

2 MANURE AND NITROGEN USE SUMMARY

2012 – 2016 Nitrogen Estimates

2012			
	Numbers	Pounds Nitrogen	
Animal Nitrogen Excretion	LBs	294,800	Total nitrogen excreted from 670 milking cows including dry and replacement animals
Valorization	LBs	114,382	38.8% valorization loss of manure nitrogen
Usable Nitrogen		180,418	Total Spreadable Nitrogen
Total Spread Acres	412		Home acres
LB acre N- manure	acre	438	Manure N before spreading and ground losses
Estimated Manure application gallons per acre		Approximately 45,400 gallons per acre	Abnormally high number because of the dilution factor on a flush barn. This is a best estimate with no records
Corn Only			
Purchased Fertilizer	LBs	30,500	Total Purchased fertilizer for Home Farm
Total Spread Acres	305		Nitrogen only applied to corn silage acres
Lb acre N-Fertilizer	Home	99	As per Supplier recommendations
Pound Acre Corn		537	

2013			
	Numbers	Pounds Nitrogen	
Animal Nitrogen Excretion	LBs	294,800	Total nitrogen excreted from 670 milking cows including dry and replacement animals
Valorization	LBs	114,382	38.8% valorization loss of manure nitrogen
Usable Nitrogen		180,418	Total Spreadable Nitrogen
Total Spread Acres	513		Home acres
LB acre N- manure	acre	352	Manure N before spreading and ground losses
Estimated Manure application gallons per acre		Approximately 36,500 gallons per acre	Abnormally high number because of the dilution factor on a flush barn. This is a best estimate with no records
Corn only			
Purchased Fertilizer	LBs	30,500	Total Purchased fertilizer for Home Farm
Total Spread Acres	305		Nitrogen only applied to corn silage acres
Lb acre N-Fertilizer	Home	99	As per Supplier recommendations
Pound Acre Corn		451	

2014

	Numbers	Pounds Nitrogen	
Animal Nitrogen Excretion	LBs	294,800	Total nitrogen excreted from 670 milking cows including dry and replacement animals
Valorization	LBs	114,382	38.8% valorization loss of manure nitrogen
Usable Nitrogen		180,418	Total Spreadable Nitrogen
Total Spread Acres	513		Home acres
LB acre N- manure	acre	352	Manure N before spreading and ground losses
Estimated Manure application gallons per acre		Approximately 36,500 gallons per acre	Abnormally high number because of the dilution factor
Purchased Fertilizer	LBs	30,500	Total Purchased fertilizer for Home Farm
Total Spread Acres	305		Nitrogen only applied to corn silage acres
Lb acre N-Fertilizer	Home	112	As per Supplier recommendations
Pound Acre Corn		464	

2015

	Numbers	Pounds Nitrogen	
Animal Nitrogen Excretion	LBs	345,000	Total nitrogen excreted from 945 milking cows including close-up dry cows and young calves
Valorization	LBs	133,860	38.8% valorization loss of manure nitrogen
Total usable		211,140	Total Spreadable Nitrogen
Vandersen	LBs	44,500	Neighbouring Organic farmer is taking manure for an
Home apply		166,640	Total Spreadable Nitrogen for Home Farm
Total Spread Acres	513		Home acres
LB acre N- manure	acre	325	Manure N before spreading and ground losses
Manure application gallon acre		Approximately 28,600 gallons	Abnormally high number because of the dilution factor on a flush barn. This is a best estimate with no records
Planned Fertilizer	LBs	5,100	Total Purchased fertilizer for Home Farm
Total Spread Acres	205		Nitrogen only applied to corn silage acres
Lb acre N-Fertilizer	Home	25	As per Supplier recommendations
Pound Acre Corn		350	

2016

	Numbers	Pounds Nitrogen	
Animal Nitrogen Excretion	LBS	422,400	Total nitrogen excreted from 960 milking cows including dry and replacement animals
Volitization	LBS	163,891	38.8% volitization loss of manure nitrogen
Usable Nitrogen		258,509	Total Spreadable Nitrogen
Custom applied	LBS	50,400	3.9 Million gallons to 750 acres custom applied
Home applied		208,109	
Total Spread Acres	707		Home acres
LB acre N- manure		294	Manure N before spreading and ground losses
Estimated Manure application gallons per acre		22,800	Average for home farm, some fields more or less. As required by crop growth
Purchased Fertilizer	LBS	0	Total Purchased nitrogen fertilizer for Home Farm
Total Spread Acres	348		Nitrogen only applied to corn silage acres
Lb acre N-Fertilizer	Home	0	As per Supplier recommendations
N App per acre Corn	LBS	294	Total N before spreading and ground losses

Note: This farm has been continually reducing total manure applications per acre and purchased fertilizer contributing nitrogen since the adoption of the New Manure Management program in 2014. From a calculated high of 537 in 2012 to 452 pounds of nitrogen per acre in 2013/4 then 350 pounds in 2015 and a projected 294 pounds in 2016. They have effectively eliminated the perceived need for purchased nitrogen. Even though increasing the milking herd by 290 milking cows they have reduced the amount of nitrogen spread per acre by 45% and are able to apply all the manure to crop requirements. Once the 2016 manure transport improvements are completed and the neighboring land is fully on the manure program the need to apply any manure on alfalfa producing ground will be reduced or eliminated.