THE CURRENT RICE AGROCHEMICALS MARKET

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ABSTRACT

Rice is the single most important crop in terms of the value of consumption of agrochemicals, with a global end-user market value of $2,400 million in 1988. The rice insecticide and rice herbicide sales were both close to $900 million, with rice fungicides at $570 million. The Asian continent, with 90% of the rice producing land, and nearly 92% of the rice production, uses agrochemicals to the value of just over 90% of the global market. However, within this, Japan utilises nearly 60% of the rice agrochemicals, by value, even though it produces only 3% of the world's rice from 1.5% of the land planted to rice. Because of the technical sophistication in Japan, the average expenditure on agrochemicals for rice was $680/ha in 1988, compared to only around $2/ha in the underdeveloped Asian countries.

RICE - A STAPLE FOOD CROP

Rice is the most important crop in many areas of the world. The difference between life and death is often dependent on the rice harvests, which in turn can be seriously affected by droughts, floods or excessive pest attacks. In many areas of the underdeveloped world, it is vital to increase rice output, as a means of achieving some degree of self-sufficiency in food supplies and to reduce import bills, or reliance on foreign aid.

As much as 90% of the global rice production is in the hands of small farmers in Asia, who use complex production methods, developed over centuries, to sustain yields in a great diversity of conditions. In all, close on 130 million ha are cultivated in Asia in locations as different as the steep 3000 year old terraces of Fugao in the Philippines, the small
intensive fields of Japan and the broad flood plains in the north east regions of the People's Republic of China.

According to the International Rice Research Institute, rice is one of the oldest cultivated crops on earth. A site of sophisticated rice cultivation in southern China is known to be at least 7000 years old.

Rice is probably the world's most versatile crop, growing at more than 3000 metres elevation in the Himalayas and at sea level in the deltas of the great rivers of Asia. Floating varieties grow in water as deep as 4 metres in Thailand, while in Brazil, rice is grown as a dryland crop much like wheat or maize. Transplanted rice requires intensive hand labour in areas like Indonesia, whereas in California, rice is seeded by aeroplane.

Although rice is not an aquatic plant, and in many areas is grown as a rainfed crop, the highest yields are achieved in irrigated paddies. Great ingenuity has been used to develop the system of flooded paddies, the only problem being that it is labour intensive.

In the mid-1970s, the global rice harvests averaged around 360 million tonnes. Ten years later the harvests had risen by 30% so that the average annual production in the 1985 - 1987 period was over 468 million tonnes. There have been three main contributory factors to this dramatic improvement. Firstly, there has been a general increase in the area planted to rice, except in Japan where the government has directed that rice-land be diverted to the growing of other crops. Secondly, the increased use of agrochemicals has led to reduced crop losses through attacks by insects, weeds and diseases. However, over the last ten or fifteen years, perhaps the greatest contribution to increased rice production has been brought about by the introduction of new improved varieties in many irrigated and favourable rainfed areas.

Most of these improvements have been centred on Asia. Production increases have been considerably less dramatic in Latin America, Africa and the Middle East, where rice is also a staple food.