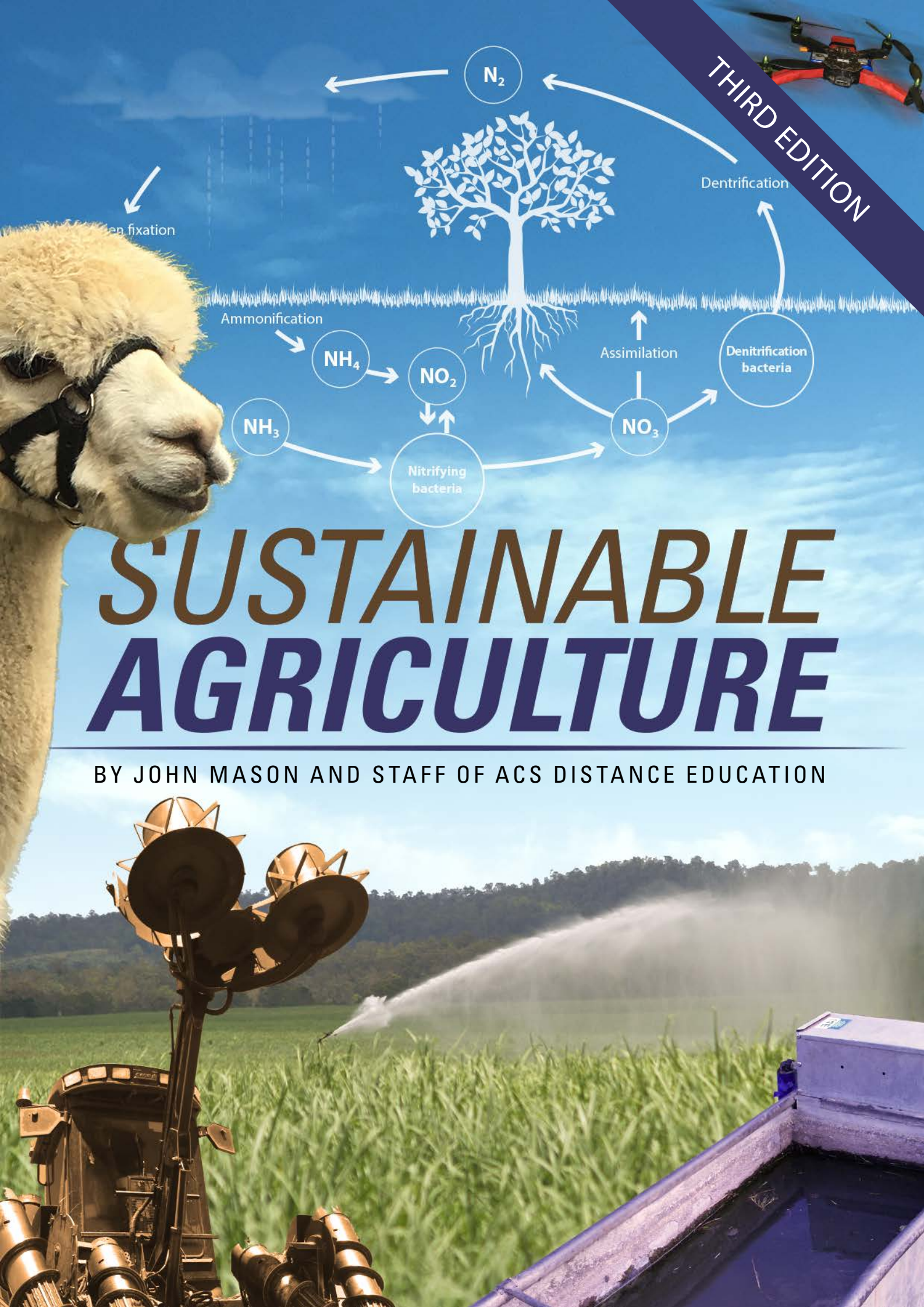

SUSTAINABLE AGRICULTURE

BY JOHN MASON AND STAFF OF ACS DISTANCE EDUCATION

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THE AUTHOR

John Mason graduated from Burnley Horticultural College, Australia, in 1971 with a Diploma in Horticultural Science. In the early 1970's and again in the early 80's, he owned and operated small retail/wholesale nurseries. During the mid 70's, he developed nurseries for two municipalities while working as their Parks Manager. Since 1979, he has been principal of the Australian Correspondence Schools, an international distance education college offering more than 200 different horticultural courses, and with students spread across more than 150 countries.

John has written hundreds of newspaper articles and more than a 150 books, and has been editor and principal writer of four Australian magazines (including *Your Backyard*, and *Garden Guide*).

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John Mason

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INTRODUCTION

First there was subsistence farming, and then there was a technological revolution. Developments in machinery and chemicals allowed us to clear and cultivate land rapidly, feed plants and animals quicker to grow them faster, and kill pests or diseases quickly. These newfound abilities seemed like a godsend to mankind and throughout the 20th century we used them to their fullest; generally, with little regard to any unforeseen repercussions.

Gradually, time has revealed a variety of problems caused by this modern agricultural development, including chemical residues affecting plant and animal life on land and in the sea, soil degradation in the form of soil structural decline, erosion, salinity, soil acidification, loss of fertility, nutrient loading of waterways, dams and lakes, and more.

In the 21st century as concern about our environment grows, there is an obvious move towards more sustainable farming practices.

Sustainable farming is in essence concerned with anything that affects the sustainability of a farm. You cannot keep farming a property indefinitely if there is degradation of resources (environmental resources, financial resources, equipment, machinery, materials, or any other resources). In the short to medium term, the problem of sustainability is overwhelmingly a financial one; but in the long term, environmental sustainability will have perhaps more impact upon the whole industry than anything else.

Why Be Sustainable?

If we can't sustain agricultural production, we will eventually see a decline in production; hence a decline in food and other supplies. There is no escaping the fact that people need agricultural products to survive: for food, clothing, etc. Science may be able to introduce substitutes (e.g. synthetic fibres) but even the raw materials to make these will generally be limited. As the world's population increases, or at best remains stable in some places, demand for agricultural produce increases accordingly. Poorly maintained farms produce less in terms of quantity and quality. Profitability decreases mean that surplus money is no longer available for repair and improvements. Farmland can become contaminated with chemical residues, weeds or vermin. The amount of vegetation produced (i.e. the biomass) may reduce, resulting in less production of carbon dioxide and greater susceptibility to environmental degradation.

We have created a world that relies heavily on technology to produce the food needed to sustain its human population. There is a worldwide

dilemma. To abandon modern farming methods could result in worldwide famine, but to continue current practices will almost certainly result in long-term degradation of farmland and, eventually, the inability to sustain even current human population levels without even considering future population increases.

Who Should Be Concerned?

Everyone needs to be concerned about a decline in farm production potential. The farmer, his family, and workers are always affected first. An unsustainable farm is simply not worth persisting with and any farm which heads this way must eventually be abandoned or redeveloped to become sustainable. This book is about foreseeing and understanding such problems and addressing them before it is too late.

CHAPTER 1 DIFFERENT THINGS TO DIFFERENT PEOPLE

Sustainable farming means different things to different people however they all share a common concern in preventing the degradation of some aspect of the farm.

Some farmers may be primarily concerned with degradation of natural resources (e.g. their land is becoming less productive). Other farmers may be more concerned about degradation of profitability, which could be due to increased labour or material costs, poor planning, or simply changing conditions in the economy. The causes and the solutions to such problems are different in each situation.

Sustainable agriculture is a philosophy: it is a system of farming. It empowers the farmer to work with natural processes to conserve resources such as soil and water, whilst minimising waste and environmental impact. At the same time, the “agro-ecosystem” becomes resilient, self-regulating and profitability is maintained.

Consider climate when deciding where and what to farm