‘Omex has a prime pedigree in new nutrient technology’ Dr Terry Mabbett

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Omex has a prime pedigree in new nutrient technology

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Omex has a thirty-five year pedigree in plant nutrition and is still pushing at the frontiers of nutrient technology and crop agronomy by exploring new areas of the world for its crop nutrition products. Roots of this United Kingdom (UK) based company established in 1976 as Omex Agriculture are in the manufacture and marketing of bulk liquid suspension fertilisers for broad-acre arable crops in the East Anglian region of the UK.

The very first formulation site at Lincoln was added to in 1984 when Omex Agriculture purchased the Estuary Road site in Kings Lynn in the County of Norfolk. NPK, sulphur, zinc and boron suspension fertiliser products are manufactured for a wide range of crops including, wheat, barley, oilseed rape (canola), sugar beet, potatoes and brassicas, the exact combinations of nutrients reflecting specific soil-crop interactions in East Anglia widely regarded as ‘bread basket’ of the UK.

**Omex Agrifluids is born**

Sea change for Omex came in 1993 with establishment of Omex Agrifluids on the Saddlebow site in Kings Lynn. The new company rapidly moved into the novel field of emulsion suspension foliar fertilisers accompanied by far-reaching diversification in formulation, application, crops and world regions served.

Omex Agrifluids started to design, manufacture and market plant nutrients mainly for export including NPK and the complete range of micronutrients, later developing plant extracts including those from seaweed and specialist products based on humic acids, amino acids and other active compounds with a biostimulatory function.

**Quick off the blocks**

Omex Agrifluids started life just as agriculture in the Middle East was taking off with new irrigation technology and investment to make the desert ‘bloom’. The new company appropriately ‘kicked off’ supplying NPK and micronutrients to wheat farmers in Saudi Arabia a move which subsequently set Omex on the path that would eventually take its business truly worldwide.

An early example for Omex was development of a broad based nutrient product called Teamax initially developed for use on tea estates in Sri Lanka. Teamax was taken north and trialled in Assam, the other geographical extremity of tea production on the Indian Sub-Continent, where good results were also obtained. Such cross fertilisation of ideas and expertise is important for Omex Agrifluids which continually draws on its base knowledge of nutrient technology and plant nutrition to broaden and modify product portfolio and hone specific products for new local market conditions and requirements.

**Dedicated to diversification**

Omex Agrifluids moved into wider geographic areas and new dimensions in
technical expertise and business activity based on leads and contacts gained from DTI (Department of Trade and Industry Surveys) and BCPC (British Crop Protection Council) Conferences. The company looked east and developed new business in ASEAN countries like Thailand while simultaneously consolidating its Middle Eastern and West European markets especially in Spain and Germany.

Omex Agrifluids has operated in the English speaking countries of West Africa including Nigeria for 10 years and Francophone countries like Cote d’Ivoire for three years. The company has been active in Latin America for 10 years and is now plugging important gaps in the global market like India, China and Eastern Europe. Micronutrient technology and application is an integral part of the contemporary ‘green’ viewpoint which has rapidly become one of the core values of modern agriculture and horticulture worldwide.

Omex has a dedicated ‘green’ division called Omex Environmental. Omex Environmental develops nutrient products to boost the activity of microbes for clean-up of waste water from a variety of industries including paper mills and factories, breweries, vegetable processors and food manufacturing. The microbes, already there in the environment, are supplied with custom-designed nutrient formulations to make them more efficient.

**Targeted nutrients**

Farmers and growers in many parts of the world are unable to maintain soil-applied fertilisers at crop demanding levels due to soil erosion, leaching and run-off. Nutrients may also become locked up by specific organic and inorganic soil fractions and therefore unavailable for plant uptake and utilisation.

There is nothing to be gained from pouring soil-targeted nutrients into such fertility limiting situations. More appropriate is targeted treatment of foliage with sprays of micronutrients, putting on just enough for the crop which is in the ground and growing. This approach is highly cost effective because every-

**Cost effective and convenient**

How can Omex Agrifluids cost effectively ship plant nutrient products from its UK base to far-afield markets like China and New Zealand, is an often asked question. The answer and secret lie in nature of the formulation because Omex Agrifluids’ products are shipped as highly concentrated emulsion type fertilizer formulations occupying half the volume of standard formulations and therefore requiring half the number of drums and other containers.

Omex Agrifluids products are shipped in containers ranging from 1 to 20 litres. Once they reach their destination formulations are repacked to suit convenience and cost requirements of farmers. In China and India, for instance, products are retailed in a string of sachets which can be peeled off one
at a time. Farmers simply ‘pop’ one sachet into a 15 or 20 litre lever-operated knapsack sprayer and apply the nutrients in a foliar targeted spray using the appropriate spray nozzle tip.

**Designated seed treatments**

Seed treatment is very much a ‘horses for courses’ option where soil/plant nutrient deficiencies or specific agronomic requirements mean plants need a strong and sustained boost as early as possible in the growth and development cycle. Nutrients are formulated with natural biostimulants for rapid root formation and growth.

There is no point in targeting seedlings with nutrients if the root system is insufficient in extent or activity to effectively and efficiently absorb them. These highly concentrated seed treatment products require less storage space and are more convenient and cost-effective to handle and use. Examples of designated seed treatments made by Omex Agrifluids are the cobalt plus molybdenum and Zinc Bio for, respectively, soya bean and sugar cane in Brazil. The biostimulant component is essential to obtain rapid and effective root growth and early crop establishment because sugar cane planting in Brazil is being pushed further and further into more marginal soil and climatic areas.

**Focus on rice**

Omex Agrifluids has used a wide range of rice nutrient products to design a single integrated programme of rice crop nutrition which is comprehensive in compass and high technology in design. The Omex programme provides modern rice growers with custom-designed and formulated foliar products for sequential targeted application according to specific nutrient demands and requirements as the rice seed germinates, seedlings establish and transplanted rice plants tiller and head.

- Zinc 70 (70% Zinc) applied as a pre-planting drench to rice seed
- Bio 20 (20:20:20 NPK [w/v] with Magnesium and trace elements) as a spray to seedlings in the nursery
- Bio 20 and Zinc 70 applied post-transplant at the tillering stage
- Calmax (22.5% CaO and 15% Nitrogen [w/v]) and Micromax (Comprehensive trace element mix plus Mg and S) at the panicle initiation stage
- NK 60 (39% K2O with 11% Nitrogen [w/v]) and Boron 15 (15% B [w/v]) at spike emergence.

**Horticulture inside out**

Flowers, fruit and vegetables are prime targets for foliar feeding. Huge greenhouse complexes in Southern European countries like Spain are some of the biggest users of Omex nutrient technology. Products are targeted to obtain crop quality right through the plant development cycle including seedling root development, plant stress relief and maximum shelf-life of harvested fruit, flowers and vegetables.

Bio 20 is widely used by nurseries to promote rapid root development and to get seedlings ready for the greenhouse or field transplanting. Calmax is applied to solanaceous crops like tomato, sweet pepper and aubergine by targeting the developing fruit inherently susceptible to calcium deficiency, associated physiological disorders and diseases.

Foliar feeding has always been closely associated with greenhouse horticulture but there is a much bigger and a much more needy market for outdoor-grown crops. Foliar feeding of micronutrients puts outdoor production of vegetables, fruit and flowers firmly back under the farmers’ control like their counterparts
in the greenhouse sector. Greenhouse growers with their confined and protected environment clearly have close control right down to cation exchange in the growing medium but not so growers of outdoor crops.

Foliar feeding of micronutrients circumvents outdoor crop problems created by intrinsic soil nutrient deficiencies aggravated by rainfall and irrigation and complicated by plant disease. Foliar feeding bypasses soils in which nutrients are ‘locked up’ on organic and clay fractions and by prevailing pH. If soil structure and chemistry or moisture status is inappropriate then nutrients become functionally unavailable even if they are present at nominally sufficient amounts and concentrations. Foliar feeding puts the field crop farmer back in the driving seat.

**Back to broad-acre cereals**

Omex Agrifluids has not forgotten its origins in broad-acre cereal crops like wheat and barley which are still among the most important in both nutritional and economic value. Copper deficiency in the Rift Valley soils of Kenya is overcome using custom-designed foliar applied products that supply 70% of the cereal crops’ requirement for copper.

The soils of many wheat growing countries including Turkey, China and Zambia suffer inherent zinc deficiencies which are alleviated by foliar feeding with Omex Kingfol Zinc, a straight soluble Zinc product (70% w/v). And back to where it all started in the wheat and barley fields of the UK which is still the biggest user in the world of Omex straight soluble Manganese (17.5% w/v).

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Optimise crop health and vigour with the Omex system of nutrient management.

- Totally soluble, highly concentrated suspension fertilisers
- Health Promoters
- Bio-stimulants
- Seed treatments
- Soluble Powder Fertilisers

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