CONTENTS

1.	INTRODUCTION	1
2.	CHALLENGES IN AGRICULTURE	2
	2.1 Increased food demand	2
	2.2 Low productivity	2
	2.3 Irrigation	2
	2.4 Soil Erosion	3
	2.5 Climate change	3
	2.6 Global ecnomics factor	3
	2.7 Water shortage	3
	2.8 Rising income and changing diet	4
3.	AI BASED SOLUTIONS	5
	3.1 Agriculture robots	5
	3.2 Crop and soil monitoring	6
	3.3 Pest management-disease diagnosis	6
	3.4 Intelligent spraying	6
	3.5 Weather forecasting	7
4.	APPLICATIONS OF AI IN AGRICULTURE	8
	4.1 Yield prediction	8
	4.2 Feeding crop-fertilizer and irrigation	8
	4.3 Harvesting	8
	4.4 Breeding seeds	9
	4.5 Plant health monitoring	9
	4.6 Food processing	9
5.	PLANT DISEASES	10
	5.1 Major causes of plant diseases	1(

5.2 Symptoms	11
5.3 Occurences	12
5.4 Spread	12
5.5 Plant disease triangle	13
6.AI IN PLANT DISEASE DETECTION	15
6.1 Machine learning in classifying plant diseases	15
6.2 Deep learning in identifying plant diseases	18
6.3 Image processing in plant diseases	20
6.4 Internet of things in plant disease detection	22
6.5 Fusion approaches in plant disease detection	23
7. ADVANCEMENT IN PLANT DISEASE DETECTION	25
7.1 Identification model improvement	25
7.2 Few short learning	25
7.3 Self supervised learning	26
7.4 Data augmentation	27
8. CHALLENGES OF AI IN PLANT DISEASE DETECTION	
9. CONCLUSION	
10.BIBLIOGRAPHY	32