## CONTENT

		Page
	Preface	v
1.	The Role of Nitrogen in Agriculture	1
2.	Nitrogen: Chemical and Physical Properties	10
3.	Soil Nitrogen	15
4.	History of Nitrogen Fixation Processes	40
5.	Production of Synthetic Ammonia	58
6.	Catalysts used in Modern Synthetic Ammonia Processes	89
7.	Chemistry and Manufacture of Nitric Acid	99
8.	Chemistry and Production of Coke Oven Ammonium Sulfate	128
9.	Ammonium Phosphates and Ammonium Polyphosphates	139
10.	Ammoniated Phosphate Type Fertilizers	169
11.	Ammonium Sulfate, Nitrate, and Chloride Fertilizers	213
12.	Chemistry and Processing of Urea and Ureaform	247
13.	The Girdler – Toyo Koatsu urea Processes	280
14.	Chemistry and Utilization of Ammonia Solutions in Fertilizer Manufacture	295
15.	Natural Chilean Nitrate of Soda: Production and Use in Agriculture	315
16.	Synthetic Sodium Nitrate – Production and Use	331
17.	Nitrogen Solutions for Direct Application	344
18.	Comparing Efficiency of Nitrogen Fertilizers	365
19.	Tests for Available Soil Nitrogen	392
20.	Safety Precautions in Fertilizer Processing Plants	402
Index		422