
Contents

Preface	vii
Introduction	ix
Chapter 1. History	1
1.1. The different types of kelp	1
1.2. Historical applications.	3
Chapter 2. Traditional Applications of Algae in the Cultivation Plants	11
2.1. Uses for soil amendment	11
2.2. Soil fertilization	14
2.3. Improvement of composts for agricultural use	16
Chapter 3. Biostimulation Activities on Plant Productions	23
3.1. Stimulation of growth	25
3.2. Tolerance to water stress	38
3.3. Tolerance to salt stress	45
3.4. Tolerance to thermal stress	58
3.5. The quality of the products	60
Chapter 4. Feeding of Livestock.	69
4.1. Ruminant nutrition.	69
4.2. Pig nutrition	80
4.3. Horse nutrition	87
4.4. Poultry nutrition	90
4.5. Nutrition of rabbits	100
4.6. Nutrition of animals produced by aquaculture	103

4.6.1. Fish.	104
4.6.2. Mollusks	118
4.6.3. Crustaceans	124
4.6.4. Echinoderms.	128
Chapter 5. The Biological Activities of Algae in Plant or Animal Health . .	135
5.1. Antiparasitic and antimicrobial activities	135
5.1.1. Plant parasites and pathogens	135
5.1.2. Animal parasites and pathogens	146
5.2. Induction of plant defense mechanisms	151
5.2.1. The hypersensitivity reaction	151
5.2.2. Other mechanisms	154
5.3. Activation of the immune system	158
5.3.1. The case of fish raised by aquaculture	158
5.3.2. Other aquaculture animals	163
5.3.3. The case of terrestrial livestock	165
Conclusion	169
References.	171
Index.	183