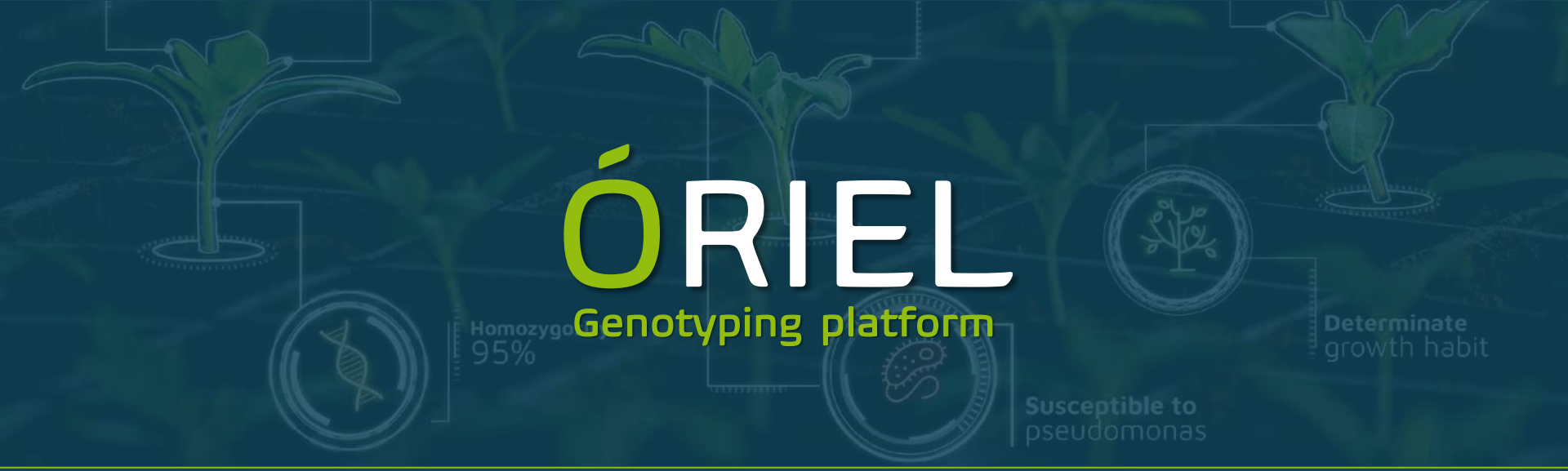
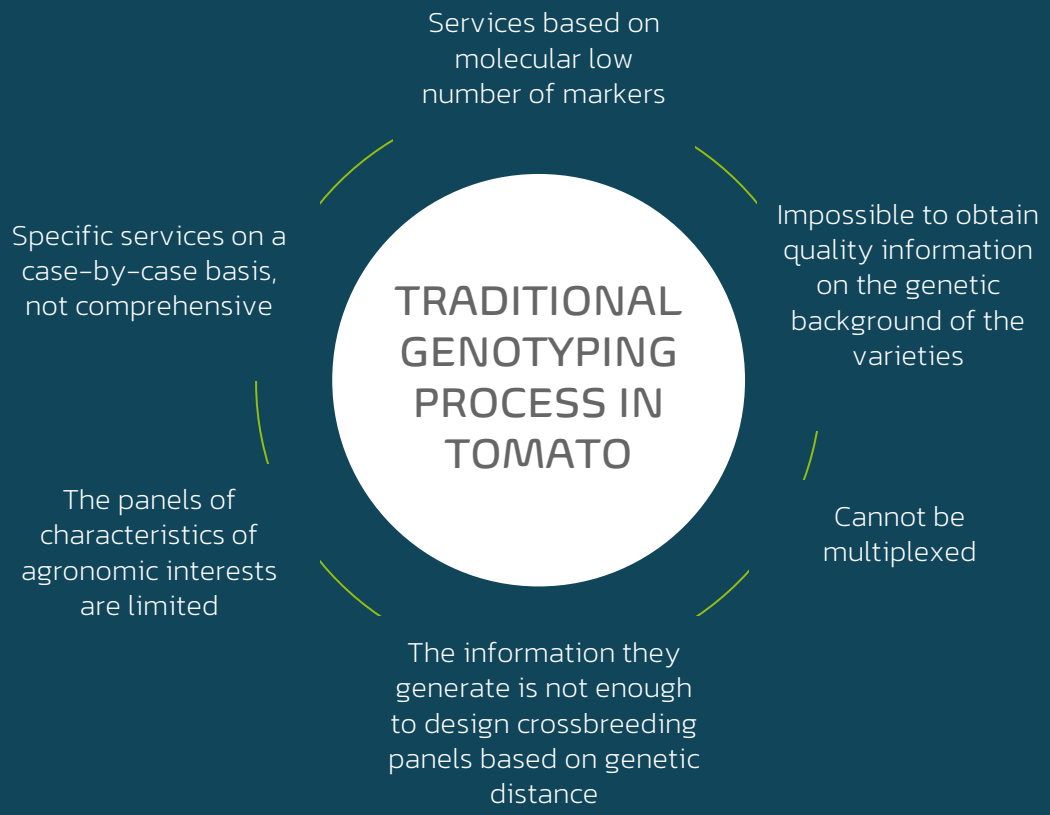


THE MOST POWERFUL TOMATO GENOTYPING PLATFORM

Plant Biotech Division Beyond Seeds Biotech Group

GENOTYPING

CURRENT SOLUTIONS FOR PLANT BREEDING PROGRAMS



ÓRIEL

MASSIVE TOMATE GENOTYPING PLATFORM

It allows to find the combination of desired agronomic characters with high reliability in the seedling stage

The genetic background of a variety can be analyzed with high resolution

Crossbreeding planning based on their genetic distance

Combined evaluation of resistance, characters with agronomic interest, varietal purity and genetic distance in a single analysis

Robustness in genetic fingerprint analysis thanks to the high number of sequenced markers

Multiplexing is possible. Analysis of large volumes of plants, reducing the number of individuals to be evaluated in the field

WHAT IS ÓRIEL

Molecular markers platform designed to **facilitate** the processes of **selection and plant breeding in tomato**

500 SNP

100 PHENOTYPE SPECIFIC

400 GENETIC BACKGROUND

WHAT SOLUTIONS ÓRIEL OFFERS

SPEED BREEDING

VARIETAL PURITY ANALYSIS

Using up to 500 SNP molecular markers, we obtain information on the level of purity

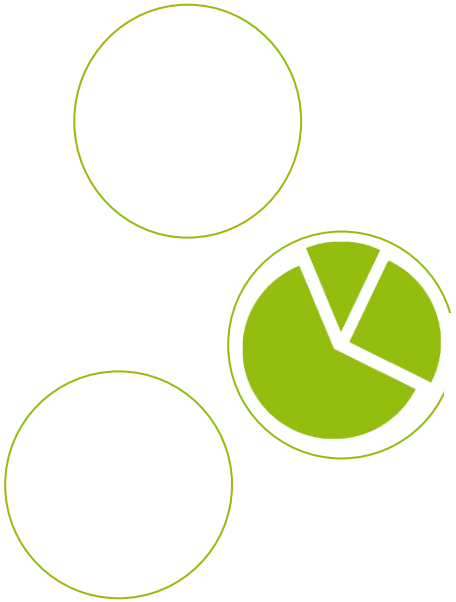
MOLECULAR PHENOTYPING

Prediction of the phenotype from the interpretation of the markers thanks to the development of 100 specific markers

PREDICTION OF BEST HYBRIDS

From the calculation of the genetic distance, a list of recommended crosses between plants is obtained, guaranteeing the maximum hybrid vigor in the offspring

WHAT SOLUTIONS ÓRIEL OFFERS



ANALYTICS

In addition to the standard report, our team of geneticists can issue a complete report and a detailed analysis of the results.

A population study is also included, calculating a matrix of genetic distances and a phylogenetic tree of the accessions o know the materials in a deep way.

FULL INTEGRATION WITH NOAH® PLANT BREEDING

ÓRIEL integrates with the leading plant germplasm management and plant breeding tool, NOAH.

Consult and visualize the data directly on your computer while you make decisions in your plant breeding programs.

NOAH®

Microsoft Partner

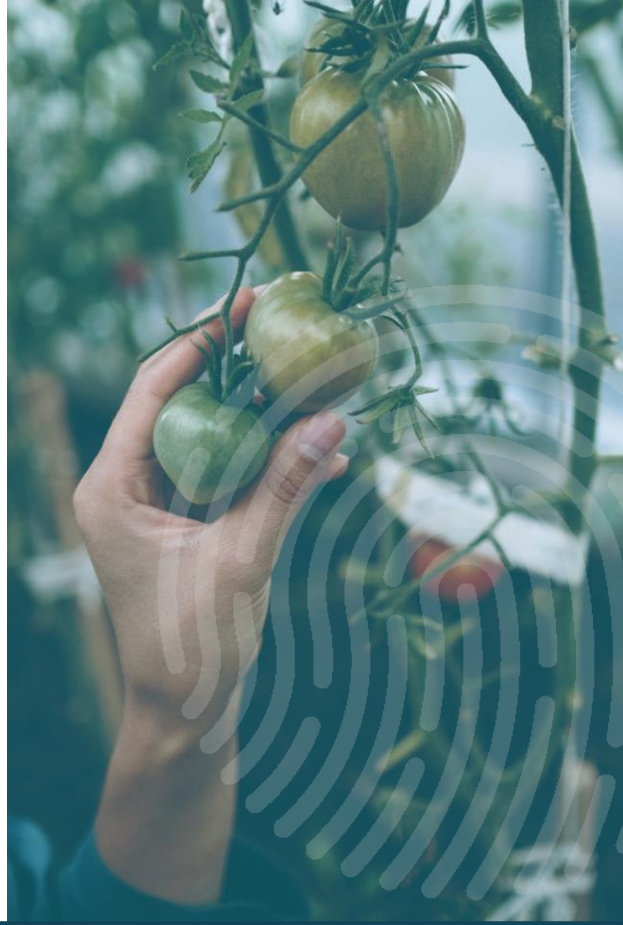
WHAT SOLUTIONS ÓRIEL OFFERS

FINGERPRINT

Obtaining a complete genetic fingerprint of each of the genotyped materials

Variety registration

Seed analysis



WHAT CHARACTERS ÓRIEL IDENTIFIES

PHYSIOLOGICAL CHARACTERS

Chocolate color fruit	Accumulation of chlorophylls in the fruit skin
Purple color fruit	Accumulation of anthocyanins in the fruit skin
Fruit shape	Rounded
	Pear-shaped
Growth habit	Determinate
	Indeterminate
Plant size	Dwarf
	Normal

RESISTANCE CHARACTERS

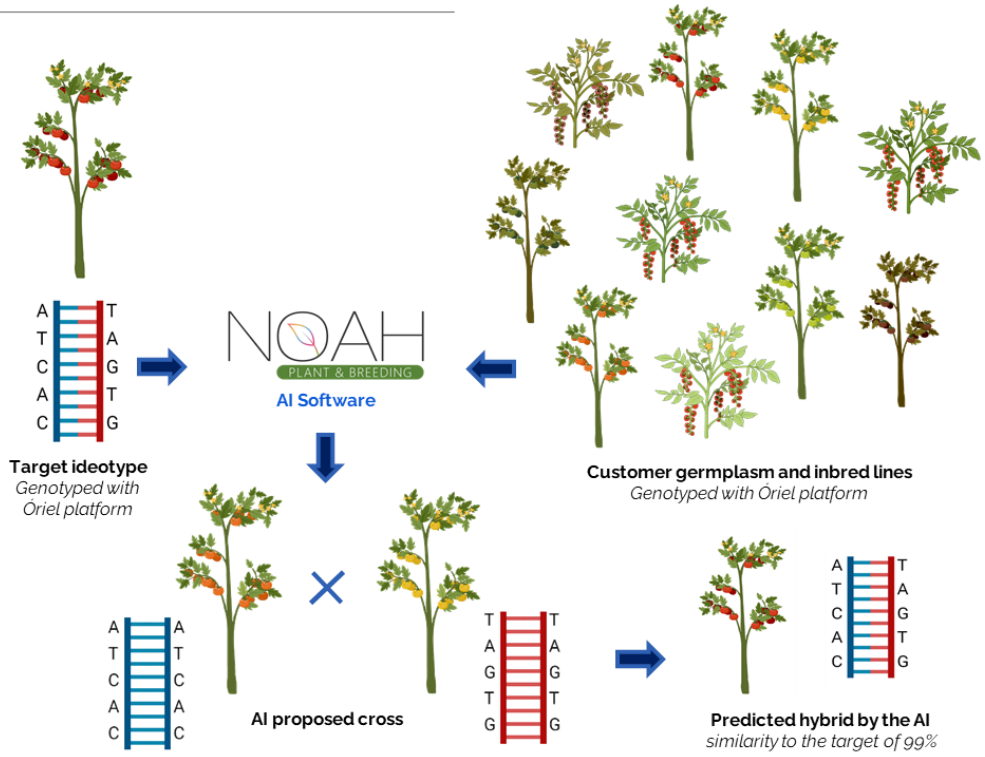
TYLCV	*Fusarium* (Fol:1)
TSWV	*Fusarium* (Fol:2)
ToMV	*Verticillium* (Vd:1; Va:1)
Pseudomonas syringae (Pst)	*Stemphyllium* spp.
Fusarium Crown Rot (FCR)	Nematodes (Ma, Mi, Mj)

ARTIFICIAL INTELLIGENCE TO DESIGN CROSSBREEDING

REVERSE BREEDING 2.0

From a database of genotyped potential parents and knowing the genetic profile of the target ideotype, we can obtain a list of proposed crosses to reconstitute this ideotype from a genetic point of view.

Our AI platform uses the genotyping and phenotype data of certain characteristics of each tomato to be able to make elite tomato predictions, based on the comparison of these simulated genetic combinations.



"If you want to speed up the time and precision in the selection of your tomato breeding programs, ÓRIEL is the definitive tool".

ÓRIEL

Genotyping platform

seeds4i

PLANT BIOTECH DIVISION

For further information visit

www.seeds4i.com

Agronomic Engineering · Software · Plant Biotech · Nanotechnology · Microbiology · Biopharma

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