

IAMP—Cover Crop (NRCS Code 340)

Description: A seasonal/annual vegetative cover that is not harvested, baled, or sold as a specific commodity other than grazing. See NRCS Cover Crop ([340](#)) guide as a reference. Cover crops may be established between successive production crops or companion-planted or relay-planted into production crops. Select species and planting dates that will not compete with the production purpose(s).

Benefits: Reduce erosion, improve soil health, increase soil organic matter, reduce off-site losses and availability of easily transported nutrients, suppress excessive weed pressures and break pest cycles, improve infiltration, improve soil moisture efficiency, minimize soil compaction.

Soil Health Benefits: Depending upon the overall growth, type of vegetation, and management, cover crops will result in increased soil carbon. The permanence of the increased soil carbon depends on the frequency of cover crops in a particular crop rotation.

Considerations for Success:

- In arid regions, cover crops may reduce soil moisture, affecting subsequent cash crops. Producers are encouraged to use the timing of cover crop termination to minimize this risk.
- The additional costs to the producers include:
 - o Seed costs,
 - o Fuel costs,
 - o Labor,
 - o Pre-plant soil testing,
 - o Possible fertilizer and irrigation costs, and
 - o If replacing a cash crop, then loss of revenue.
- Possible disease carryover.
- Cover crop production and impact sensitive to weather.
- Regrowth or volunteers in following cash crop, particularly if using no-till practice.
- Potential risk to following crop quality (higher blemish rates in potatoes).
- Constraints on herbicide selection through the rotation.

IAMP Preferences/Considerations: The IAMP project incentivizes practices that improve soil health and long-term agronomic productivity. Ideal cover crops have a high C/N ratio, maximize total biomass, are planted early/harvested late (e.g. winter cover crops preferable), have high nitrate uptake/conversion to biomass, and are included in the rotation 1 out of three years. Apply only minimal starter or pop-up fertilizer to cover crops when necessary for establishment.

Specific Details:

IAMP has several requirements for cover cropping to document the practice was implemented correctly and to document the effectiveness of the practice from the current cropping strategies employed in the field. Each of these requirements is described below.

- 1) Crop Biomass Assessment: Representative pictures of the cover crop condition and performance at time of termination will be provided. This imagery will verify practice implementation and

enable researchers to assess qualitative evidence of biomass production, ground cover and canopy development and species composition and uniformity.

- 2) Evidence that the cover crop was not burned or baled.
- 3) Evidence or statement that the cover crop was not harvested for seed.
- 4) Confirmation that the cover crop was terminated consistent with NRCS guidelines.
- 5) Producer supplied field management information:
 - Type of species mix: Single or multi-species mixes may be used including grasses, legumes, brassicas, or other broadleaves. Cover crops may be planted as winter or summer cover.
 - Seeding rate. Field coverage should be above 30%.
 - Seeding date of cover crop.
 - Depth of seeding.
 - Type of termination (tillage, crimping, grazing, mowing). Note: Plant as early as possible and terminate as late as practical to maximize plant biomass production.
 - Date of termination and/or criteria used to determine the termination date.
 - Fertilizer and pesticide application information (type, timing, rates, methods of application).
 - Irrigation strategy: Irrigation may be necessary to initiate cover crop growth if planted during summer months. Applications of additional irrigation should be kept to a minimum.

Soil Organic Matter and Biomass Sampling: Soil organic matter changes slowly and therefore sampling the same location once every 5 to 10 years is encouraged. Measuring cover crop biomass production prior to termination can also be useful to document carbon and nutrient inputs returned to the soil and potential increases in overall biomass to the crop rotation. For an overview of all suggested sampling protocols for each IAMP practice, see [IAMP Crop/Soil Sampling Matrix](#).

Soil Nutrient Sampling: Soil samples may be collected from the enrolled field to provide potentially beneficial marketable information. If a producer elects to do so, sampling would optimally occur both prior to planting and after harvesting, at one-foot intervals to a depth of 2 feet. This sampling assesses the practice's impact on available soil nitrogen and identifies any nutrient deficiencies or benefits resulting from implementation. Refer to the [IAMP Soil Sampling Protocol](#) for details.

Verification Required Prior to Payment:

- Certificate from seed suppliers.
- Evidence (e.g. as-applied seed map, photographs) that the cover crop was planted and terminated following the agreed plan in the contract.
- Confirmation that, if grazed, the cover crop mix complies with pesticide label rotational crop restrictions.
- Confirmation that cover crop management is consistent with applicable local criteria and soil/site conditions.
- Evidence that the cover crop was not burned or baled.
- Evidence or statement that the cover crop was not harvested for seed.

Incentive Payments: \$74/acre/year, for the years that the cover crop is planted.

Stacking or Companion Practices: The cover crop practice is compatible with Biochar, Conservation crop rotation (>2 crops), Intercropping, no tillage from conventional, Reduced tillage from conventional, Nutrient Management (Basic, Enhanced and Precision), Prescribed grazing, Soil Carbon amendment. We encourage producers to explore grazing of cover crops as a stacked practice. Producers could also convert a cereal crop to a legume or inter-seeded cropping practice in alternative years. Nutrient management practices which replace synthetic fertilizers with compost or manure are another option. Reduced tillage and biochar practices would also be good options. It is recommended to account for soil nitrogen gains resulting from cover crops when calculating next year's fertilizer needs.

Sources:

[NRCS Cover Crop \(340\) guide](#)

[Technical Note 67: Cover Crops for the Intermountain West](#)

Additional resources:

[For northern ID, the PaNDAS project on cover cropping in dryland cereals](#)

[ARS Cover Crop Chart and Reference](#)

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