PRESS RELEASE

LIQUID FERTILISER INJECTION EDGES OUT SOLID APPLICATION – April 2008

Liquid fertiliser injection has increased output by at least 50% over a solid fertiliser application system and has also eased the problems associated with new waste packaging legislation, storage and disposal for Cambridgeshire potato grower Ian Gilbert of Butcher's Hill Farm, near Littleport.

Mr Gilbert first tried a liquid injection system over 15 years ago because of the importance he put on making sure the newly planted crop gained immediate access to essential nutrients. With the focus more recently on the environment and packaging, adopting a liquid fertiliser approach has paid dividends.

"We can now place nutrients precisely where we need them, within three inches of the tuber," he says. "Spinning fertiliser onto the surface just cannot be as accurate and if it remains dry during application the nutrients can remain on the surface unutilised. Liquid fertilisers can also be tailor made to each field."

Mr Gilbert recently bought a new two row Miedema planter to increase output and for a cost of about £6,500 has had a Chafer liquid injection system fitted. Injection tines designed specifically for the Miedema planter, supplied by Chafer Machinery, are designed to maintain soil flow and avoid bulldozing.

"With the injection knives fitted on to the planter openers nutrients are placed three inches either side of and two inches below the potato tuber," says Mr Gilbert. "Equal fertiliser rates are applied through each tine so even the potatoes at the edge receive the appropriate dose of nutrients."

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Mr Gilbert can now vary the speed of the planter and at the same time maintain the rate of fertiliser application using a rate governor attached to the planter. Colour coded restrictors enable pre-programming liquid fertiliser rates from the in-cab TeeJet rate governor. An onboard warning system also alerts the operator when a tine becomes blocked.

Although a 1500 and 2000 litre tank options were available, a 1000 litre Chafer fertiliser tank has replaced the 750 litre tank that is attached to the three point linkage at the front of the tractor. The manifold is split into four chambers supplying each tine with two bands of fertiliser placed either side of the potato seed tuber.

"A larger tank means fewer daily fill ups," says Mr Gilbert. "But, in practice we fill up each time we need more seed, although obviously it depends on the seed rate. Normally one tonne of potatoes requires 1000 litres of fertiliser. An important point is that the seeding and fertiliser fill up is now a one man operation."

A front mounted fertiliser tank helps to balance the weight of the tractor mounted planter and evenly distribute the weight.

"On the old solid fertiliser system we used to get yellow patches on the outside rows and this almost certainly reduced yield," he says. "On a two row planter this can be serious so before purchasing a new two row planter we had to make sure all issues about accuracy and dose rate were covered."

The new injection system means Mr Gilbert can complete 300 acres of potato planting at a rate of 20 acres/day in three weeks rather than four.

"Prior to this system we had to vary rates according to charts, and changed them by a pressure gauge that was controlled manually," he says. "We believe in attention to detail and so felt that the old system needed updating. Growing potatoes is a very specialist business and we can't afford to get the nutrition wrong, especially at the early stages of crop growth."

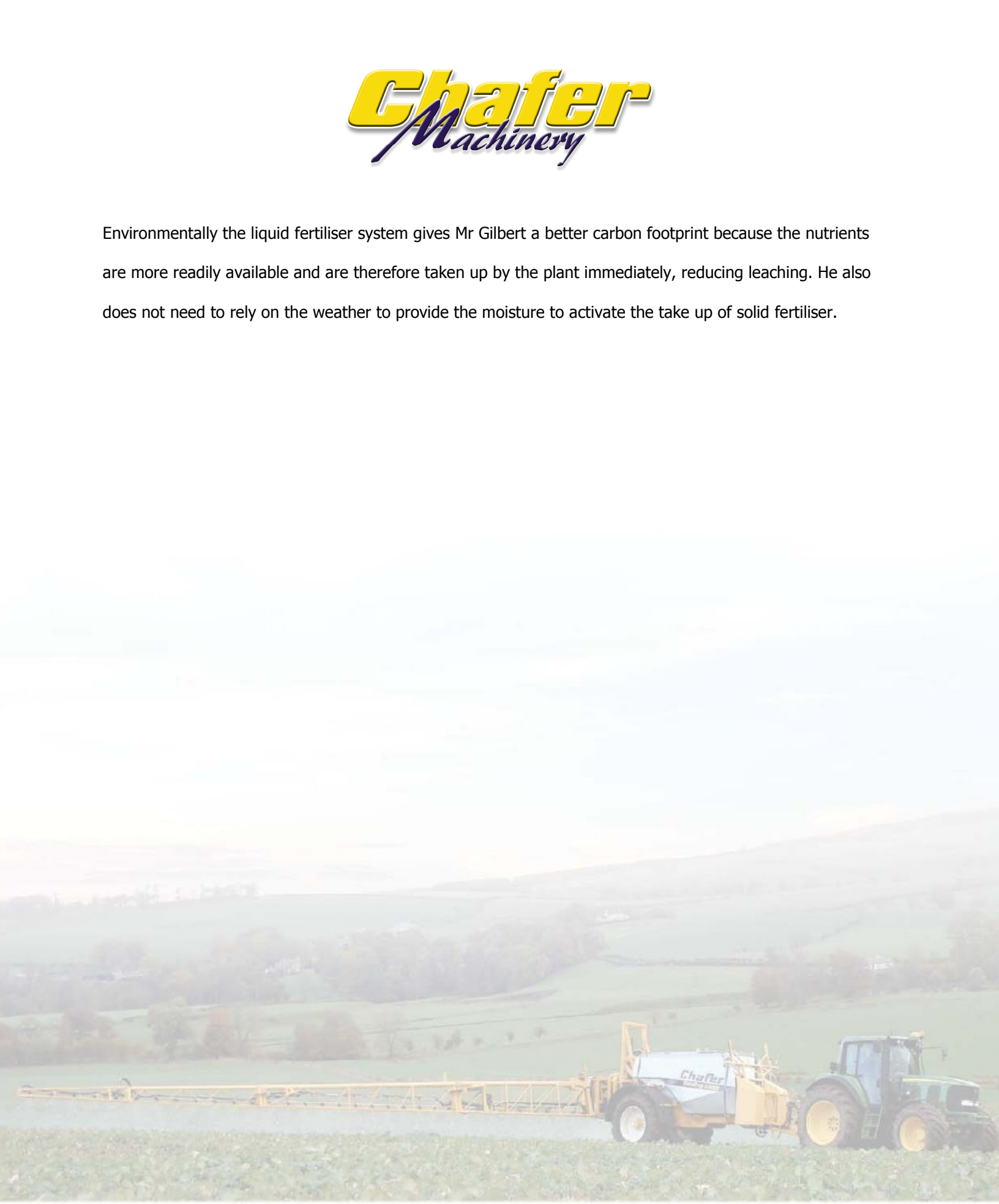
Mr Gilbert says that fertiliser output has increased by 50% mainly due to the flexibility of the system. He has also been able to maintain the target application rates.

"The sooner the crop is in the ground the quicker it starts to grow and keeping the crop growing for as long as possible is the key to boosting output," he says. "Having increased our capacity to get the seed bed prepared quicker we would have needed two planters to keep up. Now with the structural planter and Chafer rate governor system we can keep up with only one tractor and planter."

Mr Gilbert admits that is too early to say if yields have gone up having switched to the new Chafer system because it is only the first year. It was also a very easy start to the season this year so he wants to take an average before assessing the financial benefits.

He can say though that a significant benefit of liquids is the reduction in waste packaging and associated legislation. There are no bags to dispose or storage to consider. All liquid nitrogen is stored in special Yara tanks. Foliar nitrogen is also applied to the milling wheat on the farm so the strategically placed tanks are fully utilised. From static tank to field application Mr Gilbert operates a bowser system.

Environmentally the liquid fertiliser system gives Mr Gilbert a better carbon footprint because the nutrients are more readily available and are therefore taken up by the plant immediately, reducing leaching. He also does not need to rely on the weather to provide the moisture to activate the take up of solid fertiliser.



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