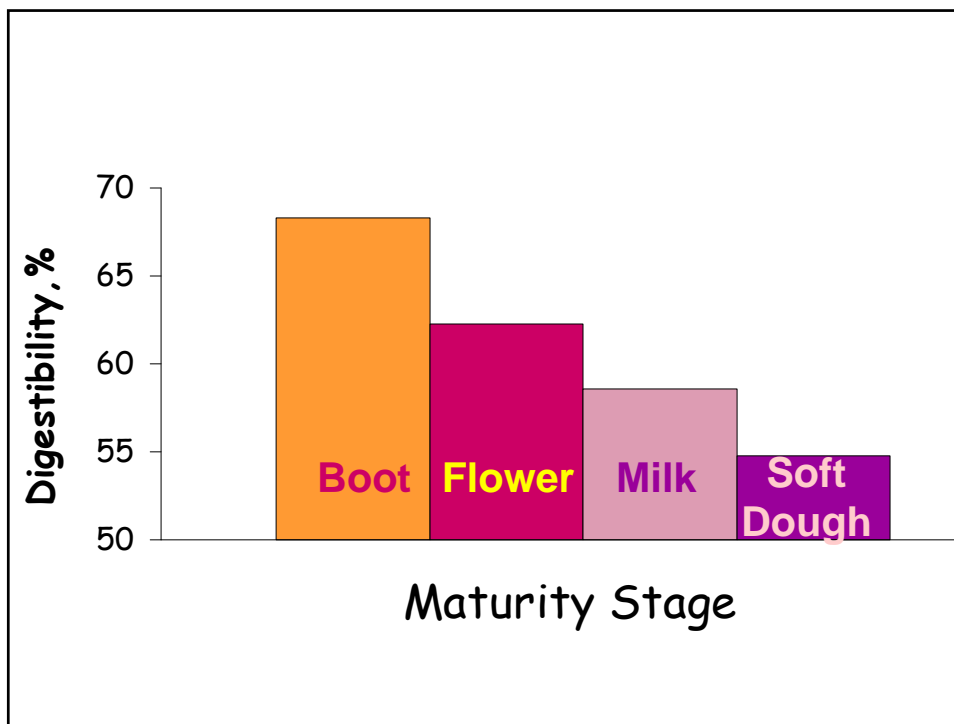


Legumes

Hairy vetch a better alternative than Austrian winter pea







Great Opportunities!



January 21 and 22
 Heart of America Grazing
 Conference
 Holiday Inn, Columbus, Indiana

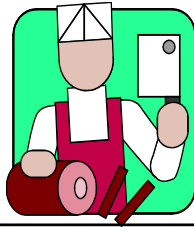
February 27 and 28
 Cattle and Forage Symposium
 Hilton North, Indianapolis



Your Questions ?



Forages have always been Value Added!!



Keepin' Green

