

MustGrow Isolates and Concentrates a Mustard-Derived Molecule that Acts as a Systemic, Non-Selective Bioherbicide

- **MustGrow has isolated and concentrated a new mustard-derived extract, *thiocyanate*.**
- ***Thiocyanate* is soil active and translocated in the plant as a systemic, non-selective bioherbicide (natural weed-killer).**
- **Greenhouse weed treatment studies have commenced with this new bioherbicide extract.**

SASKATOON, Saskatchewan, Canada, March 3, 2021 – **MustGrow Biologics Corp. (CSE: MGRO) (OTC: MGROF) (FRA: 0C0)** (the “Company”, “MustGrow”) is pleased to announce that it has isolated and concentrated an additional molecule, *thiocyanate*, from mustard seed. Thiocyanate, which is responsible for the systemic activity behind the mustard plant’s natural herbicidal (weed-killer) properties, is the third molecule from mustard seed that MustGrow has isolated, extracted, and concentrated. MustGrow had previously reported herbicidal [proof-of-concept success](#) without isolating thiocyanate and now expects to build on those studies with this additional herbicidal mode-of-action now identified.

Thiocyanate extract has the potential to be a natural organic non-selective bioherbicide that is soil active with systemic *translocated* properties. Systemic activity, or the ability of the active ingredient to move from soil, to roots, and then to stem and leaves, is particularly significant given that the leading synthetic herbicide glyphosate is not soil active, and only acts on the above ground parts of the weed it contacts. MustGrow believes a tremendous opportunity exists to potentially replace or compliment glyphosate in certain systems, by providing a natural organic solution. Globally, glyphosate is being phased out, including recent announcements by [Germany](#) and [Mexico](#) by 2024. [France recently announced glyphosate restrictions](#) but stopped short of a full ban because of a lack of non-chemical alternatives.

Greenhouse testing of MustGrow’s new thiocyanate bioherbicide extract has commenced, and also in combination with MustGrow’s mustard-based biopesticide TerraMG (active ingredient *Allyl isothiocyanate (AITC)*). MustGrow now has two distinct mustard-based natural organic approaches with individual applications, or potentially in combination:

- **Biopesticide:** TerraMG, a natural form of AITC, to control diseases and pests.
- **Non-Selective Bioherbicide:** Thiocyanate extract to kill weeds.

MustGrow had previously reported [successful proof-of-concept](#) studies with trial observations demonstrating 100% kill of small seeded weeds and weed seeds. The length of control (ie – time where the soil remains weed-free) was also recorded, which potentially evidenced control of the weed seeds themselves. [Patents have been filed](#) for *method-of-use* and *composition-of-matter* claims. MustGrow’s intellectual property suite is a platform for several crop protection categories, aiming to disrupt global agriculture markets that have traditionally been dominated by synthetic-based products. MustGrow now expects to build on these previous weed treatment studies with its new bioherbicidal mode-of-action now identified.

Global Herbicide Market

According to industry intelligence groups [IHS Markit and Phillips McDougall](#), the global herbicides market remained the dominant crop protection category in 2019, accounting for US\$26.2 billion – 43.8% of crop protection sales. Glyphosate, the most commonly-used herbicide, is forecasted to reach a global market size of US\$13.3 billion by 2027, according to a report by [Reports and Data](#).

Soil Health

The dangers associated with synthetic chemical overuse is pushing farmers, consumers and regulators to seek naturally-sourced biological products, which are known for safe, environmentally-sustainable and consumer-friendly profile characteristics. For instance, MustGrow recently announced the active ingredient in its mustard-based biopesticide technology (AITC) has a [positive ecological impact on soil health](#):

- Application of AITC as a biopesticide returns organic plant material to the soil.
- AITC dissipates from the soil quickly, avoiding long-term toxicity to beneficial micro-organisms.
- AITC creates a healthy microbial ecological environment for soil, increasing beneficial bacteria.

About MustGrow

MustGrow is a publicly traded (**CSE: MGRO**) (**OTC: MGROF**) (**FRA: 0C0**) agriculture biotech company focused on providing natural science-based biological solutions for high value crops, including fruits & vegetables and other industries. MustGrow has designed and owns a U.S. EPA-approved natural solution that uses the mustard seed's natural defence mechanism to protect plants from pests and diseases. Over 110 independent tests have been completed, validating MustGrow's safe and effective signature products. The product, in granule format, is EPA-approved across all key U.S. states and by Health Canada's PMRA (Pest Management Regulatory Agency) as a biopesticide for high value crops such as in fruit & vegetables. MustGrow has now concentrated a mustard extract biopesticide in liquid format, TerraMG, and with regulatory approval, could be applied through standard drip or spray equipment, improving functionality and performance features. In addition, the Company's mustard-derived extract technologies could have other applications in several different industries from pre-plant soil treatment, to weed control, to post harvest disease control and food preservation.

The Company has approximately 42.0 million basic common shares issued and outstanding and 50.6 million shares fully diluted. For further details please visit www.mustgrow.ca.

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Forward-Looking Statements

Certain statements included in this press release constitute "forward-looking statements" which involve known and unknown risks, uncertainties and other factors that may affect the results, performance or achievements of MustGrow.

Generally, forward-looking information can be identified by the use of forward-looking terminology such as "plans", "expects", "is expected", "budget", "estimates", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might", "occur" or "be achieved".

Forward-looking statements are subject to a number of risks and uncertainties that may cause the actual results of MustGrow to differ materially from those discussed in such forward-looking statements, and even



if such actual results are realized or substantially realized, there can be no assurance that they will have the expected consequences to, or effects on, MustGrow.

These risks are described in more detail in MustGrow's Prospectus and other continuous disclosure documents filed by MustGrow with the applicable securities regulatory authorities and available at www.sedar.com. Readers are referred to such documents for more detailed information about MustGrow, which is subject to the qualifications, assumptions and notes set forth therein.

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