

Intermountain subregional Cover Crop Workshop #4 – Breakout Sessions

General cover crop adoption in rotational cropping systems

- Cover crop selection tool for Western US
 - A way to zone in on your climate (zip code) and suitable plant species for that area
 - A system that updates over time
 - Coordinating goals with species
 - Fertilizer analysis
- Beginners guide to cover crops with a western focus
 - Easily consumed, concise and condensed informational formats i.e. small pamphlets, podcast, series of YouTube videos, etc.
 - No books or large amount of text
 - Growing biology of different plant species
 - Fertilizer analysis
 - Planting and termination dates for cover crops
 - Understanding carbon/nitrogen ratios
- Voles
- Temperature and biological activity in the soil
- Balancing gravity irrigation and water infiltration
- Fertilizer profitability analysis

Challenges in the arid west (use of valuable irrigation water, late season planting, dryland systems, etc.)

- Irrigation available
 - Dryland systems
 - Planting after water is shut off
- Timing of cover crops
 - When is the right time to plant? (in reference to no-tilling into pasture)
 - Growing seasons of cover crops used when interseeded with cash crops
 - No till grazing – when to plant so that it is ready to graze when the pasture hits summer slump
- Types of cover crops
 - What works well as a grazing cover crop mixed into pasture
 - What works well for multi-specie grazing (not just cattle but chickens, pigs, sheep)
 - What works well for dryland systems
 - Drought tolerant
 - Won't reduce yield of cash crop
 - Small acreage vs. large acreage
 - What works well to hold soil after harvesting root crops?
- Improving practices and expanding knowledge about cover crops for growers/producers in the Northwest region
 - ~1 hour sessions work well to share information
 - Group sessions by type-cover crop/soil health vs grazing
 - YouTube videos with Q & A included was appreciated

- Mark times of different speakers and topics for ease of pinpointing relevant information
- Improving soil health
- Termination dates/methods for cover crops
- Rotational grazing systems for multi-species
- No till vs. till
 - Understanding the equipment being used and how it works

Cover crops for forage and grazing systems

- What species work well in the Eastern Oregon area for enhanced grazing?
- How to graze some of these species and varieties in a mix?
- More information needed on the limits of species
 - Sudan grass
 - Prussic acid, moisture regime with irrigation or not
- Profitability of cover crop with grazing
- Right type of cover crop for your farm
- Brassica issues
 - High volunteer rate, dryland system
- Peas & rye in Eastern Oregon (Great Basin Desert) did well in a dryland system on a wet year
- Spineless safflower in central Utah on a dryland system did well with a wet year and poor with a dry year.
 - Fallow type system can make the cover crop work
- Termination of cover crop issues – yes
- Termination of cover crop through grazing, when it is designed for grazing (not dryland)
 - Sudan grass was left in field until hard freeze before it was grazed, no observed issues.
 - Pearl millet has worked well to avoid issues with prussic acid – Buhl, Idaho
- Interseeding perennial pasture
 - Growing and degree days to establish before livestock is introduced to field
 - 45 days in Buhl is not enough time
 - June or July timing for planting
 - Try to build later season grazing
- Pasture management
 - Orchard grass is very competitive
 - How to manage
- Best way to plant cover crops on a small scale – production less than 10 acres

Soil health aspects of using cover crops

- More guidance needed on
 - Most valuable (most return on investment) testing methods for soil health
 - Make easily accessible and widely available in user friendly formats

- WCCC could help ensure most current information on metrics of soil health is reaching a wide range of stakeholders
- Current/soon to be available tests
 - Soil Health Lab- Oregon State University
 - Adapting Cornell Soil Health Assessment
 - NRCS – adapting tool for soil health parameters
 - Available February 2020?
- Growers looking for metrics/tools to measure soil health over time
 - Easy to use
 - Low cost
 - Rapid results
- What is the goal of measuring soil health?
 - Mitigating risk
 - Predicting economic compensation
 - Indicator of food health
 - Measuring carbon sequestration
 - Soil nutrients related to crop response/yield
- What is the most useful metric to measure soil health?
 - Active carbon
 - Mineralizable nitrogen
 - Need for review article/website for metrics
 - Pros/cons of each metric
- Fertility credits
 - Synthesizing available information into user friendly sources
 - Cover crop calculator
 - Wide adaptability vs location specificity
- Limitations on growers measuring soil health
 - Time
 - Money
 - Could be alleviated with outside entities conducting soil samples
- RESOURCES:
 - <https://soilhealth.cals.cornell.edu/training-manual/>
 - <https://cropandsoil.oregonstate.edu/shl/soil-health-osu>
 - <https://catalog.extension.oregonstate.edu/em9251>
 - <https://pubs.extension.wsu.edu/understanding-and-measuring-organic-matter-in-soil>