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### Comments on Supreme Beef NMP

I ask the Iowa DNR to reject Supreme Beef's proposed Nutrient Management Plan (NMP). Supreme Beef has used questionable data and calculations to justify the application of more than 30 million gallons of manure from 11,600 **head of** cattle annually to farm fields in Clayton and Allamakee Counties.

I dispute the page (1) NMP characterization of Supreme Beef as an "existing operation, not expanding." While there has been one livestock barn housing a few hundred cattle on the site for several years, Supreme Beef now is applying for a new facility, in new buildings, with a new manure storage basin, with 11,600 cattle on site. Although the new Supreme Beef facility NMP received partial approval allowing 2700 head of cattle in 2020, those animals were never brought to the site, so the operation could hardly be termed "existing."

I also question the legality of Supreme Beef proposing to use the 39-million-gallon lagoon for manure storage. The structure originally was approved as an industrial wastewater lagoon to contain effluent from methane digesters – but Supreme apparently has abandoned plans for those digesters. At the public hearing in 2017, comments were restricted to consideration of an NPDES stormwater permit for the industrial lagoon, with no discussion allowed about manure storage from an Animal Feeding Operation open feedlot.

The farm fields where Supreme Beef proposes to apply manure are in the Paleozoic Plateau region of northeast Iowa. 42 of the 45 fields contain soil types that are classified as highly erodible (HEL), and subject to the farming restrictions in the 1985 Food Security Act. Most of the fields Supreme Beef proposes for manure applications include areas where the slope steepness is up to 14%, and parts of 12 fields have slopes of 25%. Several are in areas of known karst, with the potential of sinkholes being present, or forming unexpectedly, creating the real possibility for groundwater contamination.

45 sites are listed in the NMP, but soil map legends indicate that each farm site may include a wide variety of soil types, phosphorus levels, soil pH, and erosion

indices. Combining those different characteristics into one field “average” management unit, as the applicant has done, distorts the data, which could result in over-application of manure and/or excessive erosion in portions of the field.

Also, the Iowa Code requires calculating manure application rates based on crop yields and the N and P content of the manure. However, the applicant apparently used N and P values of diluted excrement, instead of the "as excreted" values specified in IAC Chapter 65, Tables 3, 3a, and 5, which they should have used at this stage of calculations. This resulted in a much lower hypothetical amount of Total N and P used to compute application rates, rather than a higher actual N and P – and thus the high likelihood of over-application of manure. It also seems likely that there could be great variability in the N and P values of the liquid removed from the lagoon to apply on fields, unless the lagoon contents are constantly agitated or mixed. Unless every tanker of manure is independently tested, it will be extremely difficult to determine the nutrient value of manure actually applied.

Of the 45 farms/fields, 32 are projected to lose more than 5 tons of soil per acre per year, which exceeds the T-value for the soil types within each field. These fields are losing soil faster than new soil is being regenerated. Three fields have a calculated soil loss of more than twice the T value using the current calculated soil loss values. This is hardly a long term, sustainable approach to farming!

The RUSLE2 profile erosion calculation record forms are, or appear to be, incomplete. The soil loss equation results appear to be in error, as they are not reflecting either a complete crop rotation, or have incorrect or missing field operations. Examples of missing information include the alfalfa fields rotation, which does not include the typical non-alfalfa crop of either corn, corn silage, or soybeans, and the tillage operations prior to the new alfalfa seeding crop being established. The NMP also assumes manure will be injected into alfalfa fields. This may be a false assumption, since farmers may be reluctant to jeopardize their alfalfa stand with injection equipment, and may prefer to surface apply manure.

Also omitted are the additional tillage operations for weed control that are needed for the organic crop production fields that are included in the plan. There’s also no mention of additional tillage operations some farmers may choose to use to manage the crop residue between corn crops in the corn-on-corn rotation. The field operation listed in the NMP plan - cultivator 6 to 12 inch sweeps as a single spring tillage operation - may not reflect the tillage practices currently being applied on many of the manure agreement fields. And the planting operation is listed as a fluted coulter with double disc openers. Are all farmers using similar planter set-ups? Or is it understood that farmers will change their long-standing practices to meet the letter of the NMP? That seems doubtful.

The NMP assumes identical planting equipment and methods for each field. This may be an incorrect assumption, given individual farmers' preferences for a variety of machinery and techniques.

The NMP typically assumes continuous corn – although some farmers probably will elect to grow at least some soybeans. Depending on commodity prices and individual farmers' decisions, that could involve a significant portion of the fields designated to receive manure. Soybean fields are inherently more erosive than corn, and require less added fertilizer. If soybean fields are included, more acres will be needed to avoid over application, and erosion problems will be increased.

The corn-on-corn for grain production RUSLE2 Profile Erosion Calculation Record appears to be a generic plan. The implied use of a low disturbance manure injection system needs to be evaluated more closely. Is manure that is being applied at 17,000 gallons/acre really being completely applied below the surface? A slice of soil thrown over the top of such a high rate of liquid manure will leave much of the manure on the surface. Is this method partially a surface application? Individual farmers also may elect to do an additional tillage operation to incorporate the manure, if a field is not left in satisfactory condition by the manure applicators.

Also, anhydrous ammonia applications on any manure agreement fields must be listed as an additional soil disturbance in the RUSLE2 profile.

The soil loss output values as currently being reported need to be more specifically defined, as it is the **key** calculation value going into the Iowa Phosphorous Index (PI) calculation. The PI calculation only includes rill and interrill erosion. Where is the estimate of ephemeral gully and classical gully erosion that must also be included? (I understand that other comments being submitted to the DNR may address these concerns in more detail.)

Much of the soil that is eroding from these fields could include manure – especially since Supreme Beef has not submitted plans to use erosion control practices (such as contour planting, terraces, or buffer strips.) The Iowa Administrative Code requires that conservation measures be specified in the NMP – but Supreme Beef did not comply with that requirement.

The Code also directs the DNR to at least consider the operation's adverse impacts on the natural resources:

*65.103(5) The department may evaluate any proposed open feedlot operation or proposed expansion of an open feedlot operation that requires a construction permit with respect to its potential adverse impacts on natural resources or the environment.*

In that regard, I specifically object to plans to apply manure near two State Preserves: Roberts Creek in Wagner Township, and Mossy Glen in Lodomillo Township.

The land near Mossy Glen is especially puzzling, since it's about 30 road miles from the Supreme Beef feedlots. Hauling manure that distance can't be cost effective, and it could damage more miles of our county roads.

The plan also calls for manure to be applied in the watersheds of several streams – in addition, of course, to Bloody Run.

Those streams include: Sliver Creek, Sny Magill, Mossy Glen, Dry Mill, Howard Creek, and Hickory Creek.

Sny Magill, Mossy Glen, and Hickory Creek are cold-water trout streams. The other streams generally are spring-fed and support diverse aquatic life.

Although the applicant has not applied for a Federal NPDES permit, claiming the permit is not required if there is no discharge to Waters of the U. S., I contend that a NPDES permit should be required. If manure is applied on the fields and in the quantities proposed in the NMP, it is inevitable that some manure/nutrients WILL reach regulated waters. This could be a violation of Federal law.

I'd also note these apparent omissions in the NMP:

\*On the Read Plat map (p20) parts of sections 3 & 4 are highlighted, but not mentioned in the NMP. Note that Spring Creek flows through the NE ¼ of section 4.

\*On the Giard Plat map (p16), part of section 36 is highlighted, but not mentioned in the NMP. Note that the headwaters of Sny Magill Creek flow through that section.

Based on these examples of the NMP's deviation from the requirements of the Iowa Code and administrative rules, other errors, incorrect information, and unwarranted assumptions – many of which could result in significant harm to Iowa's natural resources – I urge the Iowa DNR to reject Supreme Beef's proposed Nutrient Management Plan.