



**Cornell Nutrient Management Spear Program Mass
Nutrient Balance Calculator Input Sheet**

N, P and K imports and exports: 1/1/2023 to 12/31/2023

Producer Contact Information		Data Collection	
Producer name		By	
Farm name		Email	
Address			
County and State			
Phone			
E-mail		Balance year	2023

Farm Information		Watershed	
Total farm acres		Primary watershed	
All tillable owned and rented crop and pasture acres		Secondary watershed	
Legume acres (perennial and annual) >10% legume		Soil Type	
Acres receiving manure (crop and pasture)		Primary soil type	
Milk marketing co-operative		Secondary soil type	

Have you completed a Cornell Dairy Farm Business Summary (DFBS) for the balance year?

Have you completed a Farm Credit Business Summary for the balance year?

Are you a Certified Organic producer?

Intensive grazing (grazed at least 3 months/yr, moved to a new pen every 3 days or more)?

Do you have a Comprehensive Nutrient Management Plan (CNMP) for the balance year?

Do you have a Cropware plan for the balance year?

Are heifers raised off-farm? If yes, what age group? _____

Average number and weight of farm livestock			
Animal Group		Number	Weight (lbs/head)
Cattle	Milking and dry cows		
	Heifers 1-2 year		
	Heifers <1 year		
	Calves		
	Bulls and steers		
Other livestock			

Dairy cow breed(s)	
Cull rate (%)	
Average SCC	

FARM CROP PRODUCTION

										Inventory (tons)	
Crop name	% legume	Area (acres)	Manure applied	CP (%DM)	P (%DM)	K (%DM)	Crop type*	Yield (t/a)	DM (%)	Beginning year	Ending year

* Crop type = "Forage", "Grain" or "Bedding"

IMPORTS

								Inventory	
Feeds (purchased)	Tons /year	%DM	CP (%DM)	P (%DM)	K (%DM)	Feed type*	% forage (if TMR)	Beginning year (as fed tons)	Ending year (as fed tons)

* Feed type = "Grain", "Forage" or "TMR"

Purchased fertilizers	Tons/year	% N	% P ₂ O ₅	% K ₂ O
		%	%	%
		%	%	%
		%	%	%
		%	%	%
		%	%	%
		%	%	%
		%	%	%
		%	%	%

Purchased animals	Type*	Description	Number	Weight/hd (lbs)

* Type = "Dairy", "Beef", "Swine", "Poultry", "Goats", "Sheep" or "Horses"

Purchased bedding, manure and miscellaneous imports	Amount	Units*	% DM (% solids)	N	P	K	Units** (as sampled)

* Units = "tons/year" or "gallons/year"

** Units = "%", "lbs/ton" or "lbs/1000 gallons"

EXPORTS

Milk sold (lbs/year)	Milk protein (%)	Milk fat (%)	Milk urea nitrogen (MUN) (mg/dl)

Animals sold	Type*	Description	Number	Weight/hd (lbs)

* Type = "Dairy", "Beef", "Swine", "Poultry", "Goats", "Sheep" or "Horses"

List cull cows and bull calves as "Dairy"

Crops sold	Tons/year	%DM	CP (%DM)	P (%DM)	K (%DM)	Feed type*	
TMR							% forage

* Feed type = “Grain”, “Forage” or “TMR”

Exported manure, compost and other exports	Amount	Units*	% solids	N	P	K	Units** (as sampled)

* Units = “tons/year” or “gallons/year”

** Units = “%”, “lbs/ton” or “lbs/1000 gallons” A

manure analysis can be attached if this is easier

SUPPLEMENTAL INFORMATION

Data	How data are collected
Crop yields*	
Crop nutrient values**	
Manure import nutrient values**	
Manure export nutrient values**	

* “Yield monitor”, “Farm scales”, “Field scales”, “Truck load tally” or “Other”

** “Measurements/analysis”, “Book values”, “3-year running average”, “Expert judgement” or “Other”

ADDITIONAL INFORMATION FOR GREENHOUSE GAS EMISSION ESTIMATION

If you would like us to estimate the greenhouse gas emissions for your farm, please provide the following information:

Grazing	Lactating cows	Dry cows	Heifers (1-2 years)	Heifers (<1 year)	Calves	Other
% of animals grazing	%	%	%	%	%	%
Total days with access to grazing per year	days	days	days	days	days	days
Average number of hours with access to grazing per day*	hours	hours	hours	hours	hours	hours

* Do not include time in milking parlor for lactating cows.

Manure storage/treatment facility	% of manure from each animal category in each system*					
	Lactating cows	Dry cows	Heifers (1-2 years)	Heifers (<1 year)	Calves	Other
Liquid manure/slurry storage with cover	%	%	%	%	%	%
Liquid manure/slurry storage without cover	%	%	%	%	%	%
Solid storage	%	%	%	%	%	%
Deep bedding	%	%	%	%	%	%
Daily spread	%	%	%	%	%	%
Solid/liquid separation	%	%	%	%	%	%
Anaerobic digester	%	%	%	%	%	%
Composting	%	%	%	%	%	%
Other (specify: _____)	%	%	%	%	%	%
Other (specify: _____)	%	%	%	%	%	%

* Each column should add up to 100%

E.g. Lactating cows: 100% liquid manure; Dry cows: 90% liquid manure, 10% daily spread

Manure analysis *	% solids	Total N	Ammonium N	P ₂ O ₅	K ₂ O	Units* (as sampled)

* A manure analysis can be submitted.

** Units = “%”, “lbs/ton” or “lbs/1000 gallons”

Describe a typical crop rotation for your farm:
____ years _____, ____ years _____, ____ years _____ _____

E.g. 4 years alfalfa, 4 years corn silage, 1 year wheat. Continuous corn grain. Perennial grass.

Manure applications					
Crop applied to	Manure storage	Application rate*	Units**	Application method***	Timing****

An updated nutrient management plan with actual applications can be submitted.

* Application rate = total applied to crop, or amount/acre

** Units = "tons/year", "kgal/year", "lbs/acre", "gal/acre"

*** Application method = "Broadcast/surface applied/no incorporation", "Incorporated within 24 hours", "Injected"

**** Timing = "Spring", "Summer", "Fall" or "Winter"

Fertilizer applications				Application rate*	Units**	Application method***	Protected N source****?
Crop applied to	% N	% P ₂ O ₅	% K ₂ O				If yes, which one?

An updated nutrient management plan with actual applications can be submitted.

* Application rate = total applied to crop, or amount/acre

** Units = "tons", "kgal", "lbs/acre", "gal/acre"

*** Application method = "Broadcast/surface applied/No incorporation", "Incorporated within 24 hours", "Injected/subsurface"

**** Enhanced efficiency fertilizer, e.g. nitrification inhibitors, urease inhibitors, slow release fertilizer

Tillage practices		
Crop	Most intensive tillage practice*	Previous tillage practices**

* Tillage practices = "conventional", "reduced" or "no till"

** Previous tillage practices in the last 20 years = "conventional", "reduced" or "no till"

Cover crops:	_____ % of corn acres cover cropped.
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Land use change in the last 20 years		
Previous land use*	Current land use**	Number of acres

* Previous land use: "Woodland/forest", "Cropland", "Permanent grassland/pasture/rangeland"

** Current land use: "Woodland/forest", "Cropland", "Permanent grassland/pasture/rangeland"

Energy and fuel use		
Source	Amount used	Units
Electricity (grid)		
Electricity (solar)		
Electricity (wind)		
Electricity (hydro)		
Gasoline		
Diesel		
Natural gas		
Heating oil		
Other (_____)		
Other (_____)		

Transport	
Item	Distance transported/purchase location