

## ALLIANCE PRACTICE WORKSHEET INSTRUCTIONAL GUIDE NORTH DAKOTA

### COVER CROP (340)

*This instructional guide is to be used in congruence with the associated document “Alliance Practice Worksheet, North Dakota: Cover Crop (340), to aid in its completion.*

#### FARM INFO

- Complete this section in accordance with the information you submitted on your enrolled contract.
- For practice area, enter the total acres across all fields where the practice will be applied. If only a portion of an enrolled field will have the practice, only enter acreage associated with the practice.

#### PRACTICE: COVER CROP (340)

- Provides a link to the NRCS Field Office Technical Guide: Conservation Practice Standards and Support Documents, from which the Practice Worksheet was created for ND. Several resources that are referenced in this document below can be found in their original form at this link.
- Provides a list of required information that will be filled in below to be submitted in accordance with the producer’s signed agreement prior to issuing completed practice payment.
- Note that additional documents including location map and photos of growth must be submitted for the Practice Worksheet to be considered complete.

#### GENERAL CRITERIA APPLICABLE TO ALL PURPOSES

- Provides description of how to meet the Practice Standard.
- The enrolled acreage must follow all listed bullet points.
- Follow the link provided to the NRCS Cover Crop Termination Guidelines
- Take special note that the cover crop must be a mixture of 3 species to meet the Alliance objectives. Cash crops, including failed crops, do not count as cover crops.
- To make sure you allow 4 weeks of growth prior to first frost date, consult the table to the right with average frost dates for each county

**Average Date of Last Spring Frost and First Fall Frost in North Dakota**

County	Average Date of Last Spring Frost		Average Date of First Fall Frost	
	28 F	32 F	32 F	28 F
Billings County	5-May	13-May	21-Sep	30-Sep
Cass County	28-Apr	8-May	27-Sep	6-Oct
Cavalier County	6-May	19-May	20-Sep	1-Oct
Foster County	2-May	12-May	24-Sep	3-Oct
McKenzie County	2-May	13-May	21-Sep	30-Sep
Mercer County	2-May	11-May	23-Sep	1-Oct
Rolette County	7-May	18-May	19-Sep	29-Sep
Stark County	4-May	15-May	22-Sep	1-Oct
Ward County	2-May	12-May	22-Sep	1-Oct

## ADDITIONAL MATERIAL TO MAINTAIN OR INCREASE SOIL HEALTH AND ORGANIC MATTER CONTENT

- The enrolled acreage must follow all listed bullet points.
- For a list of cover crops that produce a higher volume of organic matter and root mass, see the Cover Crop – Common Species and Properties Table at the end of this document
- Communicate to the grower that “The Soil Condition Index (SCI) rating will be calculated using a tool called the Revised Universal Soil Loss Equation version 2 (RUSLE2). Your Conservation District Staff member can assist you in completing the tool, with your role as producer being to provide any information about the applicable acreage to the staff member to help them run the tool and deliver these metrics.”

## COVER CROP MIX AND SEEDING RATE

Species	Variety	Seed Size	Typical Seeding Depth	Seeding Rate (lbs/A)	Percent of Mix
Enter the species of cover crop you plan to plant. For multispecies mixes, enter one species per line in this table. For ex: if your mixture contains Crimson Clover, here you would enter “Clover”	Enter the variety of the cover crop you intend to plant. For ex: if your mixture contains crimson clover, you would enter “Crimson”	Enter either “Large” or “Fine”, to describe seed size. Consult the Cover Crop – Common Species and Properties Table at the end of this document, if you are unsure.	If the mix/species will be drilled, enter the recommended seeding depth from the Cover Crop – Common Species and Properties Table. If the seed will be broadcast/lightly incorporated instead of drilled, indicate this here and consider consulting recommendations on increasing seeding rate (25-50%) to account for this.	Enter the recommended seeding rate from the Cover Crop – Common Species and Properties Table, or the planned seeding rate if the planned rate differs from the recommended rate.	Enter the percentage of the mix that this species comprises.

## ESTABLISHMENT AND MANAGEMENT CONSIDERATIONS

Task	Information and Details
Seedbed Preparation	Enter method used to prepare the seed bed, if any: (“till” or “no-till”)
Seeding Date	Enter date of planting/seeding
Seeding Depth	Enter depth in inches or fraction of inches at which species/mixture will be planted or broadcast
Seeding Method	Enter “no-till”, “broadcast and incorporate”, or “tilled”
Fertilizer, as needed	Enter “starter”, “inoculant”, “starter & inoculant”, or “none”
Weed Management, as needed	Enter type and frequency of chemical and/or mechanical weed management planned
Termination Date (window)	Enter the planned window of dates for termination of cover crop
Termination Method	Enter “crimp”, “frost”, “harvest”, “mow”, “herbicide”, “tillage”, or “roller”

## ADDITIONAL CRITERIA

- Certify that the grower did not burn any cover crop residue.
- Complete RUSLE2 for the acreage enrolled in the cover crop practice – this output will determine the ability to certify that the SCI value is greater than 0.

Notes Box: Include any additional notes or comments you have that might be relevant.

## PRODUCER SELF-CERTIFICATION

- Read and check the agreement boxes, have the producer sign his or her name, and date the form.

### Cover Crop - Common Species and Properties

This table can be found in its original form at the Field Office Technical Guide link: [North Dakota | Field Office Technical Guide](#)

[| NRCS - USDA](#)

Cover Crop	Erosion Reduction	Increase soil organic matter	Capture, redistribute nutrients in the soil profile	Promote biological nitrogen fixation	Weed suppression	Provide supplemental hay	Provide supplemental grazing	Rooting Depth / Plant Water Use /1	Minimize / reduce soil compaction	Seed size (Large or Fine)	Crop Type /2	Seeding rate, lbs/acre	Seeding depth, inches	Salinity tolerance	C:N Ratio	Attract Beneficial Insects	Mycorrhizal fungi association	Tolerance to Frost	Approx. Seeds / lb	lb/bushel
annual fescue	G	G	G	P	G	F	F	SL	P	F	CG	1	0.25 -	P	L	N	P	G	700000	
annual ryegrass	G	G	G	P	G	F	F	SM	P	F	CG	10	0.25 -	G	H	N	F	P	190000	
barley	G	G	G	P	G	F	F	MM	F	L	CG	48	1.5 -	G	M	N	P	P	14000	47/6R 50/2R
berseem clover	P	P	F	G	F	F	G	MH	F	F	CB	8	0.5 -	F	L	Y	P	P	207000	
buckwheat***	G	F	G	P	G	P	P	SL	P	F	CB	40	1.0 -	P	L	Y	P	P	19000	
camelina	F	P	G	P	P	P	P	ML	G	F	CB	4	0.25 -	F	L	Y	N	P	400000	
canola	F	F	G	P	P-G**	F	F	MM	G	F	CB	5	0.5 -	G	L	Y	P	P	140000	
chickling vetch	F	F	F	G	P	F	F	DM	F	L	CB	50	1.5 -	P	L	Y	P	P	2500	
chickpea (Desi)	F	F	G	G	P	G	F	DL	F	L	WB	60	1.5 -	P	L	Y	G	F	2300	
chickpea (Kabuli)	F	F	G	G	P	G	F	DL	F	L	WB	60	1.5 -	P	L	Y	G	F	1000	
common vetch	F	F	F	G	G	G	G	SH	F	L	CB	20	1.0 -	F	L	Y	P	P	8000	
corn	G	G	G	P	P-G**	F	F	DH	G	L	WG	25	1.0 -	P	H	N	G	P	2500	56
cowpea	P	P	F	G	G	F	F	SL	F	L	WB	30	1.0 -	P	L	Y	F	P	4000	60
crimson clover	F	F	F	G	F	F	G	MM	F	F	CB	10	0.25 -	P	L	Y	G	P	150000	60
flax	F	F	F	P	P	P	P	SM	P	F	CB	50	0.5 -	P	H	Y	G	G	80000	49
hairy vetch	G	F	F	G	P	F	F	SM	F	L	WB	20	1.0 -	P	L	Y	F	G	14000	
horse bean	F	F	F	G	F	G	G	DM	G	L	WB	20	1.0 -	F	L	Y	P	F	2500	

kale	F	F	G	P	F	F	G	DH	G	F	CB	3	0.25 -	P	L	Y	P	G	175000	
kura clover	F	F	F	G	P	F	G	SH	F	F	CB	2	0.5 -	P	L	Y	P	G	152000	
lentil	P	P	F	G	P	F	F	SL	P	F	CB	50	1.0 -	P	L	Y	F	G	20000	
medic	P	P	G	G	F*	F	F	MM	F	F	CB	2	0.25 -	P	L	Y	F	G	265000	
millet	G	G	F	P	G	G	F	SL	F	L	WG	12	0.25 -	F	M	N	G	G	130000	50
mustard, tame	F	F	G	P	G	F	F	ML	F	F	CB	5	0.25 -	P	L	Y	P	F	140000	
oat	G	G	G	P	F	G	F	MM	F	L	CG	50	1.0 -	P	M	N	P	F	16000	36
pea	P	P	P	G	F	G	F	SL	P	L	CB	50	1.5 -	P	L	Y	F	F	3500	
phacelia	F	F	F	P	F	P	F	SL	P	F	CB	5	0.25 -	P	L	Y	F	G	225000	
radish	P	P	G	P	G	P	G	DH	G	F	CB	4	0.25 -	P	L	Y	P	F	25000	
Red beet	P	P	G	P	F	P	F	DH	G	L	CB	4	0.5 -	F	L	N	P	F	170000	
red clover	F	F	F	G	G	F	G	DM	F	F	CB	8	0.25 -	P	L	Y	G	F	22000	
safflower	F	F	G	P	F	F	G	DH	F	L	WB	20	1.0 -	F	M	Y	F	F	15000	
sorghum	G	G	G	P	G	G	F	MM	G	L	WG	8	1.0 -	P	M	N	G	F	17000	57
soybean	P	P	F	G	P- G**	F	F	SM	P	L	WB	50	1.0 -	P	L	Y	F	F	3000	60
spring rye or wheat	G	G	G	P	G	F	F	MH	F	L	CG	60	1.5 -	F	M	N	P	G	15000	56/58
subterranean clover	F	F	F	G	G	F	G	MH	F	F	CB	8	0.5 -	P	L	Y	F	F	54000	
sudangrass, sudan- sorghum hybrid	G	G	G	P	G	G	G	MM	G	L	WG	20	0.5 -	F	M	N	G	F	25000	28
sugarbeet	P	P	G	P	F	P	G	DH	G	F	CB	2	0.25 -	G	L	N	P	P	22000	
sunflower	F	F	G	P	F	P	G	DM	G	L	WB	4	0.5 -	F	M	Y	F	P	8000	25
sunn hemp	F	F	G	G	G	P	P	DH	G	F	WB	5	0.5 -	P	L	Y	F	P	15000	

sweet clover	G	F	F	G	F*	P	F	MM	F	F	CB	6	0.5 - 1.0	F	L	Y	F	G	260000	60
Teffgrass	G	G	F	P	G	G	G	SH	P	F	WG	4	0.25 - 0.5	F	H	N	G	G	1000000	
triticale	G	G	G	P	G	F	F	MH	F	L	CG	60	1.5 - 2.0	G	M	N	P	G	15000	48
turnip	P	P	G	P	G	P	G	DH	G	F	CB	4	0.25 - 0.5	P	L	Y	P	P	175000	
turnip - psaja	F	F	G	P	F	P	G	DH	G	F	CB	4	0.25 - 0.5	P	L	Y	P	F	180000	
white dutch clover	F	F	F	G	P	F	G	MH	P	F	CB	3	0.5 - 1.0	P	L	Y	P	G	712000	60
winter canola	F	F	G	P	P- G**	F	F	MM	G	F	CB	5	0.25 - 0.5	G	L	Y	P	F	140000	
winter rye or wheat	G	G	G	P	G	F	F	MH	F	L	CG	60	1.5 - 2.0	P	M	N	P	F	18000	56/60

Table Key: Rooting Depth/Water Use	
SL= Shallow rooted/Low water use	Shallo w = 6 - 18 inches
SM= Shallow rooted/Medium water use	Mediu m = 18 - 24 inches
SH= Shallow rooted/High water use	Deep = 24 + inches
ML= Medium rooted/Low water use	
MM= Medium rooted/Medium water use	
MH= Medium rooted/High water use	*These species are considered invasive on rangeland, avoid use in fields adjacent to rangeland.
DL= Deep rooted/Low water use	**Poor weed competitor, but herbicide-tolerant varieties are available.
DM= Deep rooted/Medium water use	***Refer to NRCS NB-190-16-8 ECS Exclusion of buckwheat in conservation plantings in or near commodity wheat fields for planning restrictions with buckwheat.
DH= Deep rooted/High water use	

Table Key: Crop types	
CG =	cool season grass
CB =	cool season broadleaf
WB =	warm season broadleaf
WG =	warm season grass

Table key: Ratings			
L =	Low	G =	Good
M =	Medium	F =	Fair
H =	High	P =	Poor
N/A =	Not Available		

\*These species are considered invasive on rangeland, avoid use in fields adjacent to rangeland.

\*\*Poor weed competitor, but herbicide-tolerant varieties are available.

\*\*\*Refer to NRCS NB-190-16-8 ECS Exclusion of buckwheat in conservation plantings in or near commodity wheat fields for planning restrictions with buckwheat.