Weyerhaeuser

SUSTAINABLE FORESTRY INITIATIVE

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Weyerhaeuser appreciates the opportunity to comment on the Nitrogen Management Project Protocol V.1. This protocol is an important step in encouraging improvement in nitrogen management by recognizing the greenhouse gas reductions associated with reducing the amount of N potentially lost as nitrous oxide as well as ammonia volatilization.

Weyerhaeuser Company, one of the world's largest forest products companies, was incorporated in 1900. Weyerhaeuser owns or manages 20 million acres of forestland, mainly in North America, and in 2011, sales were $6 billion. Weyerhaeuser grows and harvests trees; manufactures and distributes a variety of forest products; and owns five home building subsidiaries, including Pardee homes, located in California. Weyerhaeuser also has developed two nitrogen management products, and it is in this context that we comment on this protocol[1].

**General Comments**

We understand that there needs to be sufficient data in order to develop a performance standard for particular nitrogen management activities and geographies; however, the process for providing these data and timeline for incorporating into a future standard has not been clarified. According to Appendix A.1.

> "Section A.7 of this appendix also summarizes the preliminary performance standard research done on other priority nitrogen management practices for which data were available, namely switching from fall to spring application and using nitrification inhibitors (or using both nitrification *and* urease inhibitors), which may be included as approved project activities under a future version of this protocol. Section A.7 of this appendix also summarizes the preliminary performance standard research done on other priority nitrogen management practices for which data were available, namely switching from fall to spring application and using nitrification inhibitors (or using both nitrification *and* urease inhibitors), which may be included as approved project activities under a future version of this protocol.

[1] Arborite CUF is a phosphate coated urea that is used primarily for timber fertilization. It has nitrogen, phosphorus and boron in a single granule with volatility control for the nitrogen. This product allows the user to apply all the needed nutrients in a single pass in the correct ratio for timber fertilization. The volatility control and improved uptake efficiency of Arborite CUF allows the user to apply less nitrogen without impacting the desired growth response. Arborite AG is an improved efficiency product that is added to urea or **U**rea **A**mmonium **N**itrate to reduce the volatility of the nitrogen. This product is a liquid that is added to the urea or UAN and allows the user to apply these products and expect less nitrogen loss from volatility. Volatility can be reduced by more than 30% depending on the soil and weather conditions present at application.

Furthermore, Appendix D describes the criteria needed to fully vet a potential new nitrogen management practice and/or location. Since the criteria is already laid out in the protocol, we recommend there be a process to bring new management practices and/or locations for consideration as eligible projects ***without having to wait for a future version of the protocol***.

We are currently conducting studies in several forest and agriculture settings on the impacts of our two nitrogen management products on GHG emissions, nitrogen rate reduction, volatility reduction, and yield. For example, laboratory studies have shown that applying Arborite AG, a urease inhibitor, can reduce urea volatilization by up to 50%. Field trials with this product on a variety of crops, such as corn, wheat, cotton, forage, and barley, have found similar successes.

**Specific Comments**

*Section 2.1.1.* Potential Nitrogen Management Practices and $N_2O$ Quantification in this Protocol
It appears that the only N management method that meets protocol requirements is reducing the amount of N applied. Often growers are able to reduce N rates by applying a different type of fertilizer, such as the use of nitrification and urease inhibitors, which reduce N-losses to the atmosphere, and therefore reduce the amount of N-applied needed because more remains in the soil. Would such a practice (i.e. reducing the amount of N-applied because of switching fertilizer type) still be considered eligible?

Recommendation: Please clarify that the reduction in N-applied can be achieved through any means as long as the yield remains the same.

*Section 3.2* Start date
The start date is currently defined as June 27$^{th}$, 2010. And fields with start dates prior are not eligible. It is unclear whether the start date applies only to a specific field or whether it applies to a particular landowner. For example, if a landowner has tried a nitrogen management technique on part of the land prior to June 27$^{th}$, 2010, would the parts of land that had not yet been treated be eligible under this protocol?

Recommendation: We recommend clarifying to that it applies to site-specific "fields" and not across an ownership.

*Section 3.5.1.1* Performance Standard for Reduction in N Application Rate
The performance test is designed to show that the project's nitrogen management increases the ratio of removed to applied N (RTA) from a base case. It appears that there are only a handful of crops and states listed in Table A.8 (which is mis-referenced as A.9. on P.g. 14.) What are the procedures for creating reference RTA's for additional crops and locations?

Recommendation: If no reference RTA is provided, the project developer should be able to use the historical RTA calculation as specified in equation 5.8 as the test of additionality.

*3.5.3.1* Credit Stacking
The protocol states that because there are currently no active Water Quality Trading Programs, the protocol will not, at this time, address credit stacking. This uncertainty may be a detriment to nitrogen management projects as project developers may choose to wait to understand if early action will hinder the ability to enter other markets in the future.

Recommendation: We recommend making a statement regarding credit stacking. If one activity impacts two different markets (greenhouse gas and water quality) that are distinct, there should be no reason why credit stacking is not acceptable.

*Section 5.4.1.* Calculating baseline and project direct N2O emissions from Soil (SSR 1)
The equation for calculating direct baseline and project emissions (equations 5.11 and 5.12) appear to be specific to corn crops and is based on the MSU-EPRI Tier 2 emissions factor in corn cropping systems in the North Central Region in the U.S. How are SSR 1 emissions calculated for non corn cropping systems?

Recommendation: Please clarify that this equation can be used for other crops or specify a generic way to calculation SSR 1 emissions for non corn crops (e.g. IPCC default factors).

Please contact me at 253-924-3292 or edie.sonnehall@weyerhaeuser.com with any questions you may have regarding these comments.

Sincerely,

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