

TABLE OF CONTENTS

	<u>Page</u>
<u>Climatological Notes</u>	
1. Some Climatological Notes, 1966	1
<u>Soil Physics</u>	
2. Structure - Nitrogen Study, Waseca, 1966	14
3. Subsoil Regeneration Study - Lamberton, 1966	19
4. Structure - Nitrogen Study, Morris, 1966	30
<u>Soil Salinity</u>	
5. Soil Salinity and Crop Growth in Western Minnesota	32
<u>Herbicide Residues</u>	
6. Soil Residue Studies	66
<u>Lime Experiments</u>	
7. Lime Plots, Lamberton 1966	69
<u>Soil Productivity</u>	
8. Soil Productivity Study	71
<u>Soil &amp; Crop Management</u>	
9. Soil and Crop Management Systems, West Central Experiment Station	78
10. Continuous Corn Silage Experiment, West Central Experiment Station	80
11. Continuous Corn - High Fertility Experiment, Rosemount Exp. Sta.	81
12. Fertilizer Rotation Study, Southern Minnesota School & Exp. Sta.	82
<u>Rosemount Experiments</u>	
13. Rosemount Soils Farm	86
14. Soybean Fertilization	95
15. Alfalfa Hay Yields With Plow-Down Fertilizer	96
<u>Irrigation &amp; Fertility Levels for Corn &amp; Alfalfa</u>	
16. Effect of Irrigation, Fertility Level and Plant Population on Corn and Alfalfa at Park Rapids, Minnesota - 1965.	98

Nitrogen

- |     |   |     |
|-----|---|-----|
| 17. | The Effect of Nitrogen Source, Placement and Time of Application on the Yield and Composition of Continuous Corn on Webster Clay Loam at Lamberton in 1966  | 105 |
| 18. | The Effect of Urea or Ammonium Nitrate Nitrogen on the Nitrate Nitrogen Content of Webster clay loam surface soil and Different Portions of Growing Corn Plants at Lamberton in 1964, 1965 & 1966 | 110 |
| 19. | Barley - Nitrogen Protein Study, Crookston, 1966  | 113 |
| 20. | Fall vs Spring Nitrogen Fertilization of Small Grains in West Polk County in 1965-66.   | 115 |
| 21. | The Effect of Rate and Split Versus Single Applications of Nitrogen on Yields of Bromegrass   | 118 |

Phosphorus

- |     |   |     |
|-----|---|-----|
| 22. | Comparison of Phosphorus Sources  | 121 |
| 23. | Comparison of Urea Ammonium Phosphates with Standard Phosphorus Sources | 124 |
| 24. | 1966 Phosphorus Placement Study - Seed Incorporation (Pop-up)           | 127 |
| 25. | Phosphorus Fertilization of Continuous Corn                             | 130 |
| 26. | Uptake of phosphate by roots and tops of sugarbeets                     | 131 |

Secondary and Micro (Trace or Minor) Nutrient Elements

- |     |   |     |
|-----|---|-----|
| 27. | Sulfur Investigations on Soils and Crops-Summary  | 136 |
| 28. | Sulfur Investigations on Soils and Crops  | 140 |
| 29. | 1966 Zinc-Phosphate for Corn Study in Swift County  | 158 |
| 30. | Direct and Residual Effect of Zinc Fertilization of Corn on a Zinc Deficient Silty Clay Loam in Southern Kandiyohi County | 160 |
| 31. | Zinc Fertilization of Continuous Corn   | 162 |
| 32. | The Effect of Boron, Phosphorus and Potassium on the Yield of Four Legume-Grass Hay Fields in Carlton County in 1965-1966 | 163 |

Soybean Fertilization

- |     |                            |     |
|-----|----------------------------|-----|
| 33. | 1966 Soybean Fertilization | 166 |
|-----|----------------------------|-----|

Sugarbeet Fertilization

- |     |                         |     |
|-----|-------------------------|-----|
| 34. | Sugarbeet Fertilization | 167 |
|-----|-------------------------|-----|

Potato Fertilization

- |     |   |     |
|-----|---|-----|
| 35. | Potato Fertilization Plot Results, 1966 | 170 |
|-----|---|-----|

Oil Crop Fertilization

- |     |                                |     |
|-----|--------------------------------|-----|
| 36. | Fertilizer Trials on Oil Crops | 175 |
|-----|--------------------------------|-----|

Fertilization for Grass Seed

- |     |  |     |
|-----|--|-----|
| 37. | Effects of Fertilization on Seed Yield and Chemical Composition of Tissue of Park Kentucky Bluegrass | 180 |
|-----|--|-----|

Improvement of Forested Soils

- |     |                               |     |
|-----|-------------------------------|-----|
| 38. | Improvement of Forested Soils | 189 |
|-----|-------------------------------|-----|

Land Forming

- |     |   |     |
|-----|---|-----|
| 39. | Land Forming at Northwest Experiment Station - 1966 | 190 |
|-----|---|-----|

Soil Testing

- |     |                                       |     |
|-----|---------------------------------------|-----|
| 40. | Soil Testing in Minnesota During 1966 | 192 |
|-----|---------------------------------------|-----|