Increasing Crop Production to Feed a Growing Population

The "Challenge"

In the last fifty (50) years the global population has more than doubled reaching nearly 7.8 billion people in 2020 and is projected to grow an additional 14%, to 8.9 billion, by 2050[1].

This raises many formidable challenges including the ability to continue providing accessibility to affordable, nutritious and safe food supplies amidst increasing demands on scarce resources, most notably arable land and clean water.

The response to this continuous challenge has been profound when one considers that during this same time period the arable land to support food and livestock production grew by less than 15%[2]. A key enabler toward balancing food demand and production has been the relentless pursuit toward increasing yields; i.e. production per acre of arable land.

In this same timeframe yields have improved by over 300%[3], meaning the same acre of land today produces more than three (3) times the amount of food and/or feed as it did in 1970.

Responding to the Challenge

The agrochemical industry and its value chain participants have been and continue to be instrumental in helping meet these challenges and they continue to support the agricultural industry in its pursuit toward further efficiencies.

Nearly a $60 billion[4] global industry, producers of crop protection products and their partners continue to apply ingenuity, science and research toward the development of safe and effective pesticides, herbicides and fungicides; allowing farmers to effectively manage constantly evolving and more resistant strains of pests, weeds and/or fungi.

With many parallels to the pharmaceutical industry, many of these solutions take multiple years and millions of dollars to develop, test, register through regulatory bodies and eventually bring to market.

This can only be made possible through the steadfast commitment of the agrochemical industry including its raw material suppliers.

ExxonMobil;
Committed and Part of the Solution

ExxonMobil Chemical is one such raw material supplier and has been a leader through its support of the industry for over 60 years. Its support comes through the manufacture and supply of a broad range of hydrocarbon fluids, most notably its Solvesso™ product line.

Solvesso fluids are key ingredients in various types of formulations used for crop application. An emulsifiable concentrate (EC) is one of the most common formulation types employed given its effectiveness, ease of use and total cost. In addition to a Solvesso fluid, this formulation type will typically consist of an active ingredient (commonly referred to as an AI and specifically designed to address the pest, weed or fungus) and various additives (including surfactants).

Solvesso fluids, regarded as inert ingredients (meaning they are not acting as a pesticide), help by dissolving the active ingredient. This makes the addition of water as the final step both technically feasible and necessary for effective field application. Effective and uniform application of the product is vital to a farmer and contributes to its safe use and efficacy toward the intended target.

Despite being inerts, Solvesso fluids require a significant amount of rigor in environmental and toxicological testing and must be approved and registered as safe for use through applicable regulatory agencies. Such rigor requires unique capabilities, strong industry commitment and an investment of resources; all of which have allowed ExxonMobil Chemical to differentiate itself in this industry for over a half-century.

Helping to Feed our Growing Global Population, ExxonMobil Chemical remains committed in continuing to play a key role and helping the industry meet the challenges of the future.

[1]Our World in Data; Future Population Growth by Max Roser; updated 11/19

[2]Our World in Data; Land Use by Hannah Ritchie and Max Roser; 9/19

[3]Our World in Data; Land Use by Hannah Ritchie and Max Roser; 9/19 through information from United Nations Food and Agricultural Organization

[4]IHS Markit; taken from article from Agrow Platform dated 4/22/20

Technical question?
Connect directly with our technical experts at: FluidsAnswerPerson@exxonmobil.com

For more information, please visit: exxonmobilchemical.com/en/solutions-by-industry/agriculture/crop-protection

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