

ZERO X 40

VECTOR CONTROL MALARIA DECLARATION (VCMD), LONDON 2018 UNITING TO ERADICATE MALARIA BY 2040 - (ZERO BY 40)

INTRODUCTION

The world's leading Crop Protection companies unite today at the London Malaria Summit to reaffirm their commitment to support the research, development and supply of innovative vector control solutions to help eradicate malaria by 2040.

Significant progress has been made in the fight against this debilitating disease—a disease that still claims the life of a child every two minutes and, in 2016, was responsible for more than 445,000 deaths. Since 2000, 663 million clinical cases of malaria have been averted—78% of which were due to mosquito control interventions such as long-lasting insecticide treated bednets (LLINs) and indoor residual spraying (IRS).

The Crop Protection companies participating today have been a major driving force behind the vector control efforts, helping to develop and deliver innovative insecticides for use on bednets and for indoor spraying, saving millions of lives. This is one of the world's greatest health achievements.

A decade ago, these companies provided the Innovative Vector Control Consortium (IVCC) access to their chemical libraries to support the search for novel insecticide modes of action that could be developed for public health use. This public/private collaboration continues to this day and has produced a pipeline of novel vector control solutions to support the global efforts to eradicate vector-borne diseases.

However, we cannot take this progress for granted. The World Health Organization (WHO) has reported a troubling shift in the trajectory of this global malaria disease burden, which risks increasing again. Further innovation is required to combat insecticide resistance and prevent established vector control tools from becoming less effective. Without the continued support and innovation of the Crop Protection industry, the hard-won gains of the past two decades could be quickly reversed, costing many millions of lives.

THE COMMITMENT

We, BASF, Bayer, Mitsui Chemicals, Sumitomo Chemical and Syngenta, announce today our continued and strengthened commitment to research, develop and deliver innovative vector control tools to help end malaria for good.

Working together with IVCC and global partners, including the Bill & Melinda Gates Foundation (BMGF), the Department for International Development (DFID), USAID, the Swiss Agency for Development and Cooperation (SDC) and UNITAID, we commit to the following principles and invite other companies working in the field of vector control to join us in our fight to eradicate malaria.

Together we will:

- Continue to screen new chemistry for potential use in existing and new vector control solutions.
- Sustain and extend programmes that will support the development of existing and novel insecticide tools and solutions to help eradicate malaria.
- Advance R&D, through bilateral partnerships, as appropriate, to find and bring to market a toolbox of next-generation vector control interventions.
- Where appropriate, collaborate with industry colleagues to better understand and manage the bioavailability of new chemistries on diverse surfaces, supporting the development of improved efficiency and cost effectiveness of application technologies.

- Establish a multi-industry coalition of partners, via the intermediaries of IVCC or similar platforms, to facilitate the integration of vector control and broader science technologies (e.g. drones/robotics/big data/vitro mosquito attractant screening) to improve the public health of rural communities, advancing basic and implementation research and capacity building.
- Where possible, identify potential synergies and share know-how between the Crop Protection and Pharma industries to drive innovation across drug and vector control interventions.
- Work collaboratively to ensure technically sound IRM and IVM best practices, ensuring optimum performance and reduced probability of resistance development
- Ensure that the global supply chain continues to deliver the vector control interventions needed in a timely and cost-effective manner.
- Prioritise and effectively leverage organisational skill-set and know-how to meet our malaria eradication ambitions.
- Continue to focus attention on the health and well-being of smallholder farmers in malaria endemic countries.
- Track and provide updates on the progress of our commitments toward achieving the global goals of malaria eradication.

HISTORY OF CROP PROTECTION INDUSTRY SUPPORT IN VECTOR CONTROL

BASF

At BASF, we create chemistry for a sustainable future. With a rapidly growing population, the world is increasingly dependent on our ability to develop and maintain sustainable agriculture and healthy environments. Our Public Health business helps to improve the quality of life for millions of children and adults around the globe by preventing malaria and other neglected tropical diseases. Combining ground-breaking science with practical down-to-earth action, we develop products that combat disease-transmitting insects and bring them, in collaboration with international health, government and humanitarian organisations, to the communities that need them.

As one of the world's leading chemical companies, sustainable development is vital to our long-term growth. That's why it is an integral part of our strategy. For us, sustainable enterprise is about combining long-term economic success with environmental protection and social responsibility to contribute to a future worth living for coming generations.

BASF's WHO-recommended public health portfolio includes Fendona® indoor residual sprays, Abate® larvicides and Interceptor® long-lasting, insecticide treated mosquito nets. The World Health Organization (WHO) recently awarded an interim recommendation to Interceptor® G2, a new generation mosquito net to combat resistant mosquitoes, enabling it to be used in the fight against malaria. After a collaboration with the Innovative Vector Control Consortium and the London School of Hygiene & Tropical Medicine that lasted more than a decade, BASF's scientists successfully repurposed a completely new insecticide class for mosquito control in public health—chlorfenapyr—to be effective on the new net and meet the stringent WHO performance thresholds for public health. Interceptor® G2 is based on a novel combination of chlorfenapyr with alpha-cypermethrin to both protect sleepers and combat resistant mosquitoes. This is now the first WHO-recommended insecticide-treated mosquito net that is not based only on pyrethroid chemistry and the first WHO recommendation for a product based on a new insecticide class in more than 30 years.

BASF is a founding member of the United Nations Global Compact and Global Compact LEAD, a platform established in 2011 for corporate sustainability leadership. Our Public Health team is active in the international malaria community, representing BASF on numerous taskforces, including the Innovation to Impact Board of Trustees and other working groups on neglected tropical diseases, integrated vector management and long-lasting insecticidal nets.

BAYER

Bayer is a global enterprise and one of the world's leading companies in the fields of healthcare and agriculture. Its products and services are designed to benefit people and improve their quality of life.

With over 150 years of expertise in the Life Sciences, the Group is in a unique position to provide both vector control solutions and medicines to prevent and cure vector-borne and neglected tropical diseases. In addition, as one of the world's leading companies in agriculture, Bayer seeks to better understand correlations between smallholder and large scale farming and malaria, a predominantly rural disease and a leading cause of poverty. Using this knowledge Bayer aims to offer sustainable malaria prevention to this high-risk group of people.

Understanding the urgency, magnitude and complexity of malaria and other diseases transmitted by mosquitoes, Bayer takes a holistic and integrated approach to vector control. With more than 60 years' experience in public health, Bayer offers indoor residual sprays, larvicides and supplies active ingredients for use in long-lasting insecticide-treated nets for malaria prevention. These combined interventions remain the most effective and cost-efficient means to prevent the disease today. With 15 product specifications on the former WHO Pesticides Evaluation Scheme list, Bayer has supplied product to protect more than 180 million people against vector-borne diseases such as malaria since 2010.

Committed to address emerging challenges, Bayer is investing significantly in the development of innovative solutions to address insecticide resistance. To this end, the company is pursuing the development of a completely new active ingredient in partnership with the Innovative Vector Control Consortium which, assuming successful progress through development phases, should be available for use in the coming years. However, with solutions to insecticide resistance needed urgently, Bayer has developed Fludora® Fusion, the first indoor residual spray combining two unrelated modes of action, providing optimum effectiveness under conditions of insecticide resistance. Listing with WHO-PQ is expected at the end of 2018, after which the product will be eligible for use by large-scale malaria vector control programs.

Recognizing that the challenge to eradicate vector-borne diseases is far too immense and widespread for one company alone, Bayer collaborates with international organisations, foundations and governments. The most recent partnership was made in 2017 with Goodbye Malaria, a non-profit organisation supporting vector control program implementation in Southern Africa, advocating indoor residual spray as a key tool to combat malaria and educating people about disease elimination.

In the field of education Bayer invests in capacity building, supporting the future generation of entomologists at the London School of Hygiene and Tropical Medicine (LSHTM) with grants to support their studies.

Through science, innovation and collaboration, Bayer strives to help find solutions to eradicate malaria and neglected tropical diseases, helping to create a Better Life for millions of people across the world.

For more information about Bayer, go to www.bayer.com

For information about Bayer's Vector Control business, see <https://www.vectorcontrol.bayer.com/>

MITSUI CHEMICALS

Mitsui Chemicals started operations in Japan in 1912. Since then, it has made continuous efforts to innovate products improving people's "Quality of Life." Since the very early days of the company's establishment, the agrochemicals business for crop protection and public health improvement has been one of its most important business segments. Through intensive R&D activities, Mitsui Chemicals has developed various proprietary chemicals that realise both efficacy and safety.

In the field of vector control, Mitsui Chemicals' unique insecticide active ingredient Etofenprox has been extensively used for various applications, taking advantage of its efficacy, human safety and eco-friendliness. In 1999, the Etofenprox formulation was recommended by the World Health Organization (WHO), further recognising the company's brand Vectron™ as a trusted vector control solution. Vectron™ is still widely used in many countries as a standard insecticide to prevent malaria and other vector-borne diseases.

Currently, Mitsui Chemicals is focusing on solutions to control mosquitoes resistant to existing insecticides. Its unique mode of action insecticides have shown superb efficacies on such resistant mosquitoes. Through the development of a wide range of product applications, such as sprays and bednets which incorporate the new insecticide, Mitsui Chemicals aims to contribute to achieving the common goal of malaria eradication. The company believes in the value of partnerships. For the quickest and most impactful delivery of new innovations to people under the threat of malaria, Mitsui Chemicals is strengthening its partnership with IVCC and various other industry leaders.

Through its chemical innovations, Mitsui Chemicals continuously contributes to the health and happiness of people around the globe.

SUMITOMO CHEMICAL COMPANY

“We must not merely seek business profits but must contribute broadly to society through our business activities.” – Sumitomo Chemical, founded with the dual goals of eliminating pollution and helping increase crop yields, has upheld this founding principle as it has evolved in keeping with the changing times. At present, the Sumitomo Chemical Group, including over 100 subsidiaries and affiliates, operates businesses in five sectors and provides products worldwide that support a wide variety of industries and help peoples’ daily lives.

Sumitomo Chemical contributes to solving problems facing the global community in areas such as resources, energy, food, and the environment to help meet pressing global challenges—such as improving people’s health and living standards and increasing food security—by making the best use of the power of chemistry. Through its endeavors, the company hopes to play a significant role in building a sustainable society.

Sumitomo Chemical has been actively engaged in the fight against malaria since the 1980s, when we first deployed Sumithion® for IRS use in its 40WP formulation. We deepened our engagement with the development of Olyset® Net, which became the first LLIN to receive full recommendation from WHO in 2001. Soon after, Olyset® Net started production in Africa in 2003 when Sumitomo Chemical provided a royalty-free technology license to A to Z Textile Mills in Arusha, Tanzania, and expanded in 2008 with the official opening of a 50:50 joint venture factory. This expanded our partnership with A to Z in East Africa, and by 2010 Olyset® Net production capacity reached 30 million LLINs per year, creating 8,000 jobs; more than half of the global Olyset® Net output and an outstanding contribution to the local economy. Sumitomo Chemical adheres to the belief that to be sustainable, bednet production must be localised in Africa. Local production in Africa provides a vital public health product and simultaneously boosts economic development beyond aid and towards self-sustaining enterprise.

Last year, Sumitomo Chemical achieved WHO prequalification on SumiShield® 50WG, providing the first brand-new mode of action chemistry for indoor residual spraying (IRS) in decades. SumiShield® 50WG represents a significant breakthrough, offering a new tool to allow programme managers to rotate between chemistries and be far better equipped to manage resistance. The SumiShield® 50WG formulation has proven efficacy and continues to work effectively for up to eight months after spraying, even against highly resistant mosquitoes.

Also in 2017, Sumitomo Chemical’s second-generation LLIN, Olyset® Plus, led WHO to designate a new interim class for pyrethroid PBO nets, after studies conducted by the London School of Hygiene & Tropical Medicine demonstrated epidemiological impact and public health value for Olyset® Plus in areas with moderate pyrethroid resistance.

Currently, Sumitomo Chemical is working on several strategies to combat resistance in insect vectors and is collaborating with the IVCC (Innovative Vector Control Consortium) to develop and bring to market innovative solutions to the challenges posed by resistance to pyrethroids and other insecticides. On the occasion of the Malaria Summit London 2018, Sumitomo Chemical confirms our resolve to continue to innovate and invest to bring new vector control solutions to market, until malaria is ultimately eradicated.

SYNGENTA

Syngenta’s corporate goals include those dedicated to the improvement of health and quality of life. Syngenta Vector Control delivers this commitment by playing a leading role in the prevention of vector-borne disease transmission through its portfolio of mosquito control products and partnerships with professional disease control programs worldwide. We are committed to being a leading partner in the fight against vector-borne diseases through the ICON vector control portfolio and long-established experience of working successfully with multiple partners across the globe.

Syngenta’s advanced ICON® and ACTELLIC® mosquito control solutions allow for the effective prevention of malaria including those for the control of insecticide resistance. Syngenta’s insecticide R&D capability and partnership with the Innovative Vector Control Consortium is focused on long-term and sustainable new products for malaria prevention so that we continue to deliver an impact on this devastating disease.

IVCC

IVCC is the only product development partnership (PDP) working in vector control. Established in 2005, IVCC works with stakeholders to facilitate the development of novel and improved public health insecticides and formulations and provides information tools to enable their effective use. IVCC's vision is simply to save lives, protect health and increase prosperity by preventing insect-borne diseases. IVCC is funded by the Bill & Melinda Gates Foundation, UKaid, USAID, UNITAID and The Swiss Agency for Development and Cooperation.