



Cropping System for Field Crop and Vegetable Verification Checklist

A boxed risk level indicates the level required for environmental assurance verification.

Bold black print indicates a violation of state or federal regulation.

Bold blue italic print indicates a management practice consistent with a specified 2019 Right to Farm (RTF)

Generally Accepted Agricultural Management Practices (GAAMPs).

(Revised Date: 11-4-19)

NUTRIENT MANAGEMENT PRACTICES - GENERAL

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
1.00) Has there ever been a formal Right to Farm complaint against the farm?	There has never been a Right to Farm complaint or the concern was not verified or the concern was resolved.		There was a formal Right to Farm Complaint and the concern was not resolved.	Producer's verbal indication of compliant history.	YES NO N/A
1.01) How often are fields tested for nutrient levels (P, K, Ca, Mg and pH)?	<i>All fields are sampled and tested on a regular basis,</i> at 1 to 4 years, depending on crops being grown, and the cropping system.	Most fields are sampled and tested every 1 to 4 years. Producer plans to bring all field soil tests up to date. Manure is not applied to fields without a current soil test.	Fields have not been tested within the past 4 years.	Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports, or schedule to bring all test us to date.	YES NO N/A
1.02) Do soil sampling procedures adequately represent field conditions?	One composite sample is taken from uniform field areas of 15 to 20 acres or from uniform management areas.	One composite sample is taken from uniform field areas of 20 to 40 acres.	One composite sample is taken from areas greater than 40 acres.	Predominant soil types/soil maps. Cropping histories. Proper soil sampling procedure.	YES NO N/A
1.04) How are crop yield goals established?	Realistic yield goals (achieved 50% of the time) are established based on soil potential and level of crop management.	No yield goals are established.	Excessively high yield goals that have never been achieved.	Previous crops grown over the past three to five years. Actual harvest yields or estimated yields. Running average yield for each of the crops commonly grown in the field. Realistic yield goals for each crop.	YES NO N/A

Comments:

NUTRIENT MANAGEMENT PRACTICES – GENERAL (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORD OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
1.05) How are all sources of nutrients considered when making fertilization decisions?	<i>Credit taken for nutrients supplied by organic matter, legumes and manure or other biological materials</i> (biosolids). Fertilizer rates are reduced accordingly.	When organic matter, legumes manure or other biological materials (biosolids) are used, fertilizer rates are sometimes reduced.	When organic matter, legumes, manure or other biological materials (biosolids) are used, rates are not reduced.	Written records indicate nutrient credits utilized.	YES NO N/A
1.06) How are fertilizer application rates determined?	<i>Consistent with Michigan State University</i> (MSU) <i>recommendations</i> . When MSU recommendations are not available, other land-grant university recommendations developed for the region may be used.	Fertilizer rates are based on soil testing lab recommendations but not consistent with MSU recommendations.	Fertilizer application rates not based on soil testing. Application rates often or always exceed MSU recommendations or crop removal rates.	Applications consistent with MSU recommendations (MSU soil test printout or calculated MSU recommendations on file.) When MSU recommendations are not available, other land-grant university recommendations developed for the region may be used.	YES NO N/A
1.07) How are nutrient management plans for each field annually developed and followed?	Annual nutrient plan is developed for each field that meets crop nutrient needs and minimizes loss of nutrients to the environment.	A nutrient plan is developed each year for each crop species with like yield goal and crop rotation. Soil tests are up to date.	Nutrient plan is not developed, or the same plan is used for more than four years.	Annual nutrient plan by field or by crop grown.	YES NO N/A
1.08) Is fertilizer application equipment checked for proper adjustment?	<i>Application equipment is checked for rate of application and placement</i> . Over, and under applications are monitored and corrected.		Application equipment is not checked.	Name of person responsible for fertilizer applicator adjustments and the dates of adjustments.	YES NO N/A

Comments:

NUTRIENT MANAGEMENT PRACTICES – GENERAL (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
MANURE MANAGEMENT PRACTICES (IF YOU DO NOT USE MANURE, SKIP THIS SECTION.)					
1.18) What manure management records are maintained?	Complete application <i>records of manure analysis, soil test results and rates of manure application for individual fields are maintained.</i>	A minimum of one season of manure application records, or partial application records have been kept. Complete manure application records will be kept immediately and will be available for review at the time of re-verification.	Minimal or no records are maintained.	Additional nutrient management records that are needed. <ul style="list-style-type: none"> • Date(s) of manure application and incorporation when applicable. • Rate of manure application. • Weather conditions during application of manure (e.g., sunny, 70°F). • Field conditions during application of manure (wet, dry, frozen, etc.) • Manure/wastewater quantities produced and nutrient analysis results. • Records of rental or other agreements for application of manure/wastewater on land not owned by the producer. • Records of manure/wastewater sold or given away to other landowners. 	YES NO N/A
1.19) How is the nutrient content of manure determined?	<i>Laboratory analysis for percent dry matter (solids), ammonium N, and total N, P and K.</i>	Book values or standard nutrient content values used.	Manure nutrient content is unknown or not considered.	All manure analyses or book values on file.	YES NO N/A
1.20) How are desired manure application rates achieved?	Manure analysis (book value, manure test or mass balance) and <i>field application rates are known.</i>		Manure application rate is not known.	Rate of manure applied known for all spreaders. Records indicate date of calibration.	YES NO N/A

Comments:

SOIL AND WATER CONSERVATION PRACTICES (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
2.02) Is soil erosion under control on the farm fields?	Soil erosion losses are within tolerances as documented by the Revised Universal Soil Loss Equation (RUSLE2) and the Wind Erosion Prediction System (WEPS). Minimal evidence of erosion and no evidence of erosion of concentrated water flows. Cover crop may be in place.	<p>RUSLE2 and WEPS are run on fields that are not:</p> <p>In pasture or hay ground, or no-till planting systems.</p> <p>Receiving fall tillage, with >30% residue on less than 12% slopes.</p> <p>Receiving more than one pass fall tillage that leaves fields rough with >40% residue and less than 8% slopes.</p> <p>And regardless of fall tillage, spring tillage leaves > 20% residue.</p> <p>And for all of the above there is no evidence of sheet, rill or gully erosion.</p>	Excessive soil erosion is occurring on the farm.	RUSLE2 and WEPS calculations completed and on file.	<p>YES</p> <p>NO</p> <p>N/A</p>
3.11) How are surface water and groundwater protected in and near fields from pesticide contamination?	Pesticide labels with groundwater and surface water advisory statements are followed.		Labeled directions are not followed. ¹⁸ Spray is applied adjacent to, or over the top of, surface water, tile drain inlet or well. Field restrictions for shallow groundwater are ignored.	Field maps indicating pesticide label setbacks (2.01) and shallow groundwater restrictions are followed.	<p>YES</p> <p>NO</p> <p>N/A</p>
3.13) Are the purchasers and applicators of restricted-use pesticides (RUP) certified applicators?	<i>The purchaser and applicator of RUP comply with certification requirements.</i>		Non-certified and unsupervised applicators use RUP. ⁶	RUP certification confirmed.	<p>YES</p> <p>NO</p> <p>N/A</p>

Comments:

PEST MANAGEMENT PRACTICES (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
PESTICIDE APPLICATION (CONTINUED)					
3.15) If pesticides are mixed and loaded in the field, how are they handled?	A mixing and loading pad is used. Mixing and loading is done more than 150 feet from any well and more than 50 feet from surface waters.	Mixing and loading is done in different locations in the field, more than 150 feet from a private well, more than 800 feet from a public well* and more than 50 feet from surface waters. A mixing and loading pad is not used.	Pesticides are mixed and loaded at the same spot in the field year after year without a mixing and loading pad.	Proper pesticide mixing and loading demonstrated.	YES NO N/A
3.16) How are empty pesticide containers rinsed and disposed?	Containers are triple-rinsed or power rinsed, punctured and returned to dealer, properly recycled, or disposed of in a licensed landfill. Bags are returned to dealer or taken to licensed landfill. Properly rinsed containers can be disposed in a dumpster that is taken to a licensed landfill.	Disposal of empty containers and bags on the farm property. ^{8,18}	Disposal of partially filled containers. Burning of containers on the farm property. ^{8,18}	Evidence of containers being recycled or properly disposed.	YES NO N/A
3.17) Do pesticide applicators read and follow the label instructions?	Everyone using pesticides follows label and labeling instructions.		Label and labeling instructions are not always followed. ¹⁸	Evidence that labels are followed for environmental concerns.	YES NO N/A
3.18) Is a spill kit immediately available to pesticide applicators in the field?	A spill kit containing a shovel, absorbent material, Personal Protective Equipment (PPE) and a container is immediately available.		No spill kit is available ⁶ or no plan is in place to contain spills.	Adequate spill kit present.	YES NO N/A

Comments:

PEST MANAGEMENT PRACTICES (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
PESTICIDE APPLICATION (CONTINUED)					
3.19) How is excess spray mixture or rinse water from the interior of the spray system disposed?	<i>Spray mixture is applied to labeled site at or below labeled rate of application</i> or appropriately stored for later use.		Spray mixture dumped at farmstead or in nearby field or pond. ⁴	Satisfactory explanation of procedures for excess spray mixtures.	YES NO N/A
3.20) Where is the exterior of the spray equipment and tractor washed if there is accumulated residue?	Washed in containment or washed in the field in different locations >200' from surface water, catch basins or tile inlets and >150' from a well.		Washed in the same location without collection, or in the field <200' from surface water, catch basins, or tile inlets or <150' from a well.	Satisfactory explanation of procedures for washing spray equipment.	YES NO N/A
3.21) How is accumulated spray building wastewater or other comingled rinsates that cannot be directly applied to growing crops disposed?	Applied to a site where there is growing vegetation or where a crop will be planted following labeled setbacks at or below labeled rates. Application areas are rotated and records of contents of material and application site are kept. Or taken to a hazardous waste landfill.		Dumped at the farmstead, in the field, or a direct discharge to surface water. ⁴		YES NO N/A
3.22) How is the proper and safe operation of pesticide application equipment ensured?	<i>Equipment is correctly calibrated at least annually and leaks are minimized to apply intended rate and distribution pattern.</i>		Pesticide application equipment is not properly calibrated. ⁶	Date equipment calibrated annually.	YES NO N/A
3.23) How are pesticide applications assured to remain on-target and minimize off-target pesticide spray drift?	<i>A written drift management plan is utilized that minimizes off-target drift.</i>	Pesticide applications follow labeled instructions for target pests, but no drift management plan is utilized.	Spraying operations are completed regardless of weather conditions or forecast, and regardless of the potential of off-target drift. ⁷	Written draft management plan on file.	YES NO N/A

Comments:

PEST MANAGEMENT PRACTICES (CONTINUED)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
PESTICIDE APPLICATION (CONTINUED)					
3.24) What pesticide application records are kept?	<i>Accurate records are maintained of all agricultural crop applications of pesticides for at least three years.</i>	Partial pesticide records are kept. Complete pesticide application records will be kept in the future, for review at the time of reverification.	No records are kept. Chemicals used are known by memory or invoices only.	Pesticide records for the past three years on file (or plans for records). -Date of application -Time of application -Pesticide brand/product name -Pesticide formulation -EPA registration number -Active ingredient(s) -Restricted-entry interval (REI) -Rate per acre or unit -Crop, commodity, stored product, or site that received the application -Total amount of pesticide applied -Size of area treated -Applicator's name -Applicator's certification number -Location of the application -Method of application -Target pest -Carrier volume per acre	YES NO N/A
3.28) How are agricultural pollution emergencies handled?	Call 911, sheriff, fire or emergency services department for personal safety issues. <i>All uncontained spills or releases should be reported to the MDARD Agriculture Pollution Emergency Hotline: 1-800-405-0101, or the MDEGLE Pollution Emergency Alerting System: 1-800-292-4706.</i>		No contact to state or local authorities. Spill discharges directly to surface water. ⁴	Farm emergency plan on file, or local emergency telephone numbers immediately available.	YES NO N/A

Comments:

WATER USE REPORTING

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
4.01) If the groundwater and surface water pumps have a combined capacity to pump more than 100,000 gallons per day (70 gallons per minute) for agricultural purposes, has water use been registered and reported to the State of Michigan?	Pump capacity is less than 100,000 gallons per day (70 gallons per minute). Or, Register and report annual water use to Michigan Department of Agriculture and Rural Development by April 1.		Pump capacity is greater than 100,000 gallons per day (70 gallons per minute) and water use is not reported to the State of Michigan. ¹³	Farm records indicate compliance.	YES NO N/A
4.02) Is there an unused well located in the cropping area?	No unused well or abandoned well properly sealed.	Unused well temporarily abandoned properly: -Meets minimum isolation distances -Is disconnected from any water distribution piping -Has the top of the casing securely capped.	Unused, unsealed well in cropping area. ¹	Unused well(s) properly sealed.	YES NO N/A
4.03) Have new or increased large quantity water withdrawals been registered (pumping capacity greater than 70 gallons per minute (gpm), or 100,000 gallons per day for systems established after July 9, 2009)?	The Water Withdrawal Assessment Tool (WWAT) was used to determine if a proposed withdrawal or expansion is likely to cause an Adverse Resource Impact, and to register the water withdrawal with MDEGLE, prior to beginning the withdrawal. The WWAT and registration site is http://www.miwwat.org/		No, a new water withdrawal exceeding 70 GPM has been established without the use of the WWAT. ¹³	Producer's verbal indication of compliance with regulation.	YES NO N/A

Comments:

CROP-SPECIFIC MANAGEMENT PRACTICES

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORD OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
CORN MANAGEMENT PRACTICES					
5.02) Are label-required setbacks maintained for herbicides with surface water protection advisory statements?	The label-required setbacks from perennial and intermittent streams and rivers are maintained.		The required setbacks are not maintained on all fields. ¹⁸	Field maps (2.01) indicating areas requiring setbacks.	YES NO N/A

PASTURE MANAGEMENT PRACTICES (IF YOU DO NOT HAVE PASTURE, SKIP THIS SECTION.)

6.01) Are there current soil tests on the pastures?	<i>All fields are sampled and tested on a regular basis,</i> at 1 to 4 years, depending on crops being grown and the cropping system.	Most fields are sampled and tested every 1 to 4 years. Producer plans to bring all field soil tests up to date within the next three years. (See also 1.01)	Fields have not been tested within the past four years.	Field names or map. Acres in the cropped portions of the field. Up-to-date soil test reports, or schedule to bring all tests up to date.	YES NO N/A
6.03) How is the pasture managed to protect surface water?	<i>Livestock are excluded from actual contact with streams or watercourses except for controlled crossings and accesses.</i> Flash grazing may be implemented to control vegetation between fenced-in areas.	Herd density in the pasture is such that the stream bank remains vegetated with no eroded areas. Animals are not allowed to congregate under trees close to the waterway causing bare areas. And/or the practice of flash grazing is being implemented to control vegetation between fenced-in areas.	Runoff results in direct discharge to surface waters. ⁴ Livestock have free access to streams or watercourses, causing erosion.	Pasture managed to protect surface water from erosion and contamination demonstrated.	YES NO N/A
6.04) What is the condition of pasture vegetation?	Pasture is well managed with all areas vegetated. <i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.</i> Or no contaminated runoff is noted.	Pasture is well managed and vegetated except in feeding and watering areas, which are scraped. <i>Runoff from pasture feeding and watering areas travels through a vegetated filter area to protect surface and groundwater.</i> Or, no contaminated runoff is noted.	Pasture is over-grazed with bare spots. Erosion may be present Runoff from pastures is carrying sediment and nutrients to surface waters ⁴ or neighboring property.	No direct discharge from pasture(s).	YES NO N/A

IRRIGATION MANAGEMENT PRACTICES (IF YOU DO NOT HAVE IRRIGATION, SKIP THIS SECTION.)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
WELLHEAD PROTECTION					
7.13) Is the irrigation well adequately protected from contamination from pesticides and fertilizers when fertigation or chemigation is used?	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve, double check valve assembly, or chemigation valve with an internal air gap, and agricultural chemical/fertilizer storage and preparation areas are at least 150 feet from the well or at least 50 feet from the well with secondary containment. Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	Anti-backflow device is installed, including a reduced pressure zone (RPZ) valve double check valve assembly, or chemigation valve with an internal air gap, and agricultural chemical/fertilizer storage and preparation areas have secondary containment, but storage and preparation areas are less than 50 feet from the well. ¹ Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	No anti-backflow device, no secondary containment and less than 150 feet isolation distance from irrigation well. ¹	Adequate protection of the well provided.	YES NO N/A
7.14) If the irrigation well is inter-connected with a surface water source, is the well protected from backflow (back pressure and back siphonage) from the surface water into the well?	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve, double check valve assembly, or chemigation valve with an internal air gap, that protects the well from back pressure and back siphonage into the well. Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve double check valve assembly, or chemigation valve with an internal air gap, to protect some irrigation water sources. Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	No anti-backflow device installed. ¹	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve, double check valve assembly, or chemigation valve with an internal air gap.	YES NO N/A
7.15) If manure or wastewater is applied through the irrigation system, are appropriate backflow prevention devices in place and properly maintained for all irrigation water sources?	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve double check valve assembly, or chemigation valve with an internal air gap, to protect all irrigation water sources. Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve double check valve assembly, or chemigation valve with an internal air gap, to protect some irrigation water sources. Air gap is twice the diameter of the fill pipe or 6 inches, whichever is greater.	No anti-backflow device is installed. ^{1,4}	Anti-backflow device installed, including a reduced pressure zone (RPZ) valve, double check valve assembly, or chemigation valve with an internal air gap, protects both groundwater and surface water sources.	YES NO N/A

Comments:

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IRRIGATION MANAGEMENT PRACTICES (IF YOU DO NOT HAVE IRRIGATION, SKIP THIS SECTION.)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	RECORDS OR EVIDENCE FOR MAEAP VERIFICATION	MEETS CRITERIA
WELLHEAD PROTECTION (CONTINUED)					
7.16) Is a Horizontal Sock Well (HSW) present in the cropping system?	-HSW outlets are clearly identified as not being suitable for human consumption. -HSW is completely separated (no common piping) from any potable water supply system. -HSW meets isolation distance requirements the entire horizontal length of the HSW -Both ends of the HSW are identified.	-HSW outlets are clearly identified as not being suitable for human consumption. -HSW is completely separated (no common piping) from any potable water supply system. -HSW meets isolation distance requirements the entire horizontal length of the HSW, except for chemigation/fertigation systems during active use season that have an anti-backflow prevention device installed , including a reduced pressure zone (RPZ) valve, double check valve assembly, or chemigation valve with an internal air gap, and secondary containment. -Both ends of the HSW are identified.	HSW is being used for human consumption, shares common piping with a potable water supply, does not have both ends clearly identified OR Does not meet State of Michigan isolation distances or MAEAP Standard for its entire horizontal length. ^{1,3}	Low or medium risk criteria are present or demonstrated.	YES NO N/A
7.17) How far is the irrigation fuel tank from a storm drain, surface water or designated wetland?	Tank is more than 50 feet away or has some other engineering control present that would control or divert a spill from reaching a storm drain, surface water or designated wetland.		Tank is 50 feet or less away from surface water ¹⁶ and without an engineering control in place.	Appropriate fuel storage isolation distance from surface water. Engineering control, such as double-walled tank or dike.	YES NO N/A

Comments:

