



# Maryland Department of Agriculture

Office of Resource Conservation

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## Phosphorus Management Tool (PMT) Nutrient Management Plan Writing Guidance

The Phosphorus Management Tool (PMT) will be implemented when a soil sample analysis shows a Phosphorus Fertility Index Value (P-FIV) of 150 or greater and Phosphorus bearing materials will be applied. As a phased-in approach to PMT, each agricultural operation will be placed in one of three “tiers”, as determined by the individual farm operations “Average P-FIV”. This average is calculated by summing the P-FIV values from all management areas (fields) with a P-FIV of 150 or greater and dividing by the total number of those management areas.

Nutrient management plans prepared for 2016 & 2017 shall be developed using both the Phosphorus Site Index (PSI) and PMT for comparison, with management of phosphorus application governed by the PSI. For operations in tier C, starting July 1, 2017 nutrient management plans written for the 2018 crop year (including multi-year plans) shall begin implementation of the PMT following the transition management (TM) schedule below. Tiers A and B will begin following the transition schedule in subsequent years. Full PMT implementation to manage phosphorus application will be required for all tiers in crop year 2022.

### PMT Implementation Schedule:

Crop Year	2016	2017	2018	2019	2020	2021	2022
Tier C – Avg. P FIV 450 or greater	PSI-PMT	PSI-PMT	TM I	TM I	TM II	TM II	PMT
Tier B – Avg. P FIV of 300-449	PSI-PMT	PSI-PMT	PSI	TM I	TM II	TM II	PMT
Tier A – Avg. P FIV of 150-299	PSI-PMT	PSI-PMT	PSI	PSI	TM I	TM II	PMT

Both the PSI-PMT are required to be completed in 2016 & 2017 for comparison purposes.

### PMT Risk Category Ranges:

PMT Rating	PMT Risk Category
0 – 50	<b>LOW</b>
51 – 100	<b>MEDIUM</b>
>100	<b>HIGH</b>

Output from the PMT is a numeric risk category that governs how phosphorus is to be managed.

## PMT Risk Category - Management Requirements for Phosphorus

*(Agronomic NITROGEN rates for the planned crop may not be exceeded in any application)*

### Transition Management Phase I (TM I)

Risk Category	P source application rate is based on
Low	Phosphorus crop removal for rotation of crops for three years
Medium	Phosphorus crop removal for rotation of crops for three years
High	Phosphorus crop removal of two crops

**\*P FIV 500 or greater: No Phosphorus bearing materials may be applied**

### Transition Management Phase II (TM II)

Risk Category	P source application rate is based on
Low	Phosphorus crop removal for rotation of crops for three years
Medium	Phosphorus crop removal for rotation of crops for two years
High	50% Phosphorus crop removal of two crops
<b>Limits of Technology:</b> If 50% of 2 crops is not achievable with current application technology, then application may be made to the 1 year crop removal of the crop	
<b>Certified Organic:</b> Phosphorus crop removal for rotation of crops for the <b>current</b> crop year.	

**\*P FIV 500 or greater: No Phosphorus bearing materials may be applied**

### Phosphorus Management Tool (Crop Year 2022)

Risk Category	P source application rate is based on
Low	Total phosphorus applications related to crops anticipated to be planted in a 3-year period shall not exceed the amount of phosphorus removed by the planned crops over the 3-year period.
Medium	Phosphorus rates shall be limited to the expected amount removed by the crop or plant rotation immediately following the phosphorus application, not to exceed two crops.
High	No Phosphorus bearing materials may be applied.
<b>Certified Organic:</b> Phosphorus crop removal for rotation of crops for two crops.	
<b>Tissue Analysis:</b> 25% Phosphorus crop removal for that crop (Applicable to All Crops)	
<b>75% P reduction of manure**:</b> 50% of Phosphorus crop removal of two crops	

\*\* applies only to farm operations implementing manure technologies that reduce phosphorus levels in the nutrient materials that are outputs