# Situation on P reduction values

- No change in existing P reduction values.
- But, P6 land uses have changed so that old hi-till/lo-till land uses are gone.
- Lo-till P reduction values now apply to corn silage, other row crops, high input specialty crops.
- Hi-till 0 P reduction values for cover crops now apply to other landuses which are eligible for CT credits. Only way to avoid double counting.

# Comment from PA-There should be P and sediment reduction credits for cover crops.

Response: Text in report misrepresented P reduction credits. In fact, P and sediment reduction credit values remained unchanged in tables, except that these values are applied to a different land use group as a result of P5.3.2 to P 6 land use changes. These credits now apply to corn silage, high input specialty, and other row crops land use categories.

# Comment from CBF-Mixtures should receive full N reduction credit of full rate grass options.

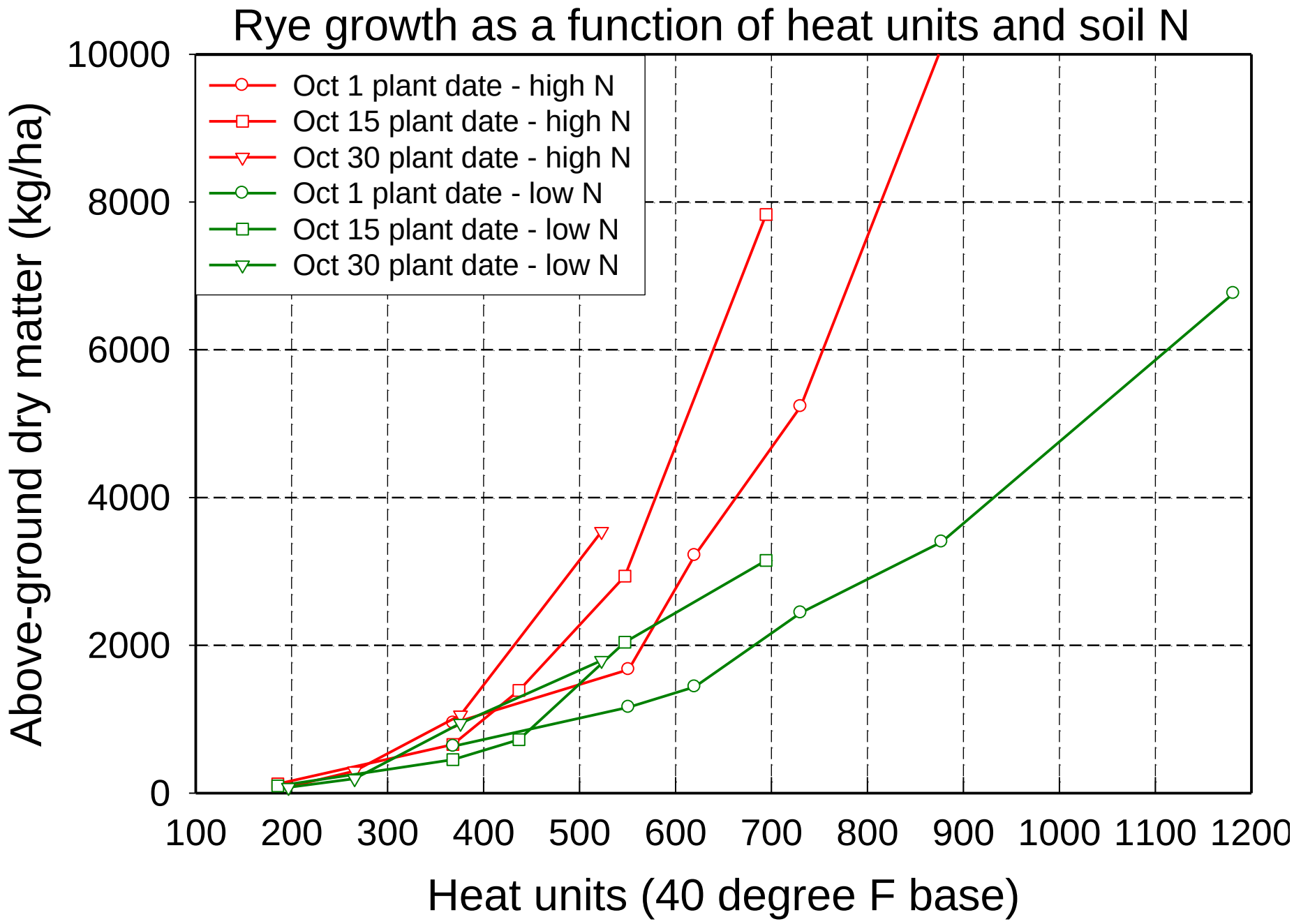
Response: Panel already raised mixture credit in 5.3.2 report from 0.5 to 0.7 and created a new mixture category that allows grass content of 25% of full rate grass planting. While mixtures provide additional benefits, panels charge is strictly to address nutrient reduction impacts. Reducing grass content of mixture slows rate of depletion of soil nitrate and increases potential for leaching relative to full rate grass cover crops. Keep as is.

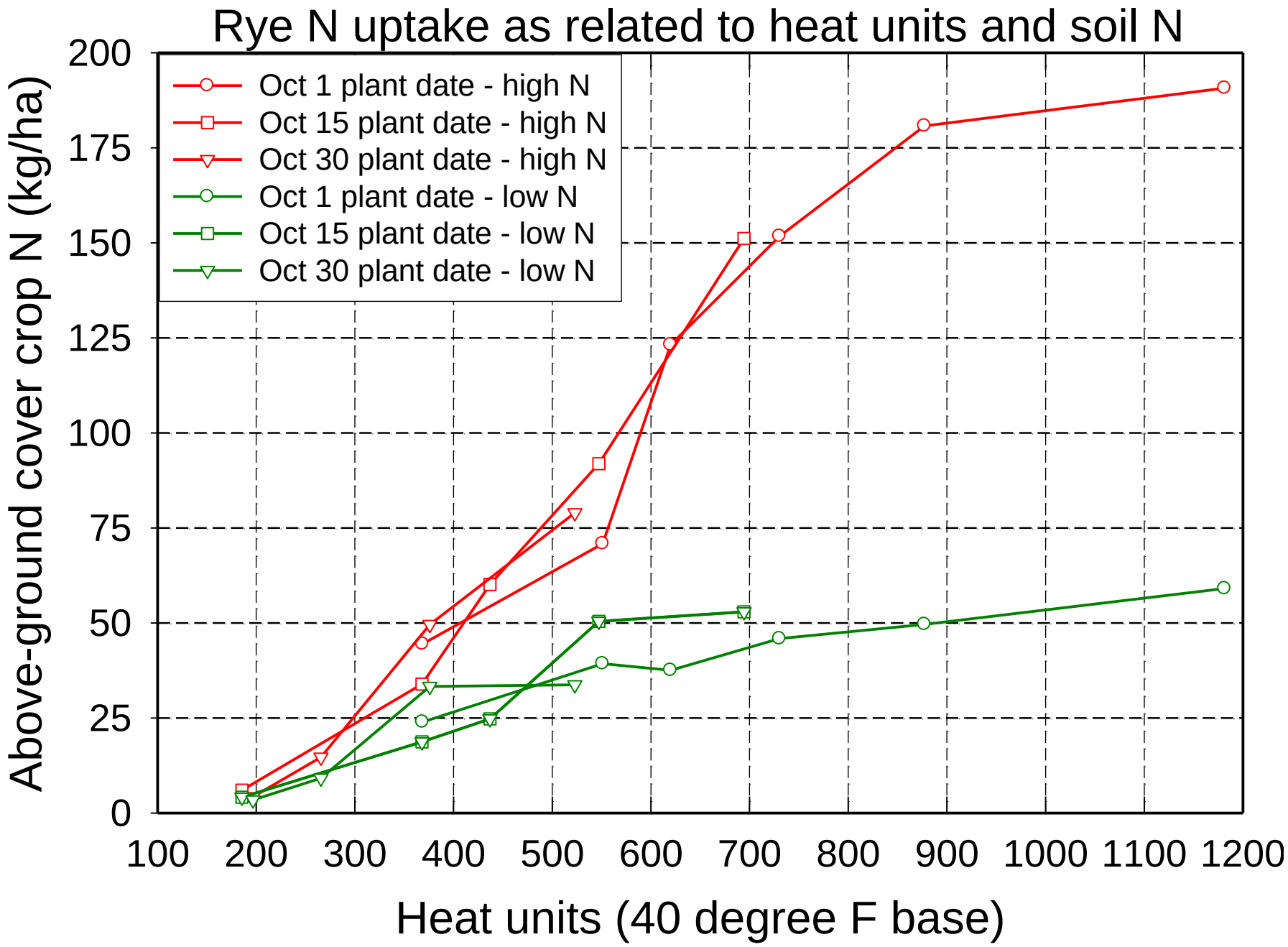
# P6 Cover crop panel recommendations–II

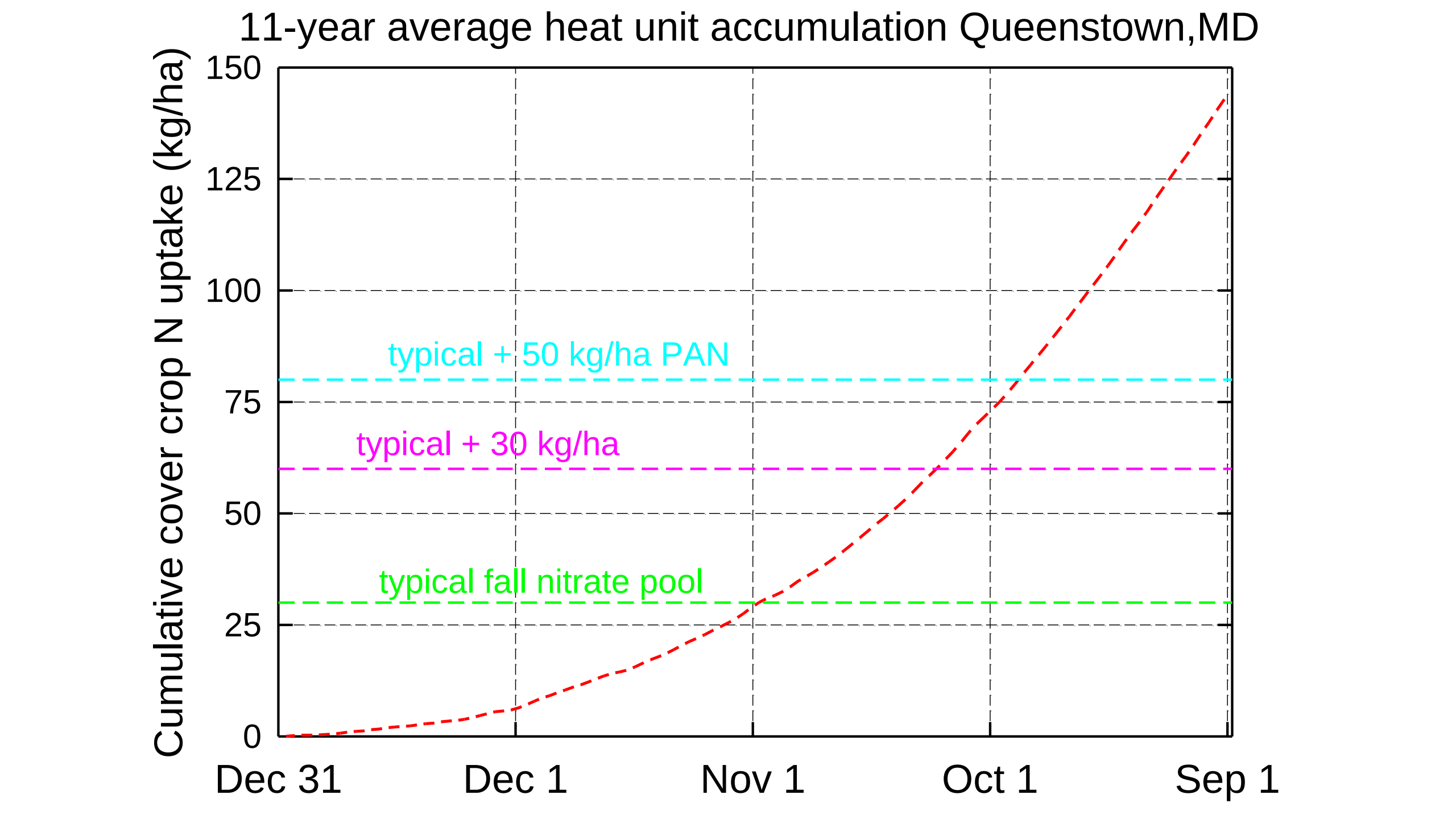
- Crop land where fall manure application is unavoidable are a high priority for cover crop use and should be eligible for the cover crop BMP.
- The N reductions from cover crops planted where fall manure is applied are estimated as 0.7 of existing values for traditional full rate monoculture winter hardy grass and brassica cover crops (did not create new BMPs !).

# Comment from PA and CBP- More consolidated tracking and reporting.

Response: This and past panels have focused on relative effectiveness of cover crop options partly for crediting, but also for guiding implementation. Panels have been asked to consider cover crop options used in the watershed. Not part of panel mission to specify reporting requirements or how reported data is used in modeling process. But panel stands by need to provide clear distinction on effectiveness of various cover crop options.


Rye growth as a function of heat units and soil N
Above-ground dry matter (kg/ha)
10000
8000
6000
4000
2000
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
Heat units (40 degree F base)
Oct 1 plant date - high N
Oct 15 plant date - high N
Oct 30 plant date - high N
Oct 1 plant date - low N
Oct 15 plant date - low N
Oct 30 plant date - low N


Rye N uptake as related to heat units and soil N
Above-ground cover crop N (kg/ha)
Heat units (40 degree F base)
Oct 1 plant date - high N
Oct 15 plant date - high N
Oct 30 plant date - high N
Oct 1 plant date - low N
Oct 15 plant date - low N
Oct 30 plant date - low N
0
25
50
75
100
125
150
175
200
100
200
300
400
500
600
700
800
900
1000
1100
1200


11-year average heat unit accumulation Queenstown,MD
Cumulative cover crop N uptake (kg/ha)
150
125
100
75
50
25
0
typical + 50 kg/ha PAN
typical + 30 kg/ha
typical fall nitrate pool
Dec 31
Dec 1
Nov 1
Oct 1
Sep 1

# P6 Cover crop panel recommendations–III

- Baseline condition is summer crop followed by a winter cereal for production that receives a 30 lb/acre N application.
- Commodity cover crop BMP is elimination of fall N application.
- N reduction credit increases moving later as N uptake capacity of crop decreases and fraction of applied N leached increases.

# P6 Cover crop panel recommendations–IV

- Limited data on this specific case
- Withholding fall N application from a winter cereal crop planted for harvest credited to reduce annual N losses from from land use where planted by 5, 10, and 15% for early, standard and late planting dates in Coastal Plain/Piedmont Crystalline/Karst regions and 4, 8, and 12 % in Mesozoic Lowlands/Valley and Ridge Siliciclastic regions.