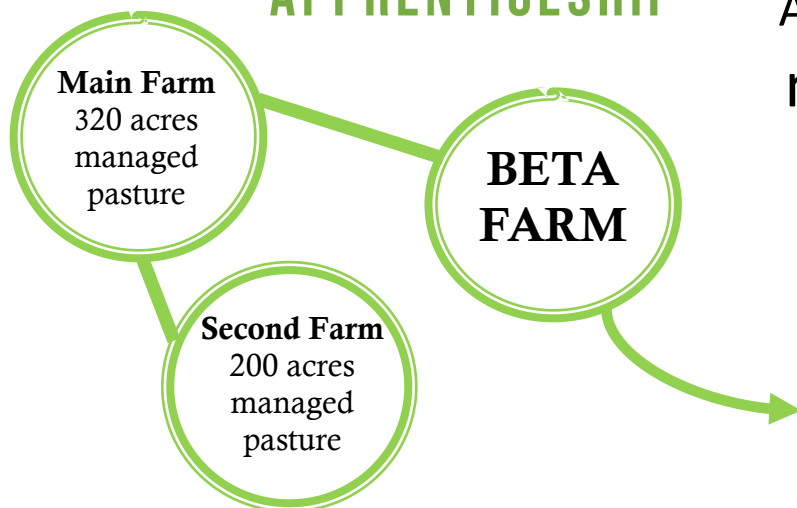


DAIRY GRAZING — APPRENTICESHIP —



The DGA Beta Farm

A demonstration model for scaling managed grazing dairy and related ecosystem services

114 acres of conventional row crops converted to managed grazing in 2021

Systems Comparison

		BETA FARM = 114 ACRES			FARM COMPLEX = 634 ACRES		
Ecosystem Process (ecosystem service)	Units	Corn-Soy (tilled, no cover crop)	Corn-Soy (no till, cover crop)	Pasture (managed grazing)	Corn-Soy (tilled, no cover crop)	Corn-Soy (no till, cover crop)	Pasture (managed grazing)
Soil carbon stored (climate stabilization)	tons CO ₂ eq/ac/yr	-117.42	112.86	604.2	-653.02	627.66	3,360.2
Soil erosion (water quality)	lb soil/ac/yr	478,800	342,000	0	2,662,800	1,902,000	0
Phosphorus runoff (water quality)	lb P/ac/yr	228	171	22.8	1,268	951	126.8
Nitrate loss (water quality)	lb N/ac/yr	3,260.4	2,052	1,014.6	18,132.4	11,412	5,642.6
Storm runoff (flood reduction)	in. H ₂ O from 5-in rain in 24h	376.2	319.2	239.4	2,092.2	1,775.2	1,331.4
Grassland bird habitat (biodiversity)	nesting pairs/ac	4.56	22.8	296.4	25.36	126.8	1,648.4
Pollinator habitat (biodiversity)	0 (poor) to 10 (best)	1.5	1.5 – 2.5	5.0 – 6.0	1.5	1.5 – 2.5	5.0 – 6.0
Estimated Annual Value of Services Provided	SOCIAL	(– \$7,010)	\$13,886	\$45,188	(– \$38,989)	\$77,225	\$251,311
	MARKET	(– \$1,174 to – \$3,522)	\$4,012 to \$12,038	\$13,372 to \$40,116	(– \$6,529 to – \$19,587)	\$22,316 to \$66,948	\$74,367 to \$223,101

Ecosystem service	Estimated value to society	Current payment
Soil carbon storage	\$52/ton CO ₂ eq	\$10-\$30/ac
Soil retention	\$3.78/ton soil	none
Phosphorous retention	\$29/lb P	\$30-\$90/lb
Nitrate retention	\$0.36/lb N	none
Other services	?	none

The DGA Beta Farm project is part of the New Dairy Concept, a model for scaling the managed grazing dairy industry. Find out more at: <https://new-dairy-concept.dga-national.org/>

All calculations based on University of Wisconsin–Madison/ Grassland 2.0
2021 Ecosystem Services Fact Sheet