



## 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 timeframe
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 14-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, WL Small Grains, 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 Maumee 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 crop 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
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
14. Producers may apply for up to three years of funding for this practice



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### **Technical Responsibilities**

#### Producer Responsibilities

1. Producer must have a current approved VNMP on file 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 Nutrient Management Standard, and document the application plan on the BMP Worksheet
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 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. Funding for 2022 and 2023 is contingent on future funding of the program.



## 4. Manure Incorporation

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

Species	Overwintering <sup>1</sup>	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 <sup>3</sup>	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 <sup>4</sup>	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 8-1
Sudangrass	No	20	15	10	7	5	1	5-15 to 8-1
Pearl Millet	No	12	9	6	4	3	0.75	5-15 to 8-1
Japanese Millet	No	14	11	7	5	4	0.75	5-15 to 8-1
Buckwheat	No	NR	NR	12	8	6	1	6-15 to 8-15
Sunflower	No	NR	NR	NR	4	3	2	5-15 to 8-1
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; dates 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.

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## 4. Manure Incorporation

### 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 twenty-four 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 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 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.