



1. Voluntary Nutrient Management Plan Development

Purpose

1. To encourage agricultural producers to develop and submit a Voluntary Nutrient Management Plan (VNMP).
2. To increase producer collection and use of soil test results to develop nutrient recommendations.
3. To properly utilize commercial fertilizer, manure and/or organic by-products as a plant nutrient source or soil amendment.
4. To reduce agricultural nonpoint source pollution of surface water and groundwater resources.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state, or federal program (CSP, EQIP, H2Ohio, etc.), are not eligible.

Specifications

1. VNMPs developed through this program must meet the minimum requirements set forth in ORC 905.31(DD).
2. VNMP may be developed by a 4R Certified Ag Retailer, Certified Crop Advisor (CCA), or producer.
3. Plans must be reviewed and approved by the local SWCD Board of Supervisors or director's designee.
4. Producers utilizing a 4R Certified Ag Retailer, will need to submit their nutrient management plan to the local SWCD, for director's designee review.
5. Average yield goals shall be used for phosphorus and potassium fertilizer recommendations.
6. Plans must be submitted with an OVNMP – Farm Summary or equivalent documentation.

Technical Responsibilities

Producer Responsibilities

1. Submit completed VNMP to SWCD for review and or approval.
2. If necessary, revise, and resubmit plan to SWCD.
3. VNMP must cover all nutrient applications for the enrolled years.

SWCD Responsibilities

1. Receive application from the producer, determine eligibility, and complete the agreement.
2. Refer non-approved VNMP back to the producer for edits and re-submittal to meet ORC 905.31 (DD).
3. Review VNMPs submitted by producers and make recommendations to the SWCD board for plan approval, if not already approved by director's designee.
4. Process payment to the producer.

Participant Payments

Producers will receive \$10/ac upon approval of VNMP from the SWCD.



Minimum Requirements of Ohio Voluntary Nutrient Management Plans - ORC 905.31(DD)

1. Representative soil tests compliant with the field office technical guide established by the natural resources conservation service and not older than four years;
2. Documenting the method and seasonal time of utilization and application of nutrients;
3. Identifying all nutrients applied, including manure, fertilizer, sewage sludge, and biodigester residue;
4. Field information regarding land subject to the plan, including the location, spreadable acreage, crops grown, and actual and projected yields.

Additional Consideration for Livestock Producers

Most program participants will be able to use the VNMP to complete H2Ohio program requirements.

Livestock producers who produce a significant amount of manure in their operations will be required to develop a CNMP.

1. Operations that produce more than 350 tons of manure, or more than 100,000 gallons of liquid manure annually are required to develop a CNMP.
2. Operations producing less than 350 tons, or 100,000 gallons of manure annually must be assessed to determine the need for a CNMP. Current soil tests and livestock production facilities will be used to determine if a CNMP is needed for these operations.

A site visit to the livestock production facilities may be required.

Current soil tests must be reviewed to assess the operation’s ability to utilize nutrients produced at the farm.

Livestock operations required to maintain a permit under ODA’s Division of Livestock Environmental Permitting Program or under Distressed Watershed Rules are not eligible for incentives under the VNMP Development practice.

Producers are eligible to participate and receive incentives under all the remaining practices offered through H2Ohio.

Work directly with SWCD/ODA to determine if a CNMP is needed.



1. Voluntary Nutrient Management Plan Implementation

Purpose

1. To encourage agricultural producers, utilize an approved Voluntary Nutrient Management Plan (VNMP).
2. To increase producer collection and use of soil test results to develop nutrient recommendations.
3. To properly utilize commercial fertilizer, manure and/or organic by-products as a plant nutrient source or soil amendment.
4. To reduce agricultural nonpoint source pollution of surface water and groundwater resources.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state or federal program (CSP, EQIP, H2Ohio, etc.), are not eligible.

Specifications

1. VNMPs must be maintained to the minimum requirements set forth in ORC 905.31(DD).
2. Any modifications to nutrient application must be consistent with H2Ohio practice requirements and NRCS 590 Conservation Practice Standard.

Technical Responsibilities

Producer Responsibilities

1. Maintain an approved VNMP with the SWCD.
2. If necessary, revise, and resubmit VNMP to SWCD.
3. Make nutrient application records available to the SWCD for review and compliance with VNMP.

SWCD Responsibilities

1. Review nutrient application records annually and certify records are consistent with approved VNMP.
2. Enter all required information into Beehive.
3. Process payment to the producer.

Participant Payments

Producers will receive a \$10/ac payment after nutrient application records have been reviewed and certified each contracted year.



Recordkeeping Requirements

All applicators/producers shall maintain nutrient application records. For each application of nutrients applied for the primary purpose of agricultural production, the applicator/producer shall document the following information within 24 hours of application:

1. The date of the application of nutrients;
2. The place of application of nutrients;
3. The number of acres applied;
4. The rate of application of nutrients;
5. The total amount of nutrients applied, by weight or volume;
6. An analysis of the nutrients applied;
7. The name of the individual who applied the nutrients;
8. The name of the certificate holder, if applicable;
9. The soil conditions at the time of the application;
10. The type of application method (soil injected, incorporated, surface, etc.);
11. The weather conditions at the time of application, including temperature and precipitation;
12. The weather forecast for the day following application; and
13. For surface application only, whether the land at the time of application was frozen and/or snow covered.

All individuals acting under the instructions and control of a certificate holder shall transmit all nutrient application records to the certificate holder within 10 days of application.

Nutrient application records shall be maintained for a period of three years. If applicable, the employer of a certificate holder may elect to maintain the nutrient application records. If elected, the employer shall maintain the nutrient application records for a period of three years even if the employee-employer relationship has ended. The employer must make the records available to the certificate holder and the Ohio Department of Agriculture, upon request.

All fertilizer certificate holders shall transmit all nutrient application records to the farm operator within 30 days of application.

Fertilizer certificate holders are not required to submit these records to the director, but the records shall be made available to the director or the director's designee for review upon request.



2. Variable Rate Phosphorus Application

Purpose

1. To maximize nutrient use efficiency.
2. To budget, supply, and conserve nutrients for plant production.
3. To minimize risk of agricultural nonpoint source pollution of surface water and groundwater resources.
4. To maintain or improve the physical, chemical, and biological condition of soil.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state, or federal program (CSP, EQIP, H2Ohio etc.) are not eligible.

Specifications

1. The producer has an approved Volunteer Nutrient Management Plan (VNMP).
2. Grids may be no greater than six acres, zones may be no greater than 12 acres.
3. All phosphorus nutrients will be variable rate applied, consistent with prescription provided.
4. Phosphorus prescriptions and applications shall not exceed two-year crop recommendations.
5. Producer is eligible for payment in fields where phosphorus variable rate application is completed.
6. If prescription calls for no phosphorus application, that field is not eligible for variable rate application.
7. Broadcast applications of wheat starter are ineligible.
8. A geo-referenced as-applied map will be submitted to the local SWCD.

Technical Responsibilities

Producer Responsibilities

1. Maintain an approved VNMP with the SWCD.
2. Provide SWCD with documentation of how the variable rate application will be accomplished (nutrient application equipment, custom applicator, proposed ag retailer).
3. Provide geo-referenced as-applied nutrient application map to SWCD for review annually.

SWCD Responsibilities

1. Receive application from the producer, determine eligibility, and complete the agreement.
2. Complete BMP Worksheet to document application plan.
3. Verify the prescription and as-applied documentation.
4. Enter all required information into Beehive.
5. Process payment to the producer.

Participant Payments

Producers will receive \$5/ac per year, for up to three years, after completion of all practice requirements.



Recordkeeping Requirements

All applicators/producers shall maintain nutrient application records. For each application of nutrients applied for the primary purpose of agricultural production, the applicator/producer shall document the following information within 24 hours of application:

1. The date of the application of fertilizer;
2. The place of application of fertilizer;
3. The number of acres applied;
4. The rate of application of fertilizer;
5. The total amount of fertilizer applied, by weight or volume;
6. An analysis of the fertilizer applied;
7. The name of the individual who applied the fertilizer;
8. The name of the certificate holder, if applicable;
9. The soil conditions at the time of the application;
10. The type of application method (soil injected, incorporated, surface, etc.);
11. The weather conditions at the time of application, including temperature and precipitation;
12. The weather forecast for the day following application; and
13. For surface application only, whether the land at the time of application was frozen and/or snow covered.

All individuals acting under the instructions and control of a certificate holder shall transmit all fertilizer application records to the certificate holder within 10 days of application.

Nutrient application records shall be maintained for a period of three years. If applicable, the employer of a certificate holder may elect to maintain the nutrient application records. If elected, the employer shall maintain the nutrient application records for a period of three years even if the employee-employer relationship has ended. The employer must make the records available to the certificate holder and the department of agriculture, upon request.

All fertilizer certificate holders shall transmit all nutrient application records to the farm operator within 30 days of application.

Fertilizer certificate holders are not required to submit these records to the director, but the records shall be made available to the director or the director's designee for review upon request.



3. Subsurface Phosphorus Placement

Purpose

1. To encourage agricultural producers to utilize nutrient application equipment that places nutrients below the soil surface.
2. To reduce risk of agricultural nonpoint source pollution of surface water and groundwater resources.

Applicability

Applies to cropland acres in the 10-county program area. Acres enrolled in Manure Incorporation are not eligible for Subsurface Fertilizer Placement. Acres receiving payment under any other county, state or federal program (CSP, EQIP, H2Ohio etc.) are not eligible.

Specifications

1. The producer has an approved Voluntary Nutrient Management Plan (VNMP) with the local SWCD
2. Producer must provide detailed plan of fertilizer and placement equipment to be used to achieve program requirements.
3. For the length of the agreement, all phosphorus will be placed a minimum of two inches below the surface for each acre contracted.
 - a. Phosphorus rates shall not exceed more than two years Tri-State Fertilizer Recommendation.
 - b. Phosphorus may be placed in multiple applications if the total amount does not exceed VNMP.
 - c. Wheat starter at removal rate is exempt from the placement requirement, however, no placement payment will be made for that crop year.
4. Subsurface placement equipment includes, but is not limited to; planter, sidedress, strip-till, or nutrient placement toolbars.
5. Broadcasting and incorporation of phosphorus is not eligible, for the length of the agreement.
6. Producers will only be paid for acres on which fertilizer is prescribed and applied in accordance with Tri-State Fertilizer Recommendations.
7. Potassium may be broadcast.

Technical Responsibilities

Producer Responsibilities

1. Maintain an approved VNMP with the SWCD.
2. Provide SWCD with documentation of how the nutrient placement will be accomplished (nutrient application equipment, custom applicator, proposed ag retailer).
3. Provide as-applied nutrient application documentation to SWCD for review annually.

SWCD Responsibilities

1. Receive application from the producer, determine eligibility, and complete the agreement.
2. Complete BMP Worksheet to document application plan.
3. Verify the prescription and as-applied documentation.
4. Enter all required information into Beehive.
5. Process payment to the producer.

Participant Payments

Producers will receive \$25/ac per year for as-applied acres, for up to three years, after completion of all practice requirements.

_____ Initials



Recordkeeping Requirements

All applicators/producers shall maintain nutrient application records. For each application of nutrients applied for the primary purpose of agricultural production, the applicator/producer shall document the following information within 24 hours of application:

1. The date of the application of fertilizer;
2. The place of application of fertilizer;
3. The number of acres applied;
4. The rate of application of fertilizer;
5. The total amount of fertilizer applied, by weight or volume;
6. An analysis of the fertilizer applied;
7. The name of the individual who applied the fertilizer;
8. The name of the certificate holder, if applicable;
9. The soil conditions at the time of the application;
10. The type of application method (soil injected, incorporated, surface, etc.);
11. The weather conditions at the time of application, including temperature and precipitation;
12. The weather forecast for the day following application; and
13. For surface application only, whether the land at the time of application was frozen and/or snow covered.

All individuals acting under the instructions and control of a certificate holder shall transmit all fertilizer application records to the certificate holder within ten days of application.

Nutrient application records shall be maintained for a period of three years. If applicable, the employer of a certificate holder may elect to maintain the nutrient application records. If elected, the employer shall maintain the nutrient application records for a period of three years even if the employee-employer relationship has ended. The employer must make the records available to the certificate holder and the department of agriculture, upon request.

All fertilizer certificate holders shall transmit all nutrient application records to the farm operator within 30 days of application.

Fertilizer certificate holders are not required to submit these records to the director, but the records shall be made available to the director or the director's designee for review upon request.



4. Manure Incorporation

Purpose

1. To encourage the application and incorporation of manure into a growing crop or to apply manure in the late summer to early fall time frame.
2. To better utilize nitrogen and phosphorus contained in manure.
3. To reduce the risk of manure and nutrient runoff.

Applicability

Applies to cropland acres in the 10-county program area. Acres enrolled in Subsurface Fertilizer Placement are not eligible for Manure Incorporation. Acres receiving payment under any other county, state, or federal program (CSP, EQIP, H2Ohio, etc.) are not eligible.

Specifications

1. Producer must provide a nutrient management plan consistent with Ohio NRCS 590 Standard.
2. Manure application is consistent with the requirements established in Ohio NRCS 590 Standard.
3. Manure cannot be surface applied to frozen, snow-covered or saturated soils.
4. Manure cannot be surface applied when the local weather forecast for the application area contains greater than a 50% chance of precipitation exceeding one-half inch in a 24-hour period.
5. Fields receiving manure must have soil tests showing Bray P1 levels of 50 ppm or less. Grid sampled fields must have an average Bray P1 soil test phosphorus of 50 ppm or less (Mehlich-III soil test level of 70 ppm or less).
6. Manure applied for this practice must originate in the county of application or from within the WLEB watershed.
7. Manure application must be accomplished consistent with one of the following methods and timing.
 - a. Manure is applied via side dress injection to a growing corn crop after emergence.
 - b. Manure is surface applied to a growing corn crop after emergence and incorporated using a row cultivator within 24 hours of application.
 - c. Manure is surface applied after the harvest of a small grain and incorporated within 24 hours of application; furthermore, all incorporation shall be completed prior to October 15.
 - d. Manure is injected directly into the soil through a strip-till toolbar or similar tool with minimal surface disruption after harvest and prior to October 15.
 - e. Manure is injected directly into the soil using a grassland applicator on growing wheat.
8. All manure will be placed a minimum of two inches below the surface.
9. Surface applied manure must be incorporated using a full-width disturbance tillage tool to mix the manure with the soil.
10. A cover crop is required for manure applications completed after July 1 and where a growing crop is not present.
11. If an overwintering cover crop is used the producer may also be eligible for the Overwintering Cover Crop practice.
12. Plant available nitrogen applied through the manure shall not exceed the nitrogen recommendations for the existing crop or the following years planned crop, whichever is applicable. If the following crop is a legume, nitrogen can be applied at the nitrogen removal rate for the legume crop up to a maximum of 150 pounds of plant available nitrogen.
13. All manure applications and incorporation must be completed by October 15.



Technical Responsibilities

Producer Responsibilities

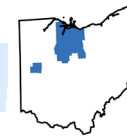
1. Maintain an approved VNMP with the SWCD.
2. Provide a manure application plan detailing the fields where application will be completed which includes crop rotation, application timing, application rates, application methods, and a representative manure analysis.
3. Obtain approval (confirmation) of the manure application plan from the SWCD.
4. Notify the SWCD 24 to 48 hours prior to manure application.
5. Follow applicable guidelines and setbacks for manure application set forth in Ohio NRCS 590 Standard Nutrient Management.
6. Manure application must be consistent with any other applicable permits or local requirements.
7. Obtain a copy of the weather forecast for the day and location of each manure application.
8. Incorporate surface applied manure within 24 hours of manure application.
9. Provide a copy of the manure application records, manure analysis, and weather forecast to the SWCD for review annually.

SWCD Responsibilities

1. Receive application from the producer and complete the contract.
2. Verify the VNMP submitted is consistent with the NRCS 590 Nutrient Management Standard, and document the application plan.
3. Develop, review, and approve the manure application plan annually using the Producer Guidelines for Manure Application Spreadsheet.
4. Review manure application plan and applicable guidelines in NRCS 590 Nutrient Management Standard upon manure application notification from the producer.
5. Confirm manure application and placement or incorporation with producer.
6. Review application records and forecast from producer to ensure applications are consistent with application plan and VNMP.
7. Enter all required information into Beehive.
8. Process payment to producer.

Participant Payments

Participants will receive \$35/ac for poultry manure application and incorporations, and \$60/ac for all other manure applications and incorporation, for up to three years. Payment will be made on acres where manure application was completed. Payments will be made annually after all requirements have been verified.



Adapted from NRCS Appendix A - Seeding Tables. 11-19-19 – See Appendix A for additional guidance on establishment, maintenance, termination.

Species	Overwintering ¹	Seeding Rates in Pounds PLS (Percentage of Mix)					Seeding depth (in)	North
		100%	75%	50%	33%	25%		
Winter Rye	Yes	50	38	25	17	13	1	8-1 to 10-15*
Winter Barley	Yes	59	44	29	19	15	1	8-15 to 10-10
Winter Wheat	Yes	64	48	32	21	16	1	9-22 to 10-15*
Winter Triticale	Yes	60	45	30	20	15	1	8-1 to 10-15*
Spelt	Yes	64	48	32	21	16	1	9-22 to 10-15*
Annual Ryegrass	Yes	18	13	9	6	4	0.5	8-1 to 9-20
Oats	No	40	30	20	14	10	1	8-1 to 9-20
Oilseed Radish	No	NR	NR	NR	2	1.5	0.5	8-1 to 9-15
Rapeseed/Canola/Kale ³	Yes	4	3	2	1.5	1	0.5	8-1 to 9-15
Mustards	No	4	3	2	1.5	1	0.5	8-1 to 9-15
Turnip	No	2.5	2	1	0.75	0.5	0.25	7-20 to 9-15
Alfalfa ⁴	Yes	16	12	8	6	4	0.25	8-1 to 8-15
Red Clover	Yes	9	7	5	3	2	0.25	7-20 to 8-30
Yellow Sweet Clover	Yes	8	6	4	3	2	0.25	7-20 to 8-30
Crimson Clover	Yes	12	9	6	4	3	0.25	6-15 to 9-15
Winter Pea	No	40	30	20	14	10	1.25	8-1 to 9-15
Hairy Vetch	Yes	16	12	8	5	4	1	8-1 to 9-20
Sorghum-Sudangrass	No	24	18	12	8	6	1	5-15 to 7-5
Sudangrass	No	20	15	10	7	5	1	5-15 to 7-20
Pearl Millet	No	12	9	6	4	3	0.75	5-15 to 7-20
Japanese Millet	No	14	11	7	5	4	0.75	5-15 to 7-20
Buckwheat	No	NR	NR	12	8	6	1	6-15 to 8-15
Sunflower	No	NR	NR	NR	4	3	2	5-15 to 7-20
Cowpea	No	60	45	30	20	15	0.75	6-15 to 8-1
Sunn Hemp	No	12	9	6	4	3	1	6-15 to 8-1
Berseem Clover	No	11	8	5	3	2	0.25	5-15 to 8-15
Soybean	No	54	40	27	18	13	1.5	6-15 to 8-15

* Dates adapted to meet program seeding requirements

1. Overwintering only when planted during the fall dates and establishment. Winter kill may occur.

2. Do not plant until after the Hessian fly free date; date varies from Sept 22 in northern Ohio to Oct 5 in southern Ohio. Wheat and spelt cover crops can be planted up to 20 days past the fly free date. See the Ohio Agronomy Guide for specific county dates.

3. Fall planted varieties planted in the fall are “non-winter killed”; spring planted varieties planted in the fall or spring are winter killed.

4. In order to meet the intent and definition of cover crops (seasonal vegetative cover) alfalfa must be terminated and managed as an annual. Alfalfa planted to provide forage for Conservation Crop Rotation – Forages must be maintained for a minimum of 2 years and meet guidelines for that program.

_____ Initials



Recordkeeping Requirements

All applicators/producers shall maintain nutrient application records. For each application of nutrients applied for the primary purpose of agricultural production, the applicator/producer shall document the following information within 24 hours of application:

1. The date of the application of manure;
2. The place of application of manure;
3. The number of acres applied;
4. The rate of application of manure;
5. The total amount of fertilizer applied, by weight or volume;
6. An analysis of the manure applied;
7. The name of the individual who applied the manure;
8. The name of the certificate holder, if applicable;
9. The soil conditions at the time of the application;
10. The type of application method (soil injected, incorporated, surface, etc.);
11. The weather conditions at the time of application, including temperature and precipitation;
12. The weather forecast for the day following application; and
13. For surface application only, whether the land at the time of application was frozen and/or snow covered.

All individuals acting under the instructions and control of a certificate holder shall transmit all nutrient application records to the certificate holder within 10 days of application.

Nutrient application records shall be maintained for a period of three years. If applicable, the employer of a certificate holder may elect to maintain the nutrient application records. If elected, the employer shall maintain the nutrient application records for a period of three years even if the employee-employer relationship has ended. The employer must make the records available to the certificate holder and the department of agriculture, upon request.

All fertilizer certificate holders shall transmit all nutrient application records to the farm operator within thirty days of application.

Fertilizer certificate holders are not required to submit these records to the director, but the records shall be made available to the director or the director's designee for review upon request.



5a. Conservation Crop Rotation – Small Grains

Purpose

1. To encourage agriculture producers to establish a soil conserving small grain crop in a crop rotation.
2. To reduce sheet, rill, and wind erosion.
3. To reduce water quality degradation due to excess nutrients.
4. To increase cropping system diversity.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state, or federal program (CSP, EQIP, H2Ohio, etc.) are not eligible.

Specifications:

1. Small grains are winter annuals (wheat, barley, rye, etc.).
2. Crop must be harvested as a grain; crop cannot be harvested as a forage.
3. A cover crop or double crop is required to be planted following the harvest of the small grain crop.
 - a. Cover crop or double crop must be planted by October 15.
 - b. Seeding rates and dates for cover crops shall follow NRCS Appendix A (11-19-19) seeding table.
 - c. If an overwintering cover crop is used, the producer may also be eligible for the Overwintering Cover Crop practice.
4. All nutrients must be applied in accordance with approved VNMP.
 - a. No manure shall be applied following the seeding of the cover crop nor prior to March 15.
 - b. Fertilizer may be placed a minimum of two inches below the soil surface with a placement tool or by strip tillage providing cover crop residue is maintained outside the placement area.
 - c. No broadcast fertilizer applications are allowed during the time period the cover crop or double crop is required to be maintained.
5. Crop residue must be maintained until March 15, no fall or winter full width tillage is allowed

Technical Responsibilities

Producer Responsibilities

1. Maintain an approved VNMP with the SWCD.
2. Provide acres and field maps where small grain and subsequent cover crop or double crops are established.
3. Provide seed tags (including: % purity, % germ., % weed seed, Ohio noxious weed content) and bills for the cover crop or double crop.

SWCD Responsibilities

1. Receive application from the producer and complete agreement.
2. Determine eligibility, excluding any existing acres where a small grains are already established, document plan on BMP Worksheet.
3. Enter all required information into Beehive.
4. Verify small grain is established and harvested as a grain.
5. Verify that a subsequent cover crop or double crop is established, and residue maintained until March 15, of the following year.
6. Process payment to producer.

Participant Payments

Enrolled participants will receive \$35/ac payment after completion of all program requirements.

_____ Initials



Adapted from NRCS Appendix A - Seeding Tables. 11-19-19 – See Appendix A for additional guidance on establishment, maintenance, termination.

Species	Overwintering ¹	Seeding Rates in Pounds PLS (Percentage of Mix)					Seeding depth (in)	North
		100%	75%	50%	33%	25%		
Winter Rye	Yes	50	38	25	17	13	1	8-1 to 10-15*
Winter Barley	Yes	59	44	29	19	15	1	8-15 to 10-10
Winter Wheat	Yes	64	48	32	21	16	1	9-22 to 10-15*
Winter Triticale	Yes	60	45	30	20	15	1	8-1 to 10-15*
Spelt	Yes	64	48	32	21	16	1	9-22 to 10-15*
Annual Ryegrass	Yes	18	13	9	6	4	0.5	8-1 to 9-20
Oats	No	40	30	20	14	10	1	8-1 to 9-20
Oilseed Radish	No	NR	NR	NR	2	1.5	0.5	8-1 to 9-15
Rapeseed/Canola/Kale ³	Yes	4	3	2	1.5	1	0.5	8-1 to 9-15
Mustards	No	4	3	2	1.5	1	0.5	8-1 to 9-15
Turnip	No	2.5	2	1	0.75	0.5	0.25	7-20 to 9-15
Alfalfa ⁴	Yes	16	12	8	6	4	0.25	8-1 to 8-15
Red Clover	Yes	9	7	5	3	2	0.25	7-20 to 8-30
Yellow Sweet Clover	Yes	8	6	4	3	2	0.25	7-20 to 8-30
Crimson Clover	Yes	12	9	6	4	3	0.25	6-15 to 9-15
Winter Pea	No	40	30	20	14	10	1.25	8-1 to 9-15
Hairy Vetch	Yes	16	12	8	5	4	1	8-1 to 9-20
Sorghum-Sudangrass	No	24	18	12	8	6	1	5-15 to 7-5
Sudangrass	No	20	15	10	7	5	1	5-15 to 7-20
Pearl Millet	No	12	9	6	4	3	0.75	5-15 to 7-20
Japanese Millet	No	14	11	7	5	4	0.75	5-15 to 7-20
Buckwheat	No	NR	NR	12	8	6	1	6-15 to 8-15
Sunflower	No	NR	NR	NR	4	3	2	5-15 to 7-20
Cowpea	No	60	45	30	20	15	0.75	6-15 to 8-1
Sunn Hemp	No	12	9	6	4	3	1	6-15 to 8-1
Berseem Clover	No	11	8	5	3	2	0.25	5-15 to 8-15
Soybean	No	54	40	27	18	13	1.5	6-15 to 8-15

* Dates adapted to meet program seeding requirements

1. Overwintering only when planted during the fall dates and establishment. Winter kill may occur.

2. Do not plant until after the Hessian fly free date; date varies from Sept 22 in northern Ohio to Oct 5 in southern Ohio. Wheat and spelt cover crops can be planted up to 20 days past the fly free date. See the Ohio Agronomy Guide for specific county dates.

3. Fall planted varieties planted in the fall are “non-winter killed”; spring planted varieties planted in the fall or spring are winter killed.

4. In order to meet the intent and definition of cover crops (seasonal vegetative cover) alfalfa must be terminated and managed as an annual. Alfalfa planted to provide forage for Conservation Crop Rotation – Forages must be maintained for a minimum of 2 years and meet guidelines for that program.

_____ Initials



5b. Conservation Crop Rotation – Forages

Purpose

1. To encourage agriculture producers to establish a soil conserving forage crop in their crop rotation.
2. To reduce sheet, rill, and wind erosion.
3. To reduce water quality degradation due to excess nutrients.
4. To increase cropping system diversity.

Applicability

Applies to cropland acres in the 10-county program area. Existing cropland acres where forage crops are established are not eligible for payment. Acres receiving payment under any other county, state, or federal program for (CSP, EQIP, H2Ohio, etc.) are not eligible.

Specifications:

1. Perennial forages must be established in the rotation.
2. Seeding rates for forages shall follow NRCS Appendix A seeding table or OSU Agronomy Guide, 15th ed.
3. Manure and/or fertilizer applications, following the approved VNMP, are permitted between March 15 and October 15.
4. Practice must be maintained a minimum of two years from the date of practice installation.
5. Residual forage height must be a minimum of four inches height by October 15 each year.
6. Residual forage must be maintained during the non-growing season.
7. Grazing according to a Grazing Management Plan between March 15 and October 15 is permitted.
8. Producer may apply for a minimum of two years and no more than three years of funding for this practice.

Technical Responsibilities

Producer Responsibilities

1. Maintain an approved VNMP with the SWCD.
2. Provide acres and field maps of forage established.
3. Provide seed tags (including: % purity, % germ., % weed seed, Ohio noxious weed content) for forages.

SWCD Responsibilities

1. Receive application from the producer and complete agreement.
2. Determine eligibility, excluding any existing acres where a forage crop is already established, document plan on BMP Worksheet.
3. Enter all required information into Beehive.
4. Verify overwintering forage crop is established and maintained, annually for the life of the practice.
5. Process payment to producer.

Participant Payments

Participants will receive \$35/ac payment annually, for up to three years, when verification of all program requirements are met.

_____ Initials

H2Ohio-WLEB Expansion

All Practice Standards-06/22/21



Plant Species	Pure Live Seeding Rate (lb/ac)					Seeding depth (in) ¹	Seeding Dates ²	
	Pure Stand	¾	½	⅓	¼		Northern	Southern
Cool Season Growth³								
Non-Legumes								
Fescue, Tall ^{5,6}	15	11	8	5	4	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Festulolium	25	19	13	8	6	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Garrison Creeping Foxtail	6	5	3	2	2	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Kentucky Bluegrass	10	8	5	3	3	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Meadow Fescue	16	12	8	5	4	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Orchardgrass	10	8	5	3	3	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Perennial Ryegrass	24	18	12	8	6	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Reed Canarygrass ^{5,6}	10	8	5	3	3	¼ in	3-15 to 5-1	3-1 to 4-20
Smooth Bromegrass	16	12	8	5	4	¼ in	3-15 to 5-1 or 8-1 to 9-25	3-1 to 4-20 or 8-1 to 9-25
Timothy	8	6	4	3	2	¼ in	3-15 to 5-1 or 8-1 to 9-15	3-1 to 4-20 or 8-1 to 9-15
Forage Chicory	6	5	3	2	2	¼ in	4-1 to 5-1 to 8-1 to 8-20	3-15 to 4-20 or 8-1 to 8-30
Legumes								
Alfalfa	15	11	7	5	4	¼ in	4-1 to 5-1 or 8-1 to 8-15	3-20 to 4-25 or 8-1 to 8-30
Alsike Clover	9	7	5	3	2	¼ in	2-1 to 5-1 or 7-20 to 8-30	2-1 to 4-25 or 8-1 to 9-15
Birdsfoot trefoil	9	7	5	3	2	¼ in	4-1 to 5-1	3-20 to 4-25
Kura clover	6	5	3	2	2	¼ in	4-1 to 5-1	3-20 to 4-25
Red Clover	11	8	5	4	3	¼ in	2-1 to 5-1 or 7-20 to 8-30	2-1 to 4-25 or 8-1 to 9-15
White Clover, Ladino	5	4	3	2	1	¼ in	2-1 to 5-1 or 7-20 to 8-30	2-1 to 4-25 or 8-1 to 9-15
White Clover, Dutch	5	4	3	2	1	¼ in	2-1 to 5-1 or 7-20 to 8-30	2-1 to 4-25 or 8-1 to 9-15
Warm Season Growth⁴								
Non-Legumes								
Big Bluestem	12	9	6	4	3	¼ in	4-1 to 6-1	4-1 to 6-1
Little Bluestem	10	8	5	3	3	¼ in	4-1 to 6-1	4-1 to 6-1
Caucasian bluestem	2	2	1	1	1	¼ in	4-1 to 6-1	4-1 to 6-1
Eastern Gamagrass	9	7	5	3	2	½ in	4-1 to 6-1	4-1 to 6-1
Indiangrass	12	9	6	4	3	¼ in	4-1 to 6-1	4-1 to 6-1
Switchgrass	9	7	5	3	2	¼ in	4-1 to 6-1	4-1 to 6-1
Legumes								
Lespedeza, sericea	20	15	10	7	5	¼ in	4-1 to 6-1	4-1 to 6-1

1. Planting depth is critical for successful establishment. Many failures result from planting too deeply.
2. Northern Ohio = Generally North of I70 - Southern Ohio = South of I70.
3. For cool season species dormant seeding can be planned between Dec 1 to Mar 14; interceding clovers into existing grass stands are recommended from Feb to early Mar.
4. For warm season species dormant seeding can be planned between Nov 1 to Mar 14.
5. Invasive without proper management.
6. Consider planting low alkaloid varieties or endophyte free or endophyte friendly varieties.
7. Do not plant until after the Hessian fly free date: Varies from Sept 22 in Northern Ohio to Oct 5 in Southern Ohio. See the Ohio Agronomy Guide for specific date.



6. Overwintering Cover Crops

Purpose

1. To encourage agriculture producers to establish an overwintering cover crop.
2. To reduce sheet, rill, and wind erosion.
3. To reduce water quality degradation due to excess nutrients.
4. To increase cropping system diversity.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state, or federal program (CSP, EQIP, MWCD, H2Ohio etc.) are not eligible.

Specifications

1. Establish overwintering cover crop no later than October 15.
2. The completed practice must meet the criteria for seeding, establishment, and maintenance per NRCS Appendix A, including seed quality and testing requirements.
3. Seed mix must include a minimum of 50% of full rate of an overwintering species.
4. Cover crop must be maintained until March 15.
5. Crop cannot be harvest as a grain, but can be harvested as a forage or grazed after March 15.
6. Manure and/or fertilizer, based on the VNMP, may be applied prior to seeding or after March 15.
7. Manure shall not be applied on frozen, snow-covered or saturated soils or applied when the local weather forecast for the application area contains greater than a 50% chance of precipitation exceeding one-half inch in a 24-hour period.
8. Fertilizer shall not be applied on frozen, snow-covered or saturated soils or applied when the local weather forecast for the application area contains greater than a 50% chance of precipitation exceeding one inch in a 12-hour period.
9. Strip-tillage with fertilizer placement may be done on established cover crops, no full-width tillage.

Technical Responsibilities

Producer Responsibilities

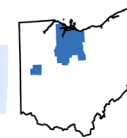
1. Maintain an approved VNMP with the SWCD.
2. Provide acres and field maps where cover crop is established.
3. Provide seed tags or seed tests (including: % purity, % germ., % weed seed, Ohio noxious weed content) and bills for the cover crop.

SWCD Responsibilities

1. Receive application from the producer and complete contract.
2. Determine eligibility, excluding any existing acres where cover crops are already established, document plan on BMP Worksheet.
3. Enter all required information into Beehive.
4. Conduct site visits to verify overwintering cover crop are established and maintained until March 15.
5. Process payment to producer.

Participant Payments

Enrolled participants will receive \$25/ac for completion of this practice, after verification of all program requirements are met.



Adapted from NRCS Appendix A - Seeding Tables. 11-19-19 – See Appendix A for additional guidance on establishment, maintenance, termination.

Species	Overwintering ¹	Seeding Rates in Pounds PLS (Percentage of Mix)					Seeding depth (in)	North
		100%	75%	50%	33%	25%		
Winter Rye	Yes	50	38	25	17	13	1	8-1 to 10-15*
Winter Barley	Yes	59	44	29	19	15	1	8-15 to 10-10
Winter Wheat	Yes	64	48	32	21	16	1	9-22 to 10-15*
Winter Triticale	Yes	60	45	30	20	15	1	8-1 to 10-15*
Spelt	Yes	64	48	32	21	16	1	9-22 to 10-15*
Annual Ryegrass	Yes	18	13	9	6	4	0.5	8-1 to 9-20
Oats	No	40	30	20	14	10	1	8-1 to 9-20
Oilseed Radish	No	NR	NR	NR	2	1.5	0.5	8-1 to 9-15
Rapeseed/Canola/Kale ³	Yes	4	3	2	1.5	1	0.5	8-1 to 9-15
Mustards	No	4	3	2	1.5	1	0.5	8-1 to 9-15
Turnip	No	2.5	2	1	0.75	0.5	0.25	7-20 to 9-15
Alfalfa ⁴	Yes	16	12	8	6	4	0.25	8-1 to 8-15
Red Clover	Yes	9	7	5	3	2	0.25	7-20 to 8-30
Yellow Sweet Clover	Yes	8	6	4	3	2	0.25	7-20 to 8-30
Crimson Clover	Yes	12	9	6	4	3	0.25	6-15 to 9-15
Winter Pea	No	40	30	20	14	10	1.25	8-1 to 9-15
Hairy Vetch	Yes	16	12	8	5	4	1	8-1 to 9-20
Sorghum-Sudangrass	No	24	18	12	8	6	1	5-15 to 7-5
Sudangrass	No	20	15	10	7	5	1	5-15 to 7-20
Pearl Millet	No	12	9	6	4	3	0.75	5-15 to 7-20
Japanese Millet	No	14	11	7	5	4	0.75	5-15 to 7-20
Buckwheat	No	NR	NR	12	8	6	1	6-15 to 8-15
Sunflower	No	NR	NR	NR	4	3	2	5-15 to 7-20
Cowpea	No	60	45	30	20	15	0.75	6-15 to 8-1
Sunn Hemp	No	12	9	6	4	3	1	6-15 to 8-1
Berseem Clover	No	11	8	5	3	2	0.25	5-15 to 8-15
Soybean	No	54	40	27	18	13	1.5	6-15 to 8-15

* Dates adapted to meet program seeding requirements

1. Overwintering only when planted during the fall dates and establishment. Winter kill may occur.
2. Do not plant until after the Hessian fly free date; date varies from Sept 22 in northern Ohio to Oct 5 in southern Ohio. Wheat and spelt cover crops can be planted up to 20 days past the fly free date. See the Ohio Agronomy Guide for specific county dates.
3. Fall planted varieties planted in the fall are “non-winter killed”; spring planted varieties planted in the fall or spring are winter killed.
4. In order to meet the intent and definition of cover crops (seasonal vegetative cover) alfalfa must be terminated and managed as an annual. Alfalfa planted to provide forage for Conservation Crop Rotation – Forages must be maintained for a minimum of 2 years and meet guidelines for that program.



7. Drainage Water Management

Purpose

1. To encourage producers to install and manage water control structures.
2. To reduce nutrient loading to downstream receiving waters.

Applicability

Applies to cropland acres in the 10-county program area. Acres receiving payment under any other county, state, or federal program for Drainage Water Management (EQIP, LE-NRP, H2Ohio etc.) are not eligible.

Specifications

1. Outlet pipe needs to be a minimum of six inches in diameter.
2. Outlet structures need to be installed per engineering plan.
3. Minimum 10 acres controllable area based on a 30 inches control height without submain installation.
4. Minimum 20 acres controllable area based on a 30 inches control height with submain installation.
5. Structures should not be installed on a main tile that drains another landowners land, unless written permission is obtained from the upstream landowners.
6. Producer will provide SWCD or DSWC access to the control structure.

Technical Responsibilities

Producer Responsibilities

1. Provide tile maps and any necessary written permissions from upstream landowners.
2. Install structure per provided design.
3. Manage structure in accordance with provided management plan and provide documentation annually for three years.

SWCD Responsibilities

1. Receive application from the producer, document plan on BMP Worksheet, and complete contract.
2. Locate sites to install practices.
3. Enter all required information into Beehive.
4. Obtain landowner agreement.
5. Obtain current drainage tile plan.
6. Design and lay out structures.
7. Oversee construction.
8. Verify structures are closed per the provided management plan annually for three years.
9. Process payment to producer.

Participant Payments

Producer will receive \$1,500 per site without submain installation. Producer will receive \$4,000 per site with submain installation. Producer may receive an additional \$200/structure/year in years two and three after operation and management records have been reviewed and certified by the SWCD.