MINNESOTA FARM MANAGEMENT SERVICE NOTES

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Alfalfa in Minnesota

Alfalfa as a feeding crop is comparatively new in Minnesota altho its introduction into this state dates back nearly seventy years. The first planting of alfalfa in Minnesota was made in Carver county in 1857. The alfalfa acreage has since expanded until it is now found in every county in the state. In 1900 Carver county alone had over one-third of the total acreage of alfalfa in Minnesota.

The following table shows the acreage of alfalfa by types of farming in Minnesota since 1900. On page 2 is a map locating types of farming for the state.

Type of farming	1900	1910	1920	1922	1923	1924
Dairy	381	1286	11635	24364	35570	61566
Corn & livestock	149	473	8963	15228	22186	40934
Small grain	35	521	23001	36226	47594	83268
Undeveloped	40	45	2020	3934	5198	10628
Totals	605	2325	45419	79752	110548	196396

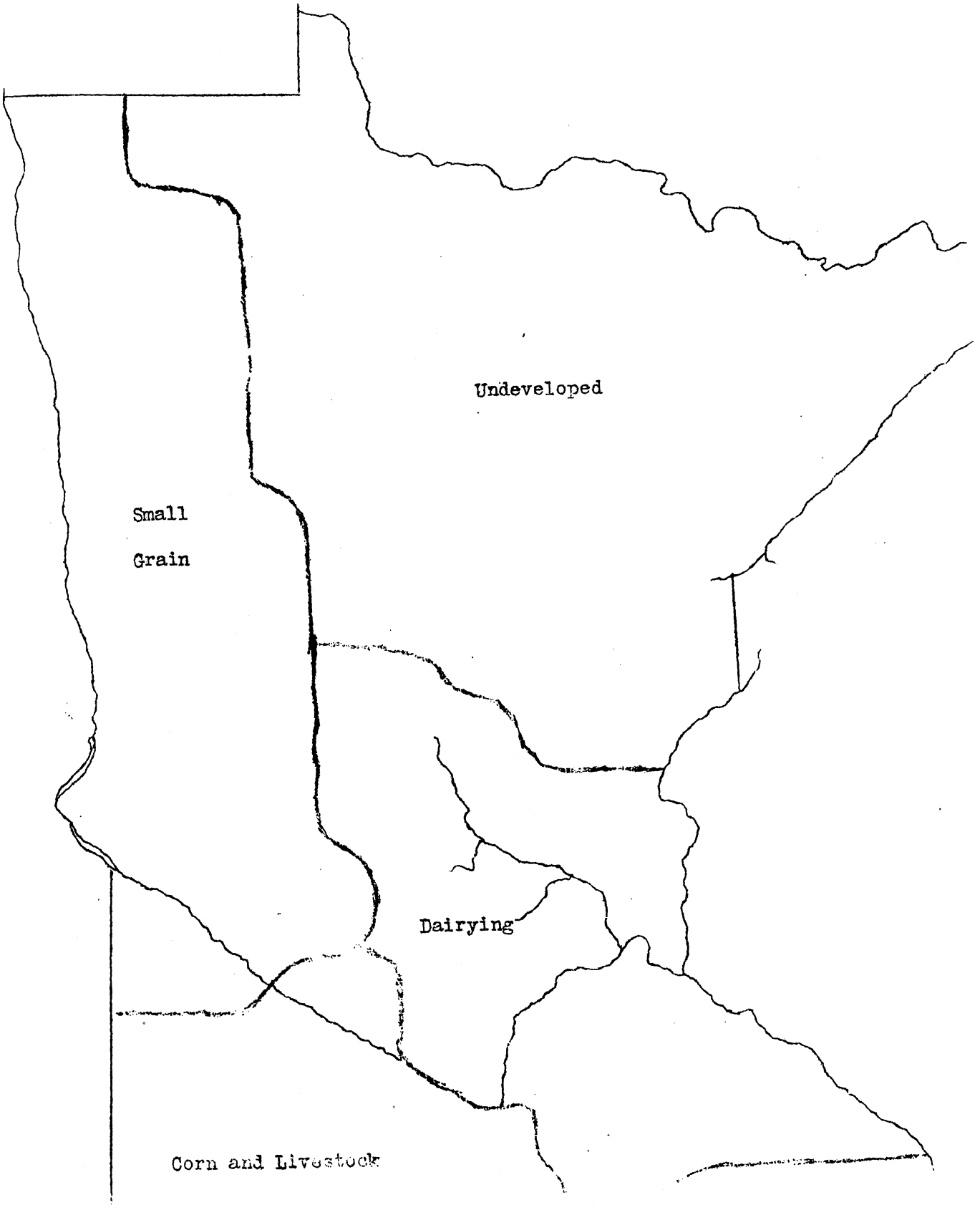
Ottertail county in the small grain area has the largest alfalfa acreage of any county altho alfalfa occupies but 19 acres of every 1000 of improved land while 55 out of every 1000 acres of improved land is occupied by alfalfa in Carver county which is in the dairy region. The influence of alfalfa in the farm business as a whole can probably be better shown by the acreage of improved land it occupies. The accompanying table shows the acres of alfalfa per 1000 acres of improved land in 1910, 1920 and 1924 for the different types of farming.

	State	Corn & livestock	Dairy	Small grain	Undeveloped
1910	0.1	0.1	0.2	0.1	0.0
1920	2.1	1.4	2.1	2.9	1.6
1924	9.0	6.4	10.9	10.6	8.6

This table would indicate that alfalfa as a crop has developed most rapidly the past few years in the Small Grain and Dairy types. Most of the alfalfa seed grown in this state is produced in the Small Grain area. The adaptability of this area for seed growing and the agitation for diversification in the northwest doubtless accounts for a rapid development in this section. Its use as a feed for dairy cows and as a pasture for hogs account for its increased popularity in the dairy section.

L.F.G.

Types of Farming in Minnesota
1920



Comparative Costs and Values of Alfalfa and Tame Hay

TABLE I
Items of Cost (per acre) 1924

	Owatonna		Windom	
	Alfalfa	Tame Hay	Alfalfa	Tame Hay
Man Hours	16.3	7.6	11.0	6.4
Horse hours	25.1	11.9	16.5	10.0
Labor cost	6.57	3.06	4.04	2.35
Seed cost	1.65	1.25	1.00	1.15
Manure charge	.32	.59	.35	.31
Machine charge	1.60	1.25	1.60	1.25
Land charge	6.00	6.00	6.00	6.00
Total cost	16.14	12.29	12.99	11.06
Credit	-	-	.32	-
Net cost	16.14	12.29	12.67	11.06

In view of the recent large increase of alfalfa acreage in Minnesota the figures tabluated may be somewhat explanatory. By tame hay is meant a mixture of timothy and clover. In Table I are listed the various factors of cost. In regard to seed cost the initial cost of getting a stand of alfalfa is greater than tame hay but the cost is spread over four years for the former and only two years for the tame hay mixture. In Table II it will be noticed that alfalfa costs more to produce per acre but this is more than offset by the greater yield. The cost per ton is lower for alfalfa on this account.

TABLE II
Comparison of Data on Alfalfa and Tame Hay

	Owatonna					Windom				
	1920	1921	1922	1923	1924	1920	1921	1922	1923	1924
Cost per acre										
Alfalfa	23.89	20.62	19.23	18.48	16.14	14.39	14.23	13.34	14.50	12.67
Tame hay	14.81	11.33	10.36	11.30	12.29	12.82	11.03	9.37	9.39	11.06
Yield per acre										
Alfalfa	2.5	3.5	3.7	2.6	2.1	1.4	2.5	2.1	2.7	2.4
Tame hay	1.8	1.5	1.7	1.0	1.3	1.2	1.5	.9	1.0	1.0
Cost per ton										
Alfalfa	9.56	5.89	5.20	7.11	7.69	10.28	5.69	6.35	5.37	5.28
Tame hay	8.23	7.55	6.09	11.30	9.45	10.68	7.35	10.41	9.39	11.06
Dec. 1 price per ton										
Alfalfa	18.00	17.00	22.00	18.00	16.00	16.00	12.00	15.00	15.00	15.00
Tame hay	16.00	11.00	16.00	13.00	11.00	10.00	8.00	11.00	10.00	8.00

For beef cattle and sheep there is much similarity in feeding value between alfalfa and red clover ton for ton. The advantage of alfalfa is due to its greater yield. Alfalfa is a very desirable supplement for grain inthe wintering of brood sows. Due to its high content of protein and mineral matter, it is an excellent roughage for dairy cattle. It may even replace an equal weight of bran. A 2½ ton yield of alfalfa contains twice as much digestible nutrients and 2½ times as much protein as a 1½ ton yield of tame hay.

A.T.H.

Comparative Adaptability of Legumes in Minnesota

Southwestern, West Central and Northwestern Minnesota:

Cost figures from the statistical route show that because of larger yield alfalfa is decidedly cheaper per ton to produce in the vicinity of Windom than clover or mixed clover and timothy hay. The results at Windom will apply to all of the heavy land sections that have an abundance of lime in the soil. Alfalfa seems under most conditions to be the preferable crop for hay and sweet clover preferable for pasture. However, on poorly drained soil or on rented farms where the landlord fears that alfalfa may be injured by close pasturing and therefore objects to the high cost of alfalfa seed, sweet clover is likely to be preferred for hay.

Eastern Minnesota:

There are considerable areas in eastern Minnesota where there is an ample supply of lime. Under these conditions alfalfa should probably be the principal hay crop. Experiments at Coon Creek have shown conclusively that alfalfa is the most dependable hay for sand land conditions even tho it is necessary to go to the expense of liming. Likewise the Coon Creek experiments have shown that a mixture of alsike, red clover and timothy is the most successful hay crop for fertilized and drained peat soils in that section. At Fens in north central Minnesota the alsike and timothy mixture is not improved by the addition of red clover. The Coon Creek and Fens experiments both show white clover and Kentucky bluegrass to be the best pasture crops for drained and fertilized peat soils.

Northeastern Minnesota: On the heavy acid soils in the northeastern part of the state such as are found at the Duluth Experiment Station, alsike clover does exceedingly well and farmers on such soil would do well to stick to the alsike and timothy mixture as their main hay crop until trials with a limited acreage have established to their satisfaction that alfalfa is better suited to their conditions.

Southeastern Minnesota: There are considerable areas where alsike and red clovers do well but that are too acid for the successful growth of alfalfa. In southeastern Minnesota the question as to whether alfalfa should replace clover is largely one of the cost of lime and distance that it must be hauled. The best plan seems to be to continue to rely on alsike and red clover as the main crop on heavy clay soils until trials with small acreages have established the superior economy of alfalfa.

W.L.C.