**OBJECTIVE:** Precision Nutrient Management is a precision approach to nutrient management, plant nutrition and reducing potential water quality impacts. The management of all applied fertilizers will be implemented based on a written plan that addresses the 4 R’s (source, placement, timing and rate) to the level of the Ohio nutrient management standard (code 590). It focuses on a precision application of commercial fertilizer only where they are needed for economic and optimal plant nutrient needs.

**DESCRIPTION:** Application of fertilizers and or manure is based on a written Nutrient Management Plan (NMP). The NMP will utilize a nutrient budget that incorporates current soil test results, yield goals, nutrient needs of the crops in rotation, and the site specific risk of nutrient loss to determine the 4R’s over small sub-field management units. The use of Variable Rate Application Technology (VRT) will be utilize to implement fertility prescriptions of lime, phosphorus, and potassium on the sub-field management units.

**PLANNING:** Nutrient Management Plans (NMP) can be developed by a consultant, a farm cooperative agronomist, CCA of the producer’s choosing, or the plan may have already been developed as a CAP 104 or 102 in a previous EQIP contract. NMPs must meet NRCS 590 Statement of Work deliverables. NRCS can provide the “template” to serve as the framework for the written NMP.

**PLAN SPECIFICATIONS:** Soil tests used in planning are to be no older than 2 years and geo-referenced using either grids or zone sampling techniques. For grid sampling one test cannot represent more than 6 acres and no more than 12 acres if a zone sampling system is used. Soil fertility, soil types, cropping history, and crop management practices should be taken into consideration when delineating the zones and soil sample should represent the average for the entire zone. Interpolation of soil test values and recommendation should not be used with a zone sampling system. A blanket fertilizer application rate within each zone is required. For more information on grid vs zone sampling and fertilizer application please see OSU C.O.R.N. newsletter 2016-37. New soil samples will be done on a 2 years cycle; every 2 years new soil samples using the same sampling techniques will be taken to refine the source and rate of fertilizer for each sampled area.

Planners need to also incorporate the following requirements into the final plan:

2. Lime, phosphorus and potassium will be applied using Variable Rate Technology
3. Commercial phosphorus must be banded, injected, strip tilled, incorporated or applied to a growing crop or cover crop.
4. Nitrogen rates for corn will not exceed the Economic Threshold model developed by The Ohio State University, or Purdue (request assistance from local extension agent if needed). Nitrogen rates for wheat will not exceed TSFG rates.
5. No commercial nitrogen will be fall applied for a spring planted crops (except incidental nitrogen in fertilizer blends).
6. Urease inhibitors will be applied with UAN and or Urea when it is surface applied in the spring when losses are likely.

7. **No** nutrients will be surface applied on frozen or snow covered ground, when the top 2 inches of soil are saturated from rainfall or snow melt, and/or when there is a greater than 50% chance of rainfall of more than ½ inch within 24 hours.

8. The supporting practices in the EQIP participants plan must be incorporated into the NMP and the client should provide a copy of their Conservation Plan to the CCA/TSP.

9. Plan shall include provisions for accurate record keeping of all nutrient applications per field (source, rate, timing, placement).

**IMPLEMENTATION:** Once a plan has been finalized and approved, producers apply the nutrients following the plan’s specification for nutrient rates, timing, placement and sources/types of nutrients.