

# Cover Crop (340) Technical Reference

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**Table 1: Warm Season Cover Crop Species Selection Based on Soil Concerns**

	Families								
	Grasses			Brassicas/Non-Legume Broadleaf			Legumes		
	Sorghum Sudan Grass	Pearl/Proso Millet	Teff	Buckwheat	Safflower	Sunflower	Cowpea	Sunn Hemp	Berseem Clover
Nutrient Losses	●	◐	●	○	●	●	○	◐	●
Nitrogen Fixation	○	○	○	○	○	○	●	●	●
Organic Matter and Overall Structure	●	●	●	◐	◐	◐	◐	●	●
Erosion	●	●	●	○	◐	◐	●	◐	●
Weeds	●	●	●	●	◐	◐	●	●	●
Subsoil Compaction and Infiltration	●	○	○	◐	●	◐	◐	●	○
Topsoil Compaction and Infiltration	◐	●	◐	●	◐	○	●	◐	●

○ = Weak/No Ability to Treat Concern    ◐ = Moderate Ability to Treat Concern    ● = Strong Ability to Treat Concern

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**Table 2: Cool Season Cover Crop Species Selection Based on Soils Concern**

	Families											
	Grasses						Brassicas/Non-Legume Broadleaf					
	Annual Ryegrass	Rye	Barley	Wheat	Triticale	Oats	Radish	Rapeseed/Canola	Mustards	Phacelia	Turnip	
Nutrient Losses	●	●	●	●	●	●	●	●	●	◐	●	●
Nitrogen Fixation	○	○	○	○	○	○	○	○	○	○	○	○
Organic Matter and Overall Structure	●	●	●	●	●	◐	●	◐	●	◐	○	○
Erosion	●	●	●	●	●	●	●	●	●	◐	○	○
Weeds	●	●	●	●	●	●	●	●	●	◐	●	●
Subsoil Compaction & Infiltration	◐	○	◐	◐	◐	○	●	◐	○	○	●	●
Topsoil Compaction & Infiltration	●	●	●	●	●	●	◐	◐	●	●	●	●

**Table 2 continued:**

	Legumes								
	Red Clover	Sweetclover	White Clover	Subterranean Clover	Crimson Clover	Field Peas	Hairy Vetch	Fava Bean	Lupin
Nutrient Losses	◐	○	○	○	◐	○	○	◐	○
Nitrogen Fixation	●	●	●	●	●	●	●	●	●
Organic Matter and Overall Structure	●	●	◐	●	●	◐	●	●	◐
Erosion	◐	●	●	●	●	●	◐	○	◐
Weeds	●	●	●	●	●	◐	◐	○	◐
Subsoil Compaction & Infiltration	●	●	○	○	○	○	◐	◐	◐
Topsoil Compaction & Infiltration	◐	●	●	◐	◐	●	●	○	○

- = Weak/No Ability to Treat Soils Concern
- ◐ = Moderate Ability to Treat Soils Concern
- = Strong Ability to Treat Soils Concern

Figure 1: Plant Hardiness Zone Map



**Table 3: Additional Cover Crop Planting Information and Recommendations:**

Species	Seeding Rate (lbs. /ac.)		Seeding Depth (inches)	Planting Dates by Hardiness Zone		Comments
	Drilled	Broadcast		6a and 6b	7a and 7b	
<b>Warm Season Grasses</b>						
<b>Sorghum – Sudan</b> ( <i>Sorghum bicolor</i> x <i>S. bicolor</i> var. <i>Sudanese</i> ) Also called Sudex or Sudax	35	40 - 50	½ - 1½	5/1 – 5/31	4/15 – 4/30	<ul style="list-style-type: none"> <li>Best to mix with buckwheat, sunn hemp, soybeans, or cowpeas.</li> <li>Sorghum – Sudan grass can yield very high amounts of biomass, growing 5-12 feet tall.</li> <li>Mowing when plants reach 3 to 4 feet deep will increase root mass five to eight times compared to non-mowed stands.</li> <li>This species is high in prussic acid and can contribute to livestock health issues if grazed. Once the plants reach maturity, the stems can become woody.</li> </ul>
<b>Pearl/Proso Millet</b> ( <i>Pennisetum glaucum</i> )/ ( <i>Panicum miliaceum</i> )	12 - 15	25 - 30	½ - ¾	5/1 – 6/15	5/15 – 7/1	<ul style="list-style-type: none"> <li>Millet is drought tolerant and adapted to areas that have poor soil quality.</li> <li>Millet can grow to be 12 feet tall; residue management may be a problem.</li> </ul>
<b>Teff</b> ( <i>Eragrostis tef</i> )	5 - 7	10 - 14	1/8 – ¼	5/15 – 7/1	5/15 – 7/1	<ul style="list-style-type: none"> <li>Planting teff grass deeper than ¼ “ can lead to a stand failure. This grass must be planted shallow for good establishment.</li> <li>Soil temperature should be at least 65° before planting.</li> </ul>
<b>Warm Season Brassicas/Non-Legume Broadleaf</b>						
<b>Buckwheat</b> ( <i>Fagopyrum esculentum</i> )	48 – 70	50 – 90	1 – 1¼	7/1 – 8/1	6/15 – 7/30	<ul style="list-style-type: none"> <li>Best to mix with sorghum-sudangrass hybrids and sunn hemp.</li> <li>Buckwheat will grow on a wide variety of soils and soils of poor quality. It will grow rapidly once planted. Buckwheat is very frost sensitive and does not grow well on heavy limestone soils.</li> <li>Buckwheat is quick to germinate and grow a dense ground cover. It will decompose quickly at the end of the season, releasing nutrients for the following crop.</li> <li>Buckwheat may become a weed if not terminated 7 to 10 days after flowering begins.</li> </ul>
<b>Safflower</b> ( <i>Carthamus tinctoris</i> )	15 - 20	10 - 40	1 – 1½	4/1 – 5/1	4/1 – 5/1	<ul style="list-style-type: none"> <li>Safflower taproots can reach 8 to 10 feet deep, depending on subsoil moisture and temperature.</li> <li>Safflower is sensitive to residual herbicides that are usually used on small grains.</li> <li>Due to the initial slow growth of safflower, weed control can be a problem and can hurt stands. Once safflower begins to grow, the canopy will close in allowing the plant to out compete late emerging weeds.</li> <li>A heavy stand of safflower is difficult to walk through due to the “spikes” on the leaves and stems.</li> </ul>

<b>Sunflower</b> ( <i>Helianthus annuus</i> )	4	8	½ - 1	5/15 – 8/15	5/15 – 8/15	<ul style="list-style-type: none"> <li>Sunflower tap roots can grow as deep as 6.5 feet.</li> </ul>
<b>Warm Season Legumes</b>						
<b>Cowpea</b> ( <i>Vigna unguiculata</i> )	30 - 90	70 - 120	1 1½	7/1 – 8/15	7/15 – 9/1	<ul style="list-style-type: none"> <li>Best to mix with sorghum-sudangrass and millets.</li> <li>In New Jersey, cowpea should be mixed with another cover crop if weed suppression is desired.</li> <li>Due to the nectaries on cowpea, it serves as an excellent crop for beneficial insects.</li> <li>If cowpeas are going to be used as a green manure, the entire plant should be green at the time of kill down for a quick release of nutrients back into the system.</li> <li>Mowing or rolling has not been found to be effective as stand-alone practices to terminate the crop.</li> </ul>
<b>Sunn Hemp</b> ( <i>Crotalaria juncea</i> )	The seeding rate of Sunn Hemp differs by variety. Refer to the seed company for the correct seeding rate.		½ - 1½	Up to 8/15	Up to 9/1	<ul style="list-style-type: none"> <li>Sunn Hemp has the ability to fix high amounts of N (up to 140 lbs./ac.) and a large amount of biomass in as little as 60 days from the time of planting.</li> <li>Sunn Hemp is adapted to many poor soil conditions and will grow on poor sandy soils better than other warm season cover crops.</li> <li>Sunn Hemp can grow as tall as 4 feet in 60 days and can reach heights of 6 feet after 90 days.</li> </ul>
<b>Berseem Clover</b> ( <i>Trifolium alexandrinum</i> )	8 - 12	15 - 20	¼ - ½	8/1 – 8/31	8/15 – 9/15	<ul style="list-style-type: none"> <li>Best to mix with oats, ryegrass, and small grains.</li> <li>Berseem Clover can fix 100 to 200 lbs. of N or more, making it an ideal cover following small grains before a heavy N user such as corn is planted. It will winterkill, so a cover good at scavenging N should be planted if N management is the goal.</li> <li>If soil tests show P levels at below 20 ppm, phosphorus amendments must be applied for Berseem Clover to grow.</li> </ul>
<b>Cool Season Grasses</b>						
<b>Annual Ryegrass</b> ( <i>Lolium multiflorum</i> )	10 - 20	20 - 30	1/8 - ½	8/1 – 9/15	9/1 – 10/31	<ul style="list-style-type: none"> <li>Best to mix with other grasses and legumes.</li> <li>Ryegrass prefers well drained loam or sandy loam soils, but will establish well on poor soils.</li> <li>Annual ryegrass has the capability to scavenge high amounts of nitrate in the topsoil over winter and into spring.</li> </ul>
<b>Rye</b> ( <i>Secale cereale</i> )	60 - 120	90 - 160	¾ - 2	8/1 – 10/31	9/1 – 10/31	<ul style="list-style-type: none"> <li>Best to mix with legumes, grasses, and other small grains.</li> <li>Rye's residue will take a relatively long time to break down in the spring. N could be immobilized, requiring a higher than normal N application at planting time.</li> <li>The allelopathic effects of rye usually begin to taper off after 30 days. When planting small seeded crops such as carrots or onions, leave at least 3 to 4 weeks between the time the rye was killed and the time the crop is planted. Rye seedlings have more allelopathic compounds than mature rye.</li> </ul>
<b>Barley</b>	50 - 100	80 - 125	¾ - 2	8/1 – 9/31	8/15 – 10/15	<ul style="list-style-type: none"> <li>Best to mix with annual legumes, ryegrass, and other small grains.</li> </ul>

<b>(<i>Hordeum vulgare</i>)</b>						<ul style="list-style-type: none"> <li>Has the capability of producing more biomass in a shorter time than other cereal crops.</li> <li>Can develop deep fibrous roots up to 6.5 feet deep.</li> <li>Will release allelopathic chemicals to help weed suppression.</li> <li>Barley is less winter hardy than wheat, triticale, or rye.</li> </ul>
<b>Wheat</b> <b>(<i>Triticum aestivum</i>)</b>	60 - 120	60 - 150	½ - 1½	8/1 – 10/31	9/1 – 10/31	<ul style="list-style-type: none"> <li>Best to mix with legumes, ryegrass, or other small grains.</li> <li>Wheat is excellent at recycling nitrogen, potassium, and phosphorus if the stems and leaves aren't removed during harvest or kill down.</li> </ul>
<b>Triticale</b> <b>(<i>Triticale hexaploide</i>)</b>	60 - 120	75 - 150	1 - 2	8/15 – 10/15	9/1 – 10/31	<ul style="list-style-type: none"> <li>Triticale is a cross between durham wheat and rye. It has the disease resistance of wheat and the hardiness of rye.</li> <li>Triticale generally does not grow as tall as rye, and therefore is easier to manage for residue in the spring.</li> </ul>
<b>Oats</b> <b>(<i>Avena sativa</i>)</b>	80 - 110	110 - 140	½ - 1½	8/1 – 10/15	9/1 – 10/31	<ul style="list-style-type: none"> <li>Best to mix with clovers, peas, vetches, and other small grains.</li> <li>Allelopathic compounds can suppress weeds, but may also hinder the growth of subsequent crops such as lettuce, cress, timothy, rice, wheat, and peas. Oats should be killed down at least three weeks prior to planting these crops.</li> </ul>
<b>Cool Season Brassicas/Non-Legume Broadleaf</b>						
<b>Radish</b> <b>(<i>Raphanus sativus</i>)</b>	8 - 13	10 - 20	¼ - ½	8/1 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>If odor is a concern, radish should be planted in a mix with other cover crops and the seeding rate reduced to no more than 2-3 lbs./ac.</li> <li>Produces large amounts of above and below ground biomass.</li> <li>The varieties 'niger' and 'longipinnatus' have very long, thick tap roots. These varieties are sometimes referred to as "tillage" radishes because they can be used to break up hard pans. The variety 'oleiferus' (usually grown for oilseed) has shorter roots but is somewhat more winter hardy.</li> <li>Will die-off once temperatures reach about 25° F</li> </ul>
<b>Rapeseed/Canola</b> <b>(<i>Brassica rapa</i>) /</b> <b>(<i>Brassica napus</i>)</b>	4	8	¼ - ¾	8/1 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>Best to mix with other brassicas, small grains, and crimson clover</li> <li>All brassicas (rape, mustards, and turnips) will release bio-toxic compounds or metabolic by-products that exhibit broad activity against bacteria, fungi, insects, nematodes, and weeds.</li> <li>If grown on sandy soils, extra sulfate sulfur may be needed for improved growth.</li> <li>Some winter-type cultivars can withstand temperatures of 10° F.</li> <li>Will grow to be 3 – 5 feet tall.</li> </ul>
<b>Mustards</b> <b>(<i>Brassica hirta</i>/</b> <b><i>Brassica juncea</i>)</b>	5 - 12	10 - 15	¼ - ¾	7/15 – 9/1	7/15 – 9/1	<ul style="list-style-type: none"> <li>Best to mix with other brassicas, small grains, and crimson clover</li> <li>Mustards have the highest concentration (of the brassica family) of bio-toxic compounds or metabolic by-products.</li> <li>Will die-off once temperatures reach about 25° F.</li> </ul>
<b>Phacelia</b> <b>(<i>Phacelia tanacetifolia</i>)</b>	7	Not Rec.	½	3/15 – 5/15 or 8/1 – 9/1	3/15 – 5/15 or 8/1 – 9/1	<ul style="list-style-type: none"> <li>Phacelia has shallow root systems, but can greatly improve soil structure and aggregation within the top two inches of the profile.</li> </ul>

						<ul style="list-style-type: none"> <li>▪ This is a fast growing crop that can reach grow up to 4 feet tall.</li> <li>▪ Excellent cover crop to be used by pollinators.</li> <li>▪ Will winter kill once temperatures reach the mid-teens.</li> </ul>
<b>Turnip</b> ( <i>Brassica rapa</i> )	4	8	¼ - ½	8/1 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>▪ Best to mix with other brassicas, small grains, and crimson clover</li> <li>▪ Will die-off once temperatures reach about 25° F.</li> </ul>
<b>Cool Season Legumes</b>						
<b>Red Clover</b> ( <i>Trifolium pratense</i> )	8 – 10	10 – 12	¼ - ½	8/15 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>▪ Best to mix with small grains, sweetclover, corn, soybeans, vegetables, and grass forages.</li> <li>▪ Red clover is shade tolerant and can germinate at temperatures as low as 41° F.</li> <li>▪ Do not plant red clover within six weeks of when a pre-emergent herbicide was applied.</li> </ul>
<b>Sweetclovers</b> ( <i>Melilotus sp.</i> ) <b>Yellow Sweetclover and White Sweetclover</b>	6 – 10	10 – 20	¼ - 1	8/1 – 9/15	8/15 – 10/1	<ul style="list-style-type: none"> <li>▪ Best to mix with small grains and red clover.</li> <li>▪ Sweetclovers are very drought tolerant and winter hardy.</li> <li>▪ Sweetclovers are able to mine phosphorus, potassium, and micronutrients from the soil and release them to be available to other soil biota.</li> <li>▪ For maximum effect of subsoiling, use the lowest recommended seeding rate.</li> <li>▪ Sweetclover residue is allelopathic towards Russian thistle, dandelion, perennial sowthistle, jimson weed, green foxtail, and Canada thistle.</li> <li>▪ Sweetclover is a poor competitor with weeds within the establishment year.</li> </ul>
<b>White Clover</b> ( <i>Trifolium repens</i> )	3 – 9	5 – 14	¼ - ½	8/15 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>▪ Best mixed with annual ryegrass and red clover.</li> <li>▪ White clover is one of the best cover crops to plant (frost seed or broadcast) into a growing cash crop.</li> <li>▪ White clover is less tolerant of soils with pH's above 7 than the other clovers.</li> <li>▪ White clover holds up to 45% of the plant's N in the roots. Light tillage will increase the release of N into the soil system.</li> </ul>
<b>Subterranean Clover</b> ( <i>Trifolium subterraneum</i> )	10 - 12	20 – 30	¼ - ½	10/1 – 10/15	10/1 – 10/15	<ul style="list-style-type: none"> <li>▪ Best to mix with other clovers.</li> <li>▪ Subclovers provide good weed suppression without needing to grow height-wise.</li> <li>▪ Subclover can be relatively hard to kill in the spring using only light tillage before the plant blooms.</li> <li>▪ Subclovers will release allelopathic compounds that can hinder the growth of crops if the clover isn't killed early enough.</li> <li>▪ Subclovers will generally need the average low temperature to be 63-67°F for successful germination of the stand to occur.</li> </ul>
<b>Crimson Clover</b> ( <i>Trifolium incarnatum</i> )	15 - 20	22 – 30	¼ - ½	8/15 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>▪ Best to mix with rye and other cereal crops, vetches, annual ryegrass, subterranean clover, and red clover.</li> <li>▪ Crimson clover can often overwinter in New Jersey.</li> </ul>

						<ul style="list-style-type: none"> <li>Does best in well drained soils; it may not grow well on heavy clay, waterlogged, extremely acidic or alkaline soils.</li> <li>Do not plant too early in the summer/fall.</li> </ul>
<b>Field Peas</b> ( <i>Pisum sativum subsp. Arvense</i> )	50 - 80	90 – 100	1½ - 3	8/1 – 9/15	8/15 – 10/1	<ul style="list-style-type: none"> <li>Best to mix with wheat, rye, triticale, or barley.</li> <li>Do not plant winter hardy peas (Austrian winter pea) too early in the summer as this will cause minimized growth of the plants.</li> <li>Austrian winter pea is an exceptional choice for a green manure due to quick and sustained N mineralization.</li> <li>Can withstand temperatures as low as 10° F.</li> </ul>
<b>Hairy Vetch</b> ( <i>Vicia villosa</i> )	15 - 20	25 – 40	½ - 1½	8/1 – 9/15	9/1 – 10/1	<ul style="list-style-type: none"> <li>Best to mix with small grains, field peas, crimson clover, and buckwheat.</li> <li>Hairy Vetch can produce its maximum nitrogen inputs in the spring before corn is planted.</li> <li>Mixes of hairy vetch and oats have been proven to reduce the amount of surface ponding and soil crusting in loam and sandy loam soils.</li> </ul>
<b>Fava Bean</b> ( <i>Vicia faba</i> )	100	150	3	7/15 – 9/1	7/15 – 9/1	<ul style="list-style-type: none"> <li>Studies show fava bean can scavenge as much nitrogen as red clover; however the return of nitrogen was more similar to soybeans than the red clover once spring came.</li> <li>Some varieties of Fava Bean can withstand temperatures as low as 10° F.</li> <li>Fava Bean will produce large amounts of biomass, growing up to 6 feet tall by May.</li> </ul>
<b>Lupin</b> ( <i>Lupinus angustifolius</i> )	40	Not Rec.	1 – 1 ½	8/1 – 9/15	8/1 – 9/15	<ul style="list-style-type: none"> <li>If lupin has not been grown in the field before, inoculation is important for a successful stand.</li> <li>Lupins are susceptible to a wide range of insect pests.</li> <li>Lupin stubble can become toxic to livestock, producers should be aware of the consequences of grazing lupin.</li> <li>Tolerance to frost and poor soil fertility is dependent on the variety of lupin (yellow, white, or blue).</li> </ul>

\*\* All of the information in this table is for planning purposes. Seed suppliers may have varieties specifically adapted for alternative uses or climates not represented in this table. Any differentiation of seeding rates or dates need to be expressed to the NRCS NJ Resources staff *before* planting; if the practice is included in any Farm Bill Program contract, the proper waiver must be obtained before planting.



Cover crops on a field in Black Hawk County, Iowa.

Photo: Lynn Betts, NRCS

# NRCS Cover Crop Termination Guidelines

September 2014

## Background:

To ensure that USDA policies are coordinated and up to date with evolving cover crop practices, the administrators of the Natural Resources Conservation Service (NRCS), Risk Management Agency (RMA) and Farm Service Agency (FSA) organized an interagency workgroup to develop consistent, simple and flexible policy across the three agencies. National and local experts, along with multiple stakeholders, were involved in the process. Research literature, plant growth, soil hydrology models, and input from national/local experts in cover crop management provided the basis for developing cover crop termination guidelines to achieve their conservation benefits while minimizing risk of reducing yield to the following crop due to soil water use. These guidelines will be applicable to all USDA programs.

**These guidelines only apply to non-irrigated cropland, including systems that contain a fallow period. The cover crops in irrigated cropping systems should be terminated based on the crop system and the conservation purpose, but before the planted crop emerges.**

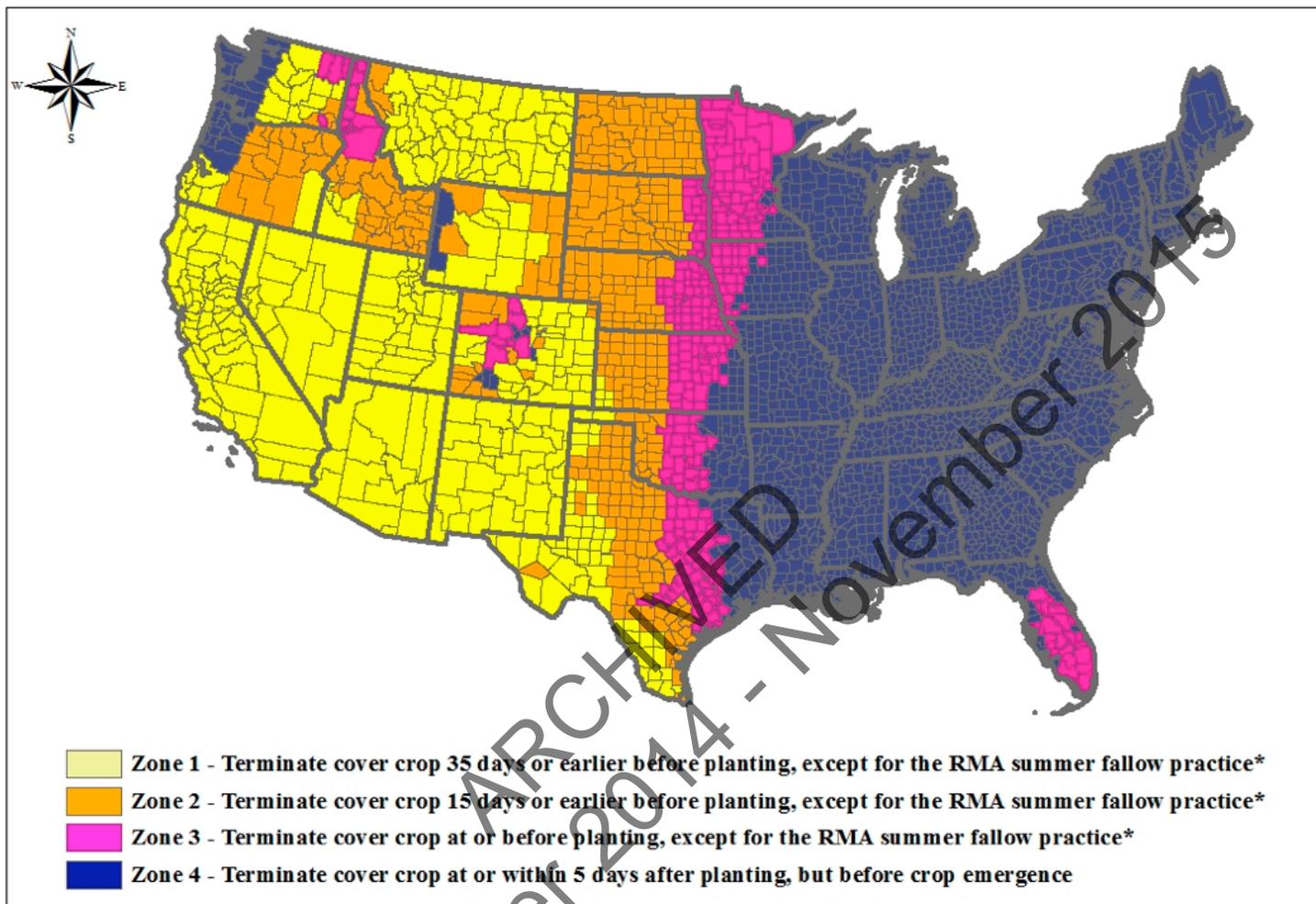
## NRCS Cover Crop Termination Guidelines for Management Zones

Zone 1 - See Map	Zone 2 - See Map	Zone 3 - See Map	Zone 4 - See Map
NRCS Cover Crop Termination Period Guidance - Non-Irrigated Cropland:			
<b>For Late Spring to Fall Seeded Crops -</b> For Late Spring to Fall Seeded Crops - Terminate cover crops 35 days or earlier prior to planting the crop. <b>Early Spring Seeded Crops -</b> Terminate cover crops as soon as practical prior to planting the crop. (Additional Cover Crop Termination Considerations 4 and 8)	<b>For Late Spring to Fall Seeded Crops -</b> Terminate cover crops 15 days or earlier prior to planting the crop. <b>For Early Spring Seeded Crops -</b> Terminate cover crops as soon as practical prior to planting the crop. (Additional Cover Crop Termination Considerations 4 and 8)	Terminate cover crop at or before planting the crop.	Terminate cover crop, at, or within 5 days after planting, but before crop emergence.
<b>RMA Designated Summerfallow Practice (See "Consideration #13" for additional guidance)</b>	<b>RMA Designated Summer Fallow Practice (See Consideration #13" for additional guidance)</b>	<b>RMA Designated Summer Fallow Practice (See Consideration #13" for additional guidance)</b>	

Note: These guidelines can be used as a stand alone document, if needed.

# \* Cover Crop Termination Zones

Produced by: NRCS | ESD  
December 2013



\*See guidelines for details on the RMA summer fallow practice.



No-till planting of corn into cover crop of barley.  
Washington County, Virginia.

Photo: Jeff Vanuga



Photo: Justin Fritsher, NRCS



Cover crops in an orchard reduce soil erosion.

Photo: Gary Kramer

## Additional Cover Crop Termination Considerations:

1. If the season is drier than normal nearing cover crop termination time, consider an earlier termination to conserve soil moisture.
2. If the spring season is wetter than normal at cover crop termination time, consider a later termination to use excess soil moisture and improve seedbed condition.
3. If the cover crop is part of a no-till system, termination can be delayed up to 7 days from the above termination period guideline, but terminated prior to crop emergence for all zones and systems.
4. In zones 1 and 2, fall seeded cover crops will have limited growth in the spring prior to “early” spring seeded crops (e.g., spring wheat, sugar beets, corn), and therefore the cover crop may be terminated at or just prior to planting.
5. Cover crop termination zones 1 and 2, in the largely mountainous regions in the Western U.S. (from Montana south to New Mexico and west to California), were refined by NRCS and other local university experts to identify proper cover crop management due to wide variability in climate and cropping systems in those areas.
6. Early vs. Later Spring Seeded Crops – Crops planted as early as possible after the spring thaw are considered early spring crops (e.g., spring wheat, spring barley, sugar beets, corn).
7. New Technology – Where new technology has at least three years of satisfactory performance (achieves historical yield) based on farm records and the written approval of two “agricultural experts” as defined by RMA or recommended by Extension or Ag Industry, the cover crop may be terminated closer to planting or planted during a different time period.
8. Cover Crop Grazing or Forage Harvest – Cover crops may be grazed or harvested as hay or silage, unless prohibited by RMA crop insurance policy provisions. Cover crops cannot be harvested for grain or seed.
9. Herbaceous Wind Barriers – There are specific cropping situations when seasonal cover is needed to protect young seedlings from wind erosion/abrasion. The typical seasonal covers may include such crops as wheat, rye, or oats that are planted in rows, e.g. 20 feet apart (single or double row of small grain). These seasonal covers fall under the NRCS Conservation Practice [Code 603 – Herbaceous Wind Barriers](#). These barriers are not considered cover crops.
10. Short Season Cover Crops – There are specific cropping situations where the producer will plant the intended crop, plus a short term seasonal cover crop ([NRCS Conservation Practice Code 340 – Cover Crop](#)) prior to or at the same time as planting the main or insured crop. In this case the seasonal cover emerges first and provides short term wind erosion protection until the main crop becomes established and provides its own protection from wind erosion. These seasonal cover crops are terminated by cultivation, frost /winterkill, or herbicides once the main crop is established. The seasonal covers used for the purpose of early crop establishment must be appropriate species for the area and the planned purpose.
11. Early Crop Planting – When earlier than normal planting occurs due to favorable weather or soil conditions, cover crop termination will naturally occur closer to planting. For example, in zone 2, if planting occurs 2 weeks earlier than normal, the cover crop termination period may be 2 weeks closer to planting.
12. Multiple Climates Within a County – Some counties may have multiple climate areas. In these situations, producers may request a different cover crop termination zone management or timeframe due to unique geographical and topographical features that reflect a different climate. Producers should contact either Extension or the local NRCS for management guidance. If the guidance includes practices other than indicated by the zones in this document, the producer must inform FSA and their crop insurance agent, as appropriate, and provide copies of the recommended management practice(s).

## Additional Cover Crop Termination Considerations (Continued):

13. RMA Summerfallow Practice – If a crop, or a cover crop, is planted on summerfallow acreage in a fallow year, the following planted crop will not meet the RMA Summerfallow Practice definition until the acres lie fallow for a full crop year. For the 2015 crop year, if a cover crop was planted during the fallow year, the acreage may be insured under the “continuous cropping practice” (if available in your county), or by written agreement (if continuous cropping is not available in your county). For the 2016 and succeeding crop years, if a cover crop is planted during the fallow year, the acreage may be insured under the “continuous cropping practice” (if available in your county), or by written agreement (if continuous cropping is not available in your county) provided the cover crop is terminated at least 90 days prior to planting for summer and fall seeded crops. For early spring seeded crops, terminate the cover crop in the fall or as early as possible in the spring. Please contact your crop insurance agent for more information.

## Definitions:

1. Over-Seeding/Interseeding – Both terms can be defined as planting one or more cover crop species into an existing or established crop. Common uses that involve over-seeding or interseeding include: (1) over-seeding a grass and/or legume cover crop into an existing stand of small grain at an appropriate time for the cover and germination, or (2) seeding a cover crop into an existing crop (e.g., corn or soybeans) at a time that will not impact the yield or harvest of the insured crop.
2. Interplanted – This involves multiple crop species grown together, with no distinct row pattern and does not permit separate agronomic maintenance or management. For RMA purposes, this means if a cover crop and cash crop are planted in a way that does not permit separate agronomic maintenance or management, then RMA will not insure the cash crop. This would also apply to cover crops if interplanted into the main crop and the cover crop interfered with the agronomic management and harvest of the main crop.
3. Relay Cropping – The practice of interseeding a second crop into the first crop well before the first crop is harvested. The relay cropping strategy is used to enable production of a second crop in areas where time for seeding the second crop following harvest of the first is considered inadequate for double cropping. This is not considered a cover cropping practice, but a method of double cropping and may fall under the RMA 1st / 2nd crop rules.
4. Double-Cropping – RMA and NRCS term: Producing at least 2 crops for harvest from the same acreage in the same crop year. This does not include cover crops.
5. Cover Crop – Crops including grasses, legumes and forbs for seasonal cover and other conservation purposes. Cover crops are primarily used for erosion control, soil health improvement, and water quality improvement. A cover crop managed and terminated according to these guidelines is not considered a “crop” for crop insurance purposes. The cover crop may be terminated by natural causes such as frost, or intentionally terminated through chemical application, crimping, rolling, tillage, or cutting.
6. Termination – Termination means growth has ended.
7. Good Farming Practice – RMA term - The production methods utilized to produce the insured crop and allow it to make normal progress toward maturity and produce at least the yield used to determine the production guarantee or amount of insurance, including any adjustments for late planted acreage, which are: (1) for conventional or sustainable farming practices, those generally recognized by agricultural experts for the area; or (2) for organic farming practices, those generally recognized by organic agricultural experts for the area or contained in the organic plan.
8. Continuous Cropping – RMA Term – Any non-irrigated production practice that does not qualify as a summer fallow practice.