

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

NOTICE OF FINAL DETERMINATION TO REISSUE A WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM (WPDES) PERMIT No. WI-0056529-06-0

Permittee: Babcock Genetics LLC

Facility Where Discharge Occurs: Babcock Genetics LLC, N6671 County Road XX, Holmen, WI 54636

Receiving Water and Location: Surface water and groundwater within the Black River Watershed in La Crosse County

Brief Facility Description: Babcock Genetics LLC is an existing Concentrated Animal Feeding Operation (CAFO). It currently has 3,302 animal units (3,929 pigs <55lbs, 5424 pigs >55lbs, 1,325 sows, 418 boars). Babcock Genetics has a total of 680.67 acres available for land application of manure and process wastewater. Of this acreage, 165 acres are owned and 515.67 acres are rented or controlled through contracts, and 679 acres are spreadable. There are no planned operational changes during the next 5-year permit term. Permit construction schedules are proposed for additional groundwater monitoring and evaluation of permanent manure storage and transfer facilities.

Permit Drafter's Name, Address and Phone: Ben Uvaas, Oshkosh Service Center, 625 E. Cty Rd Y, Oshkosh, WI, 54901, (920) 273-5543

Date Permit Signed/Issued: May 28, 2019

Date of Effectiveness: June 1, 2019

Date of Expiration: May 31, 2024

Public Informational Hearing Held On: March 14, 2019

Forty-two people attended the hearing and completed a hearing attendance slip. Of those, two identified as in support, twenty-two as in opposition, and eighteen did not indicate a position. Following the public informational hearing, the Department has made a final determination to reissue the WPDES permit for the above-named permittee for this existing discharge. The permit application information from the WPDES permit file, comments received on the proposed permit and applicable Wis. Adm. Codes were used as a basis for this final determination.

The Department has the authority to issue, modify, suspend, revoke and reissue or terminate WPDES permits and to establish effluent limitations and permit conditions under s. 283, Stats.

Schedule adjustments due to delay in issuance/reissuance

The DNR adjusted due dates in the "Schedules" section of the permit to reflect the actual permit reissuance date for the following:

1. Permit Effective Date - Changed from April 1, 2019 to June 1, 2019
2. Emergency Response Plan - Changed from May 31, 2019 to June 30, 2019
3. Monitoring & Inspection Program - Changed from June 1, 2019 to July 31, 2019
4. Submit Permit Reissuance Application - Changed from June 30, 2022 to November 30, 2023
Please note, this change also corrects a typographical error.
5. Permit Expiration Date - Changed from December 31, 2023 to May 31, 2024
6. Manure Storage Facility Engineering Evaluation: retain expert - Changed from June 1, 2019 to June 30, 2019

Changes in the Draft Permit Terms and Conditions in Response to Comments Received

Several comments were received regarding groundwater monitoring requirements, including requests for additional or expanded groundwater monitoring. In response to potential confusion regarding groundwater monitoring permit requirements, descriptions of manure spray irrigation area groundwater monitoring requirements were added to permit section 2 *Groundwater Requirements*. The additional language distinguishes requirements for the existing groundwater monitoring system for the manure storage facilities from the proposed system for the manure spray irrigation area. Language in permit section 3.7 regarding the submittal of plans and specifications and well installation for groundwater monitoring of the manure spray irrigation area was not changed.

Additional Comments and Associated Responses That Did Not Result in Changes to the Permit are Included Below

As provided by s. 283.63, Stats., and ch. 203, Wis. Adm. Code, persons desiring further adjudicative review of this final determination may request a public adjudicatory hearing. A request shall be made by filing a verified petition for review with the Secretary of the Department of Natural Resources within 60 days of the date the permit was signed (see permit signature date above). Further information regarding the conduct and nature of public adjudicatory hearings may be found by reviewing ch. NR 203, Wis. Adm. Code, s. 283.63 Stats., and other applicable law, including s. 227.42, Stats.

Information on file for this permit action may be inspected and copied at either the above named permit drafter's address or the above named basin engineer's address, Monday through Friday (except holidays), between 9:00 a.m. and 3:30 p.m. Information on this permit action may also be obtained by calling the permit drafter at (920) 273-5543 or by writing to the Department. Reasonable costs (15 cents per page for copies and 7 cents per page for scanning) will be charged for copies of information in the file other than the public notice and fact sheet. Pursuant to the Americans with Disabilities Act, reasonable accommodation, including the provision of informational material in an alternative format, will be made to qualified individuals upon request.

Comments Received from the Applicant, Individuals or Groups

A significant number of comments were received from people who attended the public informational hearing or submitted written comments to indicate their opposition to the proposed reissuance of the permit. Their comments are grouped into the following topics or statements.

Concerns about impacts to local groundwater & drinking water sources and public health implications

1. Available monitoring data suggests Babcock Genetics is contaminating groundwater
Response: The Babcock Genetics production site groundwater monitoring system currently consists of six groundwater monitoring wells: MW-801 (MW-1), MW-802 (MW-2), MW-803 (MW-3), MW-804 (MW-4), MW-807 (MW-7) and MW-808 (MW-8) (see permit fact sheet). Local groundwater flow from northeast to southwest places wells MW-801, MW-804 and MW-807 up and side gradient of potential Babcock genetics production site groundwater contamination sources. Results from sampling of wells MW-801, MW-804 and MW-807 has shown elevated nitrate nitrogen levels in groundwater. Nitrate concentrations in these wells appear to be decreasing over time, but they are still at levels above the s. NR 140 groundwater quality enforcement standard of 10 milligrams per liter (mg/L). The source of this groundwater nitrate is likely agricultural activity, potentially including swine manure/process wastewater spray irrigation, in the area upgradient of the Babcock Genetics production site.
2. Does the DNR has the authority to protect water quality through science-based application of state law intended to prevent contamination from WI CAFO's.
Response: Yes, the department regulates pollutant discharges to waters of the state from CAFOs under ch. NR 243, Wis. Adm. Code ("NR 243").
3. Septic system contamination is just as much of an issue to groundwater quality as agricultural.
Response: Groundwater discharges from privately owned septic systems are not regulated by the proposed permit action. The current and proposed groundwater monitoring systems included in Babcock Genetics' permit is intended to determine if they are contributing to high nitrogen levels in area groundwater.
4. More restrictive manure spreading restrictions now apply in certain counties with karst topography. See Permit Section 1.6.3. Discuss with permittee and DNR possibility of extending some or all restrictions to fields with "sensitive area" topography.
Response: By rule, s. NR 151.075 only applies to applications of manure on Silurian bedrock which are areas where the bedrock consists of Silurian dolomite with a depth to bedrock of 20 feet or less. These areas comprise portions of the following counties; Brown, Calumet, Dodge, Door, Fond du Lac, Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington and Waukesha.

The permit and the practices set forth in the nutrient management plan are designed to be protective of water quality. The proposed permit reflects the best management practices and nutrient management planning requirements in ch. NR 243, Wis. Adm. Code, designed to minimize impacts to surface and groundwater quality and avoid exceedances of water quality standards.

5. Move up deadlines for groundwater monitoring at spray irrigation fields.

Response: A minor delay in permit reissuance occurred; however dates for groundwater monitoring of permanent spray irrigation sites have stayed as initially proposed. The result is a reduced length of time between the permit effective date and due dates associated with schedule section 3.7 Groundwater Monitoring – Manure Spray Irrigation Area.

6. High regional soil permeability and shallow groundwater is too susceptible to contamination, regional groundwater has nitrate levels above health standards.

Response: Existing environmental issues in the area are not a basis for denial of a WPDES permit. WPDES permit conditions are intended to protect private wells and groundwater from becoming impacted from land spreading activities. The WPDES permit contains conditions intended to protect surface waters, groundwater and wetlands that are consistent with ch. NR 243, Wis. Adm. Code, the code that establishes permit requirements for CAFOs throughout the state. The permit requires DNR engineering review for new and existing manure/process wastewater storage and handling structures/systems to help ensure proper design. In addition, WPDES permits:

- Prohibit production area discharges to navigable waters, except under very limited circumstances (i.e., the discharge is the result of an overflow from a properly designed facility and the permittee has complied with the inspection, maintenance and record-keeping requirements). In the unlikely event an authorized discharge were to occur, the permit still requires that the discharge complies with surface water quality standards.
- Require compliance with water quality standards, groundwater standards and prohibit impairments of wetland functional values
- Require 180 days of storage for liquid manure
- Require periodic self-inspections
- Include proper operation and maintenance actions
- Require development of an emergency response plan for both production and land application areas

For land application areas, permittees must develop a nutrient management plan (NMP) that complies with ch. NR 243 and the permittee's WPDES permit and outlines how, when, where and in what amounts manure and process wastewater from the operation will be land applied on area cropland. CAFO WPDES permits require that operations have adequate land base to land apply their manure and process wastewater. NMP requirements include:

- Manure or process wastewater may not be applied within 100 feet of a direct conduit to groundwater
- Nutrient shall not be spread within 200 feet upslope of direct conduits to groundwater unless the nutrient is effectively incorporated within 72 hours (NRCS 590)
- No manure application within 100 feet of direct conduits to groundwater (sinkholes, private wells)
- Prohibiting fecal contamination of water in a well
- No application on fields with soils that are 60 inches thick or less over fractured bedrock when ground is frozen or where snow is present
- No application when snow is actively melting
- No application on areas of fields that have less than 24 inches of soil to bedrock. Field verification procedures include ground depth evaluations on fields with mapped shallow soils. A detailed protocol for determining bedrock depth on fields with such soils is outlined in the NMP. All fields must be evaluated before applying manure
- Field verification procedures include ground depth evaluations on fields with mapped shallow soils. A detailed protocol for determining bedrock depth on fields with such soils is outlined in the NMP. All fields must be evaluated before applying manure.
- All applications of manure and other nutrient sources must be consistent with UW crop recommendations (A2809), applicable sections of NRCS 590 and NR 243 land application

requirements. The UW recommendations are written to avoid over-application of nutrients (Nitrogen and Phosphorus) above crop demand.

- Phosphorus-based nutrient management planning

The DNR recommends private well owners sample their well water on an annual basis for nitrate and bacteria. Information about well testing is available through the DNR website at <https://dnr.wi.gov/topic/wells/privatewelltest.html>. Additional information is available at <https://dnr.wi.gov/topic/Wells/homeowners.html> and <https://dnr.wi.gov/topic/DrinkingWater/Manure.html>.

Homeowners with levels of nitrates or other contaminants in exceedance of state drinking water standards should contact their local DNR private water supply specialist. If a homeowner suspects their well is contaminated with manure, they should immediately contact a regional DNR Private Water Supply specialist (see list at <https://dnr.wi.gov/topic/Wells/PrivateWaterSupply.html>) or CAFO specialist (see contact map at <https://dnr.wi.gov/topic/AgBusiness/CAFO/Contacts.html>) to investigate the source of contamination. Where the source of the contamination can be identified, the DNR will determine the appropriate enforcement response. In some cases, the DNR can provide an emergency source of water, technical assistance for well treatment or replacement options and/or financial assistance for well replacement.

Concern about odor and air quality

1. Fuller assessment should be done to examine the content, extent, as well as health and property impacts of air quality and odors. The irrigation here, for example, creates extra odors.
Response: The WPDES permit program is based on water quality protection and does not address air emissions or odor issues from CAFOs. The DNR has limited authority to regulate air emissions and odor from livestock operations. Information on the DNR's Air Program's efforts to address air emissions from livestock operations is located on the DNR's website at <https://dnr.wi.gov/topic/airquality/toxics.html>.

The DNR has completed environmental analyses for many CAFO WPDES permit-related actions in the past. This includes the Environmental Assessment for the Large Dairy CAFO General Permit which can be found at <http://dnr.wi.gov/topic/AgBusiness/documents/LargeDairyCAFOGP-EnvironmentalAssessment.pdf>. This document provides additional information related to projects such as this one, including information related to emissions from larger-scale livestock operations.

Concerns regarding potential pollution of surface waters and nearby landscapes

1. The department should eliminate or reduce spreading on fields that are directly adjacent or have a high potential to deliver nutrients and sediment to Black River.
Response: Babcock Genetics approved nutrient management plan states that the farm will utilize surface water quality management option #5 found in s. NR 243.14(4) (i.e., no manure or process wastewater will be applied within 100' of a navigable waterway or conduit to a navigable waterway) when applying manure/process wastewater on fields adjacent to navigable waters such as the Black River. This restriction also applies to intermittent streams, ditches, and concentrated flow channels which are examples of conduits to a navigable waterway.
2. Babcock Genetics spray irrigation fields and production area are close to the river and Brown's Marsh, and therefore have a high potential to deliver nutrients and sediment to surface water
Response: The DNR has acknowledged that some fields included in the nutrient management plan are directly adjacent to or have high potential to deliver nutrients and sediment to Black River (listed 303(d) impaired water for total phosphorus concentrations).

Please see the department's response to question 6. in the "[Concerns about impacts to local groundwater & drinking water sources and public health implications](#)" section above.

3. The department should eliminate or reduce spreading on any fields with soil test P of 100 ppm or more.

Response: Babcock Genetics approved nutrient management plan utilizes the “P Index” phosphorus delivery method described in s. NR 243.14(5). Applications are allowed on fields with soil test phosphorus levels between 100 ppm and 200 ppm, provided the cumulative application of phosphorus from manure and process wastewater does not exceed 50% of the cumulative annual crop phosphorus removal over the rotation or the next 4-year period, whichever is less.

Babcock Genetics’ approved NMP **does not** contain approved application on fields with over 200 ppm phosphorus.

Concerns regarding manure storage

1. A study of mechanisms by which failure of manure storage may happen and associated impacts should be done to better assess risk.

Response: The storage of manure and process wastewater and the subsequent land application of these stored materials are considered the best technology for CAFOs under federal NPDES requirements. For waste storage facilities, the DNR reviews design plans and evaluates existing structures to help ensure proper design of manure/process wastewater storage. In addition, the WPDES permit contains permit conditions for a monitoring and inspection program that is consistent with NR 243. The monitoring and inspection program within the WPDES permit contains the following requirements for storage structures and land application equipment:

- Weekly inspections of liquid storage and containment structures. For liquid storage and containment facilities, the berms shall be inspected for leakage, seepage, erosion, cracks and corrosions, rodent damage, excessive vegetation and other signs of structural weakness. In addition, the level of material in all liquid storage and containment facilities shall be measured and recorded in feet or inches above or below the margin of safety level.
- Periodic inspections and calibration of landspreading equipment to detect leaks and ensure accurate application rates for manure and process wastewater. An initial calibration of spreading equipment shall be followed by additional changes in product or manure or process wastewater consistency. Spreading equipment for both liquid and solid manure shall be inspected just prior to hauling season, and equipment used for spreading liquids shall be inspected at least once per month during months when hauling occurs.

2. Manure storage structures should comply with local ordinances.

Response: While the DNR works cooperatively with other governmental agencies, it does not have the authority to enforce local conditions of other agencies as part of the WPDES permit. Babcock Genetics’ CAFO permit requires an engineering evaluation of existing manure storage facilities and associated manure transfer systems ability to comply with permit production area discharge limitations and the requirements of s. NR 243.15. If found to be noncompliant, modifications to permanently correct adverse conditions are required.

3. Considering climate change, 180 days of liquid manure storage may not be adequate.

Response: All permittees shall have and maintain adequate storage for all manure and process wastewater generated at the operation to ensure that wastes can be properly stored and land applied in compliance with the conditions and timing restrictions of the WPDES permit, nutrient management plan and s. NR 243. Adequate storage for liquid manure is defined in NR 243 as a minimum of 180 days of storage for liquid manure.

The department reviewed liquid manure storage calculations contained in Babcock Genetics nutrient management plan. Babcock genetics has about 440 days of storage for liquid manure.

Requests for additional monitoring and third-party review

1. Require groundwater monitoring of manure application sites

Response: The permit for Babcock Genetics requires groundwater monitoring of the operation’s permanent spray irrigation sites. These are the fields where the operation’s manure and process wastewater is applied.

2. The department should perform microbial source tracking tests on local wells to determine if nitrate contamination is related to swine manure
Response: Monitoring of offsite private water supply wells or wells of nearby homeowners is outside the scope of this permit. If a homeowner suspects their well is contaminated with manure, they should immediately contact a regional DNR Private Water Supply specialist (see list at <https://dnr.wi.gov/topic/Wells/PrivateWaterSupply.html>) or CAFO specialist (see contact map at <https://dnr.wi.gov/topic/AgBusiness/CAFO/Contacts.html>), who can assist in identifying the source of the contamination and options available to the well owner to ensure they have safe drinking water.

3. The department should undertake a regional groundwater study
Response: A regional groundwater quality study is beyond the scope of the individual CAFO WPDES permit. The department can only require groundwater monitoring at an individual permitted operation under the WPDES permit program.

4. Include the Nutrient Management Plan as an appendix to the permit and require review by a third party.
Response: The approved nutrient management plan is incorporated by reference into the WPDES permit by section 1.6 Nutrient Management and is considered a condition of the permit. The section reads, “Except as provided for in s. NR 243.142(2), the permittee is responsible for ensuring that manure and process wastewater generated by the operation is land applied or disposed of in a manner that complies with the terms of this permit, the approved nutrient management plan, and s. NR 243.14.”

The nutrient management plan and the department’s conditional approval are available to the public upon request. The department’s conditional approval was also included in the permit fact sheet. Annual updates to the nutrient management plan are available online via the DNR’s ePermitting site at <https://dnr.wi.gov/permits/water/>.

5. The department should make groundwater monitoring data from Babcock Genetics available to the public.
Response: Groundwater monitoring data associated with Babcock Genetics are records available to the public upon request. For more information on open records, or to make a records request, visit the department’s open records webpage, <https://dnr.wi.gov/contact/openrecordsrequest.html>.

Question regarding the department’s enforcement processes

1. Why has the department not taken an enforcement action related to existing monitoring well data above nitrate standards?
Response: The department cannot take an enforcement action without evidence that a permit violation or violation of State statutes has occurred. For additional details, please see the department’s responses in the “Concerns about impacts to local groundwater & drinking water sources and public health implications” Section.
2. What happens if Babcock Genetics monitoring wells show groundwater standards are being exceeded?
Response: If monitoring wells included in the operation’s WPDES permit indicate exceedances of groundwater standards, the DNR will assess the cause and significance of the concentration of the substance in groundwater causing the exceedance and determine an appropriate response action consistent with ch. NR 140 (Wis. Adm. Code). Responses may include continued monitoring and/or revisions to a structure or system’s operational procedures and/or change in a structure’s construction or design. Appropriate NR 140 response actions to address exceedances of groundwater standards are placed in an operation’s permit. Discharges to groundwater that exceeded water quality standards or failure to take a required permit NR 140 response action are considered permit violations under which the department may initiate stepped enforcement action. Stepped enforcement actions may include: a notice of noncompliance, notice of violation, and referral to the Wisconsin Department of Justice for prosecution. Resolution of an enforcement action requires compliance with the permit, and cessation of any unlawful discharges to waters of the state.

In cases where it is determined that groundwater concentrations above an enforcement standard have not been caused by a regulated practice, activity or facility, but are due to high (upgradient) background levels from another source, the department may grant a site specific exemption to a standard and establish an alternative concentration limit (ACL) groundwater standard established for the site.

Comments Received from EPA or Other Government Agencies

1. The department should establish surface and groundwater quality standards for the Browns Marsh and Black River, and the applicant or WI DNR initiate a monitoring program to ensure that Babcock Genetics LLC operation does not continue to impair water quality, fish and wildlife health, and federally designated public use of the area.

Response: The department has established surface water quality standards for total phosphorus in surface water as captured in s. NR 102. The Black River from confluence with Cunningham Creek near Neillsville to Mississippi River, excluding Lake Arbutus, has a 100 ug/L water quality standard for total phosphorous and is listed as impaired for exceeding the standard. Information on Black River water quality is available here, <https://dnr.wi.gov/water/impairedDetail.aspx?key=18627>.

Water quality standards for wetlands, like Brown's Marsh, are included in s. NR 103 Water Quality Standards for Wetlands.

In the event a production area discharge to waters of the state were to occur, the DNR would determine if the discharge was allowable based on the discharge criteria, including applicable operational requirements, contained in the WPDES permit section 1.1 Production Area Discharge Limitations. In addition to potential noncompliance with operational requirements, the DNR would review any available monitoring data from sampling it had conducted to determine if water quality standards had been exceeded. For parameters where the water body already exceeds water quality standards, monitoring data would be compared to applicable water quality criteria.

Permit section 1.1 Production Area Discharge Limitations requires any production area discharge from Babcock Genetics to waters of the state to comply with water quality standards, groundwater standards, and may not impair wetlands functional values.

2. Limit animal units to less than 1,500.

Response: The DNR does not prohibit operation expansion nor limit the number of animal units at a given operation under the WPDES permit program. Instead, the DNR monitors compliance with permit requirements to maintain adequate storage and land base for storing and land spreading manure and process wastewater.

Permittees report animal unit numbers, associated manure and process wastewater generation, and available storage to the DNR at the time of application for permit reissuance, when submitting plans and specifications, when proposing a 20% expansion in animal units, and on an annual basis. The DNR reviews this information to determine if the operation has maintained enough spreadable acreage in the approved nutrient management plan and a minimum of 180 days of storage for liquid manure.

When an operation proposes to expand during the permit term, they must confirm adequate land base and manure storage to support the addition of animal units. If the operation needs to build additional storage that requires a permit modification or add land base to support the expansion, those items are available for public review and comment and can be viewed online via the DNR's ePermitting system at <https://dnr.wi.gov/permits/water/>.

3. Require additional groundwater monitoring and reporting of groundwater monitoring well data four times per year. The DNR should provide this data to the La Crosse County Health Department.
Response: New groundwater monitoring of permanent spray irrigation sites is required by schedule section 3.7 Groundwater Monitoring – Manure Spray Irrigation Area. New language has been added

to the permit in permit 2 Groundwater Monitoring to provide clarity on the parameters and frequency of sampling required.

Groundwater monitoring data is public record available to the public upon request. The department is working with the La Crosse County Health Department to ensure they have access to this information.

4. Require evaluation of permanent manure storage and transfer facilities.

Response: Babcock Genetics CAFO permit, section 3.4 Manure Storage Facility – Engineering Evaluation, requires an engineering evaluation of manure storage facilities and associated manure transfer systems ability to comply with permit production area discharge limitations and the requirements of s. NR 243.15. If found to be noncompliant, modifications to permanently correct adverse conditions are required.