



Cropping System for Field Crop and Vegetable Verification Standards

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

Bold print indicates a violation of state or federal regulation.

Bold italic print indicates conformance with Right-to-Farm guidelines.

(Revised Date: 7/25/12)

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	REFERENCE OR GUIDANCE DOCUMENT
NUTRIENT MANAGEMENT PRACTICES - GENERAL				
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.	MSUE Bulletin: E-498S, Sampling Soils for Fertilizer and Lime Recommendations, frequency of soil sampling <i>2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Soil Fertility Testing, #29</i> <i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Soil Fertility Testing and Tissue Analysis, #7</i>
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.	NRCS 590 Standards MSUE Bulletin E-498, Sampling Soils for Fertilizer and Lime Recommendations
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.	MSU Extension Bulletin E-2904, Nutrient Recommendations for Field Crops in Michigan; WQ -25 Nutrient Management to Protect Water Quality <i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Fertilizer Recommendations, #8 (General Guidance)</i>

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NUTRIENT MANAGEMENT PRACTICES - GENERAL (CONTINUED)				
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.	MSU Extension Bulletins: E-2904, Nutrient Recommendations for Field Crops in Michigan and WQ-25, Nutrient management to Protect Water Quality <i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Nutrient Credits, #9</i>
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.	MSU Extension Bulletins E-2904, Nutrient Recommendations for Field Crops in Michigan and E-2934, Nutrient Recommendations for Vegetable Crops in Michigan <i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Fertilizer Recommendations, #8</i>
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 4 years.	
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.	<i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Fertilizer Application Equipment Adjustment, #14</i> Equipment Manufacturers Publications: ASAE Standards or Circular Z-138

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NUTRIENT MANAGEMENT PRACTICES - GENERAL (CONTINUED)				
<p>1.09) What soil nutrient management records are kept?</p>	<p><i>Records of soil test reports and quantities of nutrients applied to individual fields are maintained.</i> Also crop yields are recorded for evaluating performance and setting future yield goals.</p>	<p>Partial nutrient management records are kept. Complete nutrient management records will be kept in the future, for review at time of reverification.</p>	<p>Minimal or no nutrient management records kept.</p>	<p><i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Recordkeeping, #13</i></p> <p>RECORDS Soil fertility tests and/or plant analysis results. Previous crop grown and yield harvested. Date(s) of nutrient application(s). Nutrient composition of fertilizer or other material used. Amount of nutrient-supplying material applied per acre. Method of application and placement of applied nutrients. The name of the individual responsible for fertilizer applicator calibrating and the dates of calibration. Vegetative growth and cropping history of perennial crops.</p>
<p>1.10) When not in use, where are loaded planting and spray supply vehicles (trailers and trucks) parked to protect water resources from accidental fertilizer and pesticide spills and mischievous activities?</p>	<p>Supply vehicle is returned to a secure location when not in use. Fertilizer and pesticides (including treated seed) are properly stored more than 150 feet down gradient from any well.</p>		<p>Fertilizer and pesticide (including treated seed) supply vehicle is left in an unsecured location. Or, Fertilizer and pesticides are stored less than 150 feet from any well.</p>	<p>Public Health Code, Public Act 368 of 1978, Part 127: Water Supply and Sewer Systems</p>

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NUTRIENT MANAGEMENT PRACTICES - PHOSPHORUS MANAGEMENT PRACTICES				
1.14) How are phosphorus fertilization rates determined?	<i>Based on soil tests or plant tissue analysis using Michigan State University recommended rates.</i> If soil phosphorus test is over 75 ppm Bray P1, applied P does not exceed crop removal and is discontinued if the soil test reaches 150 ppm Bray P1.	Phosphorus fertilization is based on past practices, without regard to soil test P levels. Application is discontinued if the soil test reaches 150 ppm Bray P1.	Phosphorus fertilization is based on applying as much as is affordable to ensure the best possible yields.	MSU Extension Bulletins: E-2904, Nutrient Recommendations for Field Crops, and MSU E-2934, Nutrient Recommendations for Vegetable Crops in Michigan <i>2011 RTF Nutrient GAAMPs, Section III: Fertilization Practices for Land Application, Phosphorus Management Practices, #11a</i>
1.15) If there are instances where dilute wastewater (≤1% solids) is applied to fields testing over 150 ppm P soil test, can the farmer document appropriate conditions for application?	<ul style="list-style-type: none"> -<i>Growing plants in the application area.</i> -<i>Wastewater application rate supplies ≤ 75% of P crop removal.</i> -<i>Annual sampling of wastewater P content.</i> -<i>Soil P test levels decline over time.</i> -<i>No other P applied to field.</i> -<i>Tile drained fields monitored for manure flow.</i> 	Appropriate conditions are partially met.	Appropriate conditions for dilute wastewater application are not present.	<i>2011 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Land Application of Runoff, #6</i>
1.17) How often is commercial phosphorus fertilizer applied on frozen or snow-covered fields?	Phosphorus fertilizer is never broadcast on frozen or snow-covered fields.	<i>Broadcast applications are avoided on frozen or snow-covered fields</i> and are not part of the nutrient management plan.	Phosphorus fertilizer is often broadcast on frozen or snow-covered fields.	<i>2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Phosphorus Management Practices, #11b</i>

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NUTRIENT MANAGEMENT PRACTICES - MANURE MANAGEMENT PRACTICES				
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.	2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, #40 Additional records required are: -Dates(s) of manure incorporation -Weather conditions during application of manure -Field conditions during application of manure -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
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.	2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Analysis, #31
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.	2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #34
1.21) How is manure and/or compost generally applied to fields?	<i>Manure is incorporated within 48 hours or injected into the soil, and/or conservation practices (residue management, cover crops, perennial crops etc.) are used to protect against runoff and erosion losses to surface waters.</i>	Manure is generally surface applied and conservation practices are employed to reduce the risk of runoff.	Manure is applied in a manner that results in ponding, soil erosion losses, or manure runoff to adjacent property, drainage ditches discharges directly to surface water.	NREPA PA 451 of 1994, Part 31: Water Resource Protection Act 2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #35

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NUTRIENT MANAGEMENT PRACTICES - MANURE MANAGEMENT PRACTICES (CONTINUED)				
1.22) How are streams, wetlands, farm ditches and other water bodies protected from manure runoff?	<i>Manure is injected or immediately incorporated. Or, surface applications are not done within 150 feet of surface water. Or, filter strips, riparian buffer strips, grassed waterways and other conservation practices are maintained between fields and surface waters on the farm and around surface water inlets.</i>	Conservation practices are maintained on some fields.	Manure is applied within 150 feet of surface waters and not incorporated without conservation practices. And/or manure occasionally reaches neighbor's property.	<i>2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #35</i>
1.23) How is manure temporarily stacked in relation to surface water?	<i>Manure stockpiles are kept at least 150 feet from surface waters or areas subject to flooding unless conservation practices are used to protect against runoff and erosion losses to surface waters.</i>		Manure stockpiles are closer than 150 feet to surface waters or areas subject to flooding, and conservation practices are not used to protect against runoff and erosion losses to surface waters.	NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2011 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i>
1.24) What management practices are used to reduce odors and pests from manure stockpiled in the field?	<i>Stockpiled manure is at least 150 feet away from non-farm homes and stockpiled manure is covered with a tarp, straw or other materials or additives are used to reduce odors and pests.</i>	<i>Stockpiled manure is at least 150 feet away from non-farm homes.</i>	Stockpiled manure is closer than 150 feet to non-farm homes.	<i>2011 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i>
1.25) How long is manure stockpiled in the field?	<i>Manure is spread as soon as field and weather conditions allow, and does not exceed six month; or if covered with an impermeable cover, twelve months.</i>		Manure stockpiled for more than six months without a cover, or more than twelve months with an impermeable cover.	<i>2011 RTF Manure Management and Utilization GAAMPs, Section III: Odor Management, Stacked Solid Manure, #15 (General Guidance)</i>

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NUTRIENT MANAGEMENT PRACTICES - MANURE MANAGEMENT PRACTICES (CONTINUED)				
<p>1.26) How are manure nitrogen application rates managed?</p>	<p><i>Manure and N fertilizer are applied at rates that do not exceed the N requirements of the crop</i> and are credited toward fertilizer needs. Pre-sidedress nitrate test (PSNT) may be part of the program.</p>	<p>Manure nitrogen credits are considered but not to their full extent.</p>	<p>Commercial nitrogen is not reduced to account for manure nitrogen credits.</p>	<p>MSU Bulletin E2904: Nutrient Recommendations for Field Crops in Michigan</p> <p><i>2011 RTF Nutrient Utilization GAAMPs, Fertilization Practices For Land Application, Nitrogen Management Practices, #10a</i></p> <p><i>2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Manure Nutrient Loadings, #32</i></p>
<p>1.27) How are manure phosphorus application rates managed?</p>	<p><i>High testing fields (>150 ppm Bray P1) do not receive manure, and fields between 75 and 150 ppm P receive no more than 4 years, crop P205 removal per year, if one-year application, is impractical.</i></p>	<p>High testing fields (>150 ppm Bray P1) removed from spreading plan, but crop removal rates are not followed.</p>	<p>Manure application rates are not based on soil tests and/or crop removal rates.</p>	<p><i>2011 RTF Nutrient Utilization GAAMPs, Section VIII: Land Application of Conditionally-Exempted Organic By-Products, Composted Organic By-Products, and By-Product Liming Materials, #33</i></p> <p><i>2011 RTF Manure Utilization GAAMPs, Section V: Manure Application to Land, Manure Nutrient Loadings, #33</i></p>
<p>1.28) How are fields selected for spreading on frozen and snow-covered ground?</p>	<p>No winter applications.</p>	<p>Manure application risks index (MARI) is completed for each field receiving winter manure application. Fields receiving winter manure applications have met MARI criteria for Low or Very Low and <i>no liquid manure is applied on slopes greater than 3%, and no solid manure is applied to slopes over 6%.</i></p>	<p>Applications are made to fields where runoff to water resources may occur.</p>	<p>NRCS MARI</p> <p><i>2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Timing of Manure Application, #39</i></p>

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NUTRIENT MANAGEMENT PRACTICES - MANURE MANAGEMENT PRACTICES (CONTINUED)				
1.29) How are field tiles managed to prevent manure discharge to surface water?	<i>Liquid manure is prevented from reaching tile lines.</i> Management practices are in place to prevent runoff to surface inlets. Tile line outlets are monitored.		Tile outlets are not monitored for manure discharge.	<i>2011 RTF Manure Management and Utilization GAAMPs, Section V: Manure Application to Land, Method of Manure Application, #36</i>
1.31) Has nutrient content information on the biosolids applied to the farm been received?	Received laboratory analysis for percent dry matter (solids) ammonium N (NH ₄ -N) and total N, P and K, and utilize nutrient credits when planning nutrient program.		Have not received any biosolids analysis information.	Michigan Part 24, Land Application of Biosolids Rules
1.32) How are the rates of biosolids (in gallons or dry tons per acre) and applied biosolids nutrients known?	Received actual biosolids application rates from the biosolids generator or its land application contractor. Nutrient rates are consistent with MSU recommendations.		Have not received any biosolids rate or nutrient application information.	Michigan Part 24, Land Application of Biosolids Rules
SOIL AND WATER CONSERVATION PRACTICES				
2.01) Have environmentally sensitive areas been identified (land near surface water, highly erodible land, soils with high leaching or runoff potentials, wells, surface drains and inlets) that require additional management when applying nutrients and pesticides?	Environmentally sensitive areas are identified. Family members, employees, and contractors are aware of and understand the management practices to protect these areas.	Some environmentally sensitive areas are identified.	Environmentally sensitive areas are not considered.	

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SOIL AND WATER CONSERVATION PRACTICES (CONTINUED)				
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.	NRCS RUSLE2 NRCS WEPS
PEST MANAGEMENT PRACTICES - PESTICIDE APPLICATION				
3.06) How are surface 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. Spray is applied adjacent to or over the top of surface water, tile drain inlet or well. Field restrictions for shallow groundwater are ignored.	MDARD Pesticide Regulation 637: Pesticide Use Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
3.08) 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.	RUP Certification Confirmed. NREPA PA 451 of 1994, Part 83, Pesticide Control <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices</i>

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PEST MANAGEMENT PRACTICES - PESTICIDE APPLICATION (CONTINUED)				
3.10) If pesticides are mixed and loaded in the field, how are they handled?	A mixing and loading pad is used. Mixing and loading are done more than 150 feet from any well and more than 50 feet from surface waters.	Mixing and loading are 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.	<p>Public Health Code, Public Act 368 of 1978 Part 127: Water Supply and Sewer Systems and/or Safe Drinking Water Act, Public Act 399 of 1976</p> <p>MDEQ Water Bureau Criteria for reducing the 800-foot minimum well isolation distance for major sources of contamination without secondary containment</p>
3.11) How are empty pesticide containers rinsed and disposed?	<i>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.</i>	Disposal of empty containers and bags on the farm property.	Disposal of partially filled containers. Burning of containers on the farm property.	<p>NREPA PA 451 of 1994, Part 115: Solid Waste Management, and Part 55: Air Pollution Control</p> <p>Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Disposal of Pesticide Containers</i></p>
3.12) Do pesticide applicators read and follow the label instructions?	<i>Everyone using pesticides follows label and labeling instructions.</i>		Label and labeling instructions are not always followed.	<p>Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Pesticide Labels</i></p>
3.14) Is a spill kit immediately available to pesticide applicators in the field?	<i>A spill kit containing a shovel, absorbent material, PPE and a container is immediately available.</i>		No spill kit is available or no plan is in place to contain spills.	<p>MDARD Pesticide Regulation 637: Pesticide Use <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Applications and Standards for Use</i></p>

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PEST MANAGEMENT PRACTICES - PESTICIDE APPLICATION (CONTINUED)				
3.15) How is excess spray mixture disposed?	<i>Spray mixture is applied to labeled site at or below labeled rate of application.</i>		Spray mixture dumped at farmstead or in nearby field or pond.	MDARD Pesticide Regulation 637: Pesticide Use <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Excess Spray Mixtures and Rinsates</i>
3.16) How is the sprayer system rinsed?	<i>Sprayer system rinsed on pad or in field. Rinse water applied to labeled site at or below labeled rate of application.</i>		Sprayer rinsed out at farmstead. Rinse water dumped at farmstead or in nearby field or pond.	MDARD Pesticide Regulation 637: Pesticide Use <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Excess Spray Mixtures and Rinsates</i>
3.17) 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.	MDARD Pesticide Regulation 637: Pesticide Use <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Equipment Use and Calibration</i>
3.18) 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.	MDARD Pesticide Regulation 637: Pesticide Use <i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Applications and Standards For Use, #2, Pesticide Drift</i>

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PEST MANAGEMENT PRACTICES - PESTICIDE APPLICATION (CONTINUED)				
<p>3.19) What pesticide application records are kept?</p>	<p><i>Accurate records are maintained of all agricultural crop applications of pesticides for at least three years.</i></p>	<p>Partial pesticide records are kept. Complete pesticide application records will be kept in the future, for review at the time of reverification.</p>	<p>No record is kept. Chemicals used are known by memory or invoices only.</p>	<p><i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Record Keeping (See Table)</i></p> <p>USDA Federal Record Keeping Regulations Worker Protection Standards RECORDS: -Date of application -Time of application -Pesticide brand/product name -Pesticide formulation -EPA registration number -Active ingredient(s) -Restricted-entry interval -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</p>
<p>3.21) How are agricultural pollution emergencies handled?</p>	<p>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</i>, or the MDEQ Pollution Emergency Alerting System: 1-800-292-4706.</p>		<p>No contact to state or local authorities. Spill discharges directly to surface water.</p>	<p><i>2011 RTF Pesticide Utilization and Pest Control GAAMPs, Section II: Pesticide Utilization and Pest Control Practices, Agriculture Pollution Emergencies</i></p> <p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p>

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WATER USE REPORTING				
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.		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.	NREPA PA 451 of 1994, Part 327: Great Lakes Preservation
4.02) Is there an unused well located in the cropping area?	No unused well, or abandoned well properly sealed.		Unused, unsealed well in cropping area.	Public Health Code, Public Act 368 of 1978, Part 127: Water Supply and Sewer Systems
4.03) Have new or increased large quantity water withdrawals been registered (pumping capacity greater than 70 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 is likely to cause an Adverse Resource Impact, and to register the water withdrawal with MDEQ, prior to beginning the withdrawal. The WWAT and registration site is http://www.miwwat.org/		No	
CROP-SPECIFIC MANAGEMENT PRACTICES - 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.	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)
PASTURE MANAGEMENT PRACTICES				
6.01) Are there current soil tests on the pastures?	All fields are sampled and tested on a regular basis, 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 3 years. (See	Fields have not been tested within the past 4 years.	MSU Bulletin E498S: Sampling soils for fertilizer and lime recommendations, Frequency of Soil Sampling 2011 RTF Nutrient Utilization GAAMPs, Section III: Fertilization Practices for Land Application, Soil Fertility Testing

		also 1.01)		<i>and Tissue Analysis, #7</i>
<p>6.03) How is the pasture managed to protect surface water?</p>	<p><i>Livestock are excluded from actual contact with streams or watercourses except for controlled crossings and accesses</i> or pasture management measures are in place to protect neighboring land areas and prevent direct discharges to surface water or groundwater.</p>		<p>Runoff results in direct discharge to surface waters. Livestock have free access to streams or watercourses, causing erosion.</p>	<p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act <i>2011 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Pasture Systems, #9</i> NRCS Prescribed Grazing (528) MSU Extension Bulletin E-3066: Acceptable Practices for Managing Livestock Along Lakes Streams and Wetlands</p>

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	REFERENCE OR GUIDANCE DOCUMENT
PASTURE MANAGEMENT PRACTICES (CONTINUED)				
<p>6.04) What is the condition of pasture vegetation?</p>	<p>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.</p>	<p>Pasture is well-managed and vegetated except in small 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.</p>	<p>Pasture is overgrazed with bare spots and weedy areas. Erosion may be present Runoff from pastures is carrying sediment and nutrients to surface waters or neighboring property.</p>	<p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2011 RTF Manure Management and Utilization GAAMPs, Section II: Runoff Control And Wastewater Management, Pasture Systems, #10</i></p>
<p>6.05) What is being done to reduce manure concentration around watering tanks/feeders in pasture areas?</p>	<p>Water tank/feeding areas are rotated to different areas of pasture. Or, watering/ feeding areas are permanent, but manure is removed frequently to prevent concentration of nutrients.</p> <p><i>Runoff from pasture feeding and watering areas should travel through a vegetated filter area to protect surface and groundwater.</i></p>	<p>Watering and/or feeding areas are permanent, but manure is removed frequently to prevent concentration of nutrients.</p> <p><i>Runoff from pasture feeding and watering areas should travel through a vegetated filter area to protect surface and groundwater.</i></p>	<p>Watering/feeding areas are permanent with infrequent or no manure removal.</p> <p>There is evidence of direct discharge to surface water or ponding in low areas.</p>	<p>NREPA PA 451 of 1994, Part 31: Water Resource Protection Act</p> <p><i>2011 Manure Management and Utilization GAAMPs, Section II: Runoff Control and Wastewater Management, Pasture Systems, #10</i></p>
IRRIGATION MANAGEMENT PRACTICES				
<p>7.01) Have all irrigation systems been evaluated for application uniformity?</p>	<p><i>All irrigation systems have been evaluated for uniformity.</i> Corrections are made to the system to improve uniformity.</p>	<p>Some irrigation systems have been evaluated for uniformity. Remainder of systems scheduled to be evaluated.</p>	<p>Irrigation system uniformity has not been evaluated.</p>	<p><i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, System Management, #2</i></p>

RISK QUESTION	Low Risk – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	REFERENCE OR GUIDANCE DOCUMENT
IRRIGATION MANAGEMENT PRACTICES (CONTINUED)				
7.02) How is the amount of irrigation water delivered accurately determined?	All water applications are accurately determined— -by knowing actual flow delivered (GPM) and time of application. -or, by using a flow meter. -or, by average output caught with system evaluation.	Water applications are estimated.	Water application amounts not determined. Excess application occurs.	2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, System Management, #1
7.03) Are all sprinkler systems operated to minimize drift and off-target application?	All sprinkler systems are operated to minimize drift and off-target application. No off-target irrigation application present.	Most sprinkler systems operated to minimize drift and off-target application. Few off-target irrigation applications occur.	Sprinkler systems are often operated under windy conditions. Water is sprayed over roads, adjacent property or structures.	2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, System Management, #4
IRRIGATION MANAGEMENT PRACTICES - RECORD KEEPING				
7.05) Are proper irrigation system management records collected and retained for use in decision-making and for reference in case of complaints?	Irrigation system management records are collected and retained, including: - Crop type and location. - Source of the water used. - Date, method and amount of each irrigation water application. - All system inspections and repairs that influence uniformity and leaks. - Calibration of fertigation and chemigation equipment, if used. - Records on system uniformity evaluation.	Most of irrigation system management records are collected and retained. Plan to maintain complete irrigation records.	Few or no irrigation system management records are collected or retained.	NREPA PA 451 of 1994, Part 327: Great Lakes Preservation 2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Record Keeping, #7-10

RISK QUESTION	LOW RISK – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	REFERENCE OR GUIDANCE DOCUMENT
IRRIGATION MANAGEMENT PRACTICES - IRRIGATION SCHEDULING				
<p>7.06) How is irrigation scheduling used to determine when it is necessary to irrigate and how much water should be applied during each irrigation event?</p>	<p>Irrigation water is scheduled on the basis of:</p> <ul style="list-style-type: none"> - <i>Available soil water for each unit scheduled.</i> - <i>Depth of rooting for each crop irrigated.</i> - <i>Allowable soil moisture depletion at each stage of crop growth.</i> - <i>Measured, estimated or published evapotranspiration data to determine crop water use.</i> - <i>Measured rainfall in each field irrigated.</i> 	<p>Irrigation water is scheduled on the basis of observed soil moisture content and/or daily water crop usage.</p>	<p>Irrigation water is applied at a set rate per week if no precipitation is received.</p>	<p><i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Irrigation Scheduling, #11-17</i></p>
IRRIGATION MANAGEMENT PRACTICES - APPLICATION PRACTICES TO AVOID RUNOFF AND LEACHING				
<p>7.07) Is there a rain gauge in every irrigated field?</p>	<p><i>Every field being managed for irrigation has a rain gauge in the field.</i></p>	<p>Most fields have a rain gauge; plan to have gauge in all fields.</p>	<p>No rain gauges.</p>	<p><i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Irrigation Scheduling, #17 (General Guidance)</i></p>
<p>7.08) Is irrigation water runoff and ponding minimized?</p>	<p><i>Sprinkler application rates are below the soil infiltration rate.</i> Nutrient leaching is minimized.</p>	<p>Most sprinkler application rates are below the soil infiltration rate. Some runoff and ponding is present.</p>	<p>Sprinkler application rates exceed the soil infiltration rate. Runoff and ponding is commonly visible.</p>	<p><i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Application Practices, #20</i></p>
<p>7.10) Do moving irrigation systems that use chemigation have adequate interlock</p>	<p><i>An adequate interlock and safety system prevents over application of pesticides, fertilizer, and water when pumps continue to run and</i></p>		<p>No.</p>	

<p>and safety systems to prevent over application of pesticides, fertilizer, and water?</p>	<p><i>the distribution system stops moving,</i></p>			
<p>7.11) Are appropriate backflow prevention devices in place and properly maintained if fertigation or chemigation is used?</p>	<p><i>Appropriate backflow prevention safety devices are used</i> and properly maintained if fertigation or chemigation is used.</p>	<p>Backflow prevention devices are almost always used and/or properly maintained.</p>	<p>Backflow prevention devices are not used and/or properly maintained.</p>	<p><i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Application Practices, #22</i></p>

RISK QUESTION	Low Risk – 3 (RECOMMENDED)	MEDIUM RISK – 2 (POTENTIAL HAZARD)	HIGH RISK - 1 (SIGNIFICANT HAZARD)	REFERENCE OR GUIDANCE DOCUMENT
IRRIGATION MANAGEMENT PRACTICES - WELLHEAD PROTECTION				
7.13) Is the irrigation well adequately protected from contamination from pesticides and fertilizers?	<i>Anti-backflow device is installed</i> , and agricultural chemical/fertilizer storage and preparation areas are at least 150 feet from the well.	<i>Anti-backflow device is installed</i> , agricultural chemical/fertilizer storage and preparation areas have secondary containment, but storage and preparation areas are less than 150 feet from the well.	No anti-backflow device , no secondary containment and less than 150 feet isolation distance from irrigation well.	Public Health Code, Public Act 368 of 1978, Part 127: Water Supply and Sewer Systems <i>2011 RTF Irrigation Water Use GAAMPs, Section II: Generally Accepted Agricultural and Management Practices for Irrigation Water Use, Application Practices, #22</i>
7.14) 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.	Fire Prevention Code, Public Act 207 of 1941, Section 29.5c
OTHER ENVIRONMENTAL RISKS IN THE CROPPING SYSTEM				
8.01) Are there other activities, products, processes/equipment services, byproducts and/or wastes in the cropping areas that pose contamination risks to groundwater or surface water?	No risk(s) identified.	Risk(s) identified and plan to mitigate the contamination risk(s).	No plan to mitigate contamination risk(s).	