

Amoéba : a 2nd cereal trial campaign confirms the potential of its biocontrol product

Chassieu (France), August 24th, 2021 - 5:45 p.m. - AMOÉBA (FR0011051598 - ALMIB), producer of a biological biocide capable of eliminating bacterial risk in water and human wounds, and of a biocontrol product for plant protection, still in the development phase, announces the results of the 2nd cereal trial campaign.

After the first conclusive field trials in 2020 (see press release of 22 July 2020), Amoéba carried out a second campaign of agronomic trials in Europe against cereal diseases in 2021.

About fifteen trials were set up in 3 countries (France, Italy, Germany.)

The main diseases targeted were:

- on wheat: yellow rust, septoria and fusarium head blight.
- on barley: rhynchosporium.

This year's results confirm the efficacy of Amoeba's biocontrol formulations against the main cereal diseases, the largest fungicide market in Europe. Their level of performance assessed at this stage against yellow rust in particular, but also septoria in wheat, is such that it would be possible to partially replace conventional fungicides at the first treatment, in combination with moderately susceptible varieties.

"While biocontrol is already well established in specialty crops, such as vines and vegetables, the search for effective biofungicides in field crops is one of the major objectives of plant protection in Europe. The results of our first experimental campaigns are very encouraging: with Amoéba's products, it would be possible, by combining genetic resistance (choice of tolerant varieties) and biocontrol, to reduce the use of chemical fungicides on wheat by up to 50%, while maintaining a perfectly satisfactory level of protection" says Jean Luc SOUCHE - Business Developer Biocontrol of Amoéba.

1. Climatic context of the 2021 field trials for cereals

The rather cold and dry start of spring was not favourable to the early development of diseases, in particular septoria and rhynchosporiosis which require repeated rainfall to develop.

However, significant yellow rust infections were observed in many trials in the Paris Basin and Northern France.

Later on, heavy rains in mid-June, when the wheat was at the sensitive flowering stage, caused very important infestations of fusarium head blight, in particular in our trials, carried out with artificial contamination (spraying of a spore suspension on the ears).

2. Results of the field trials

Against wheat foliar diseases, three formulations were compared, applied alone in some trials or positioned as the first treatment of a two-treatment program (the second being carried out with a conventional fungicide) in another protocol.

- **Septoria** was not very present this year, and the available results confirm the activity observed in 2020, **close to 50%**.

- Two trials on **barley**, with a low level of contamination, showed **the same level of efficacy (50%)** against rhynchosporium, a level never reached by any natural product.

- The only trial infested by **brown rust** saw an explosive development of the disease. Situations like this are very unfavourable for biocontrol products in general, and the experimental products did not show any activity.

- The results of the **wheat yellow rust** trials also confirm those of 2020: a very clear and regular efficacy is observed, **in the range of 40% to 75%**. This efficacy is generally lower than that of the chemical standard products compared, but this level of performance is unmatched for a biocontrol product. Efficacy is maximised when disease development is not explosive, particularly on moderately susceptible varieties.

This effectiveness is also reflected in **sometimes spectacular and statistically significant yield gains: 8.11 MT/ha in a trial where the control reached only 7.06 MT/ha and the standard 7.89 MT/ha, i.e +1 .05 MT (+14.8% increase) for the experimental product.**

The "program" trials were less contaminated, but still show the interest of Amoeba's biocontrol products in the first treatment.

- **Fusarium head blight** is a late disease but particularly damaging, firstly because it causes grain scald (an alteration in ripening) and therefore direct yield losses, and secondly because the pathogenic fungus also secretes mycotoxins (e.g deoxynivalenol or DON) that are

dangerous to human or animal health. European legislation sets a maximum deoxynivalenol content, above which batches cannot be used in human food.

Conventional standard fungicides are not very satisfactory against this disease, hence the interest in using biocontrol products, especially since for a late treatment carried out on the ear in flowering, the risk of finding chemical pesticide residues in the grain is high.

Encouraging results are observed in the particularly extreme conditions of this year, especially with one of the tested formulations, which **in 1 trial has an efficacy equivalent to that of the reference chemical fungicide**, and leads to a **statistically significant yield gain of 8.5%** compared to the untreated control.

These results will naturally be confirmed in 2022.

About AMOEBA:

Amoéba's ambition is to become a major player in the treatment of bacterial risk in the fields of water, healthcare and plant protection. Our biological solution is an alternative to chemical products widely used today. Amoéba is currently focusing on the market of industrial cooling towers estimated at €1.7Bn (1) on a global chemical biocide market for water treatment, evaluated at €21Bn (2) and on the biocontrol market for plant protection estimated globally at €1.6Bn (4). In the future, the Company is looking at developing new applications such as chronic wound care, estimated at € 751 million (3) in the USA. Sales of associated products with healthcare, biocides and crop protection are subject to the Company being granted local regulatory market authorizations. The Company is currently in a trial phase for biocidal and plant protection applications and does not market any products.

Created in 2010, based in Chassieu (Lyon, France) with a subsidiary in Canada and in the United States, Amoéba is quoted on Euronext Growth. The Company is a member of the BPIfrance Excellence network and is eligible for the PEA-PME SME equity savings plan setup. More information on www.amoeba-nature.com.

(1): Amoéba data combined from sources: DRIRE 2013, Eurostat, ARHIA 2013

(2): Sources combined by Amoéba from water treaters, Freedonia, Eurostat et MarketsandMarkets

(3): BCC Research, "Markets for Advanced Wound Management Technologies," Wellesley, MA, 2017

(4): Biopesticides Worldwide Market 2013, CPL, Wallingford, UK

Contacts:

Amoéba

Valérie FILIATRE

Directeur Général Adjoint

+33 4 26 69 16 00

v.filiatre@amoeba-nature.com

Calyptus

Relations investisseurs & Presse

Grégory BOSSON / Mathieu CALLEUX

+33 1 53 65 37 90 /91

amoeba@calyptus.net

Disclaimer

This press release contains certain forward-looking statements concerning AMOEBA which are based on its own assumptions and hypothesis and on information that are available to us. However, AMOEBA gives no assurance

that the estimates contained in such forward-looking statements will be verified, which estimates are subject to numerous risks including the risks set forth in the Universal Registration Document of AMOEBA filed with the French Financial Markets Authority (Autorité des Marchés Financiers) on April 12, 2021 under number D21-0289 (a copy of which is available on www.amoeba-nature.com). The forward-looking statements contained in this press release are also subject to risks not yet known to AMOEBA or not currently considered material by AMOEBA. The occurrence of all or part of such risks could cause actual results, financial conditions, performance or achievements of AMOEBA to be materially different from such forward-looking statements.