

Birchen Farms INC.
Recommended Application Rates

<u>Crop</u>	<u>Yield</u>	<u>Crop Rotation</u>	<u>Application Method</u>	<u>Manure Source</u>	<u>N rate</u>		<u>P rate</u>	
					<u>gal/acre OR t/ac</u>		<u>gal/acre OR t/ac</u>	
Corn	180	Following Corn	Inject	Liquid	18,200	Gallon/Acre	9,800	Gallon/Acre
Silage	30	Following Corn	Inject	Liquid	15,100	Gallon/Acre	9,870	Gallon/Acre
Corn	180	Following Legume	Inject	Liquid	14,800	Gallon/Acre	9,800	Gallon/Acre
Silage	30	Following Legume	Inject	Liquid	11,800	Gallon/Acre	9,870	Gallon/Acre
Oats	60	Following Corn	Inject	Liquid	5,000	Gallon/Acre	2,910	Gallon/Acre
Alfalfa	7	Following Alfalfa/Oats	Inject	Liquid	- -	Gallon/Acre	10,630	Gallon/Acre
Wheat	80	Follwing Corn	Inject	Liquid	6,700	Gallon/Acre	9,110	Gallon/Acre
Corn	180	Following Corn	Broadcast	Solid	38	Ton/Acre	26	Ton/Acre
Silage	30	Following Corn	Broadcast	Solid	32	Ton/Acre	26	Ton/Acre
Corn	180	Following Legume	Broadcast	Solid	31	Ton/Acre	26	Ton/Acre
Silage	30	Following Legume	Broadcast	Solid	25	Ton/Acre	26	Ton/Acre
Oats	60	Following Corn	Broadcast	Solid	11	Ton/Acre	8	Ton/Acre
Alfalfa	7	Following Alfalfa/Oats	Broadcast	Solid	- -	Ton/Acre	28	Ton/Acre
Wheat	80	Follwing Corn	Broadcast	Solid	14	Ton/Acre	24	Ton/Acre

These recommended rates are based on the stated yields and crops, and assumes fields have NO recent manure applications (no N credits from manure application). These are estimates only, and can be used as guides when climate or other factors exist that require deviations from planned manure applications. Previous applications would require that these application rates be decreased from present estimates.

Also, these recommendations are based on ESTIMATED manure analysis. ACTUAL facility analysis is needed to determine real nutrient loading rates. However, until those numbers are available, these estimates can serve as guidelines.

*N available 1st year = (Am-N * App Method Efficiency) + (OrgN * .35)*

Previous manure applications should be given N credits =

*(App rate (in 1,000 gal) * Org N (per 1,000 gal) * Mineralization Factor) / 2*

Mineralization Factors: Year 1= .35, Year 2 = .175, Year 3 = .0875, Year 4 = 0.04

Efficiency of Application = Liquid, Broadcast = 0.80, Solid, Broadcast = 0.75, Aerway = 0.90, Liquid Inject = 0.98