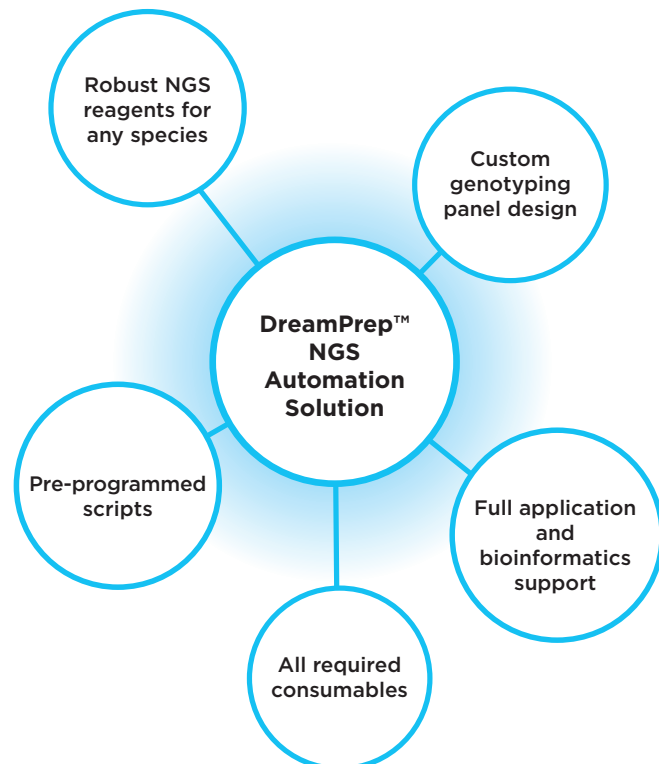# Scalable and Diverse Solutions for Agrigenomics.

Trait to table: Solutions to advance agrigenomics

Agricultural researchers are increasingly adopting next-generation sequencing (NGS) technology as an essential research and development tool in plant and animal genomics. NGS is being used for marker-assisted selection (MAS) to accelerate plant breeding and selection, as well as in transcriptomics, plant or animal-pathogen interactions and epigenetics.

Agrigenomics made easy

At Tecan, we work to tailor the right scalable solution to your NGS needs— combining NGS reagents with automation platforms to maximize your productivity.

Robust NGS reagents for any species

Custom genotyping panel design

DreamPrep™ NGS Automation Solution

Pre-programmed scripts

Full application and bioinformatics support

All required consumables

Automation-ready kits for various applications

Genotyping by Sequencing

Allegro® Targeted Genotyping V2
Fast, scalable, cost-effective editable content for targeted GBS with high sample multiplexing capabilities (100,000+ SNPs)

Microbiome Analysis/Viral Surveillance

Allegro® Targeted Genotyping V2
Custom panel design for profiling microbial communities

Revelo™ RNA-Seq High Sensitivity
Effective and high sensitive detection of viral infections in challenging livestock samples, even samples with degraded RNA (e.g., environmental, livestock)

Whole Transcriptomics

Universal Plus™ Total RNA-Seq
End-to-end solution combining library preparation, customizable post-library targeted depletion, and library quantification

Ultra-low Input

Ultralow™ V2 DNA-Seq
Simple and efficient workflow for ultra-low input as low as 10 pg with high-fidelity amplification across a broad range of GC content

High-resolution genotyping meets high throughput and flexibility

Allegro Targeted Genotyping enables highly accurate SNP detection with very high reproducibility and low cost per data point.

- **Enable large scale genotyping** | Dual-index sample barcoding enables multiplex sequencing of 3000+ samples in a single sequencing lane.
- **Automate your workflow** | Allegro on DreamPrep NGS is a high-throughput genotyping solution capable of processing up to 384 samples in one day with no user intervention.
- **Target SNPs of interest** | Custom genotyping panels are available for any sequenced species with as many as 100,000 SNPs.

We provide bioinformatics support to generate optimal probe design. A single probe per locus can be used to maximize the number of genotyped sites, while a two-probes design can be leveraged to maximize coverage uniformity and additional resilience to the assay. Sequencing coverage is shown for a small subsample of sequenced reads.
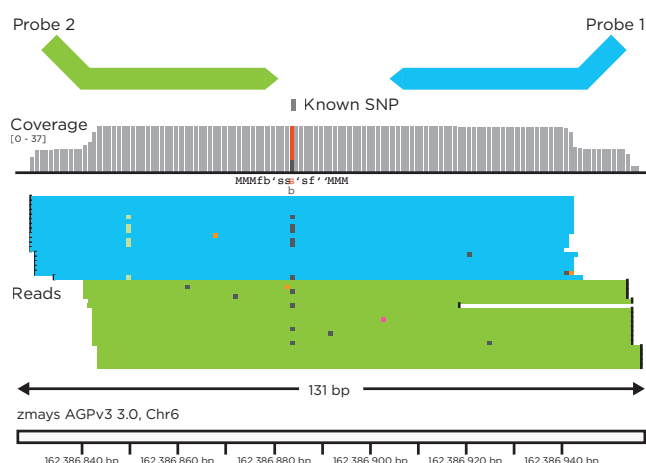

Figure 1: **Very high accuracy genotyping.** *Zea mays* genotyping panel showing a two-probe design. Probes are designed on both sides of the SNP within 100 bp. Two independent probes interrogate every SNP, enabling very high accuracy SNP-based genotyping.

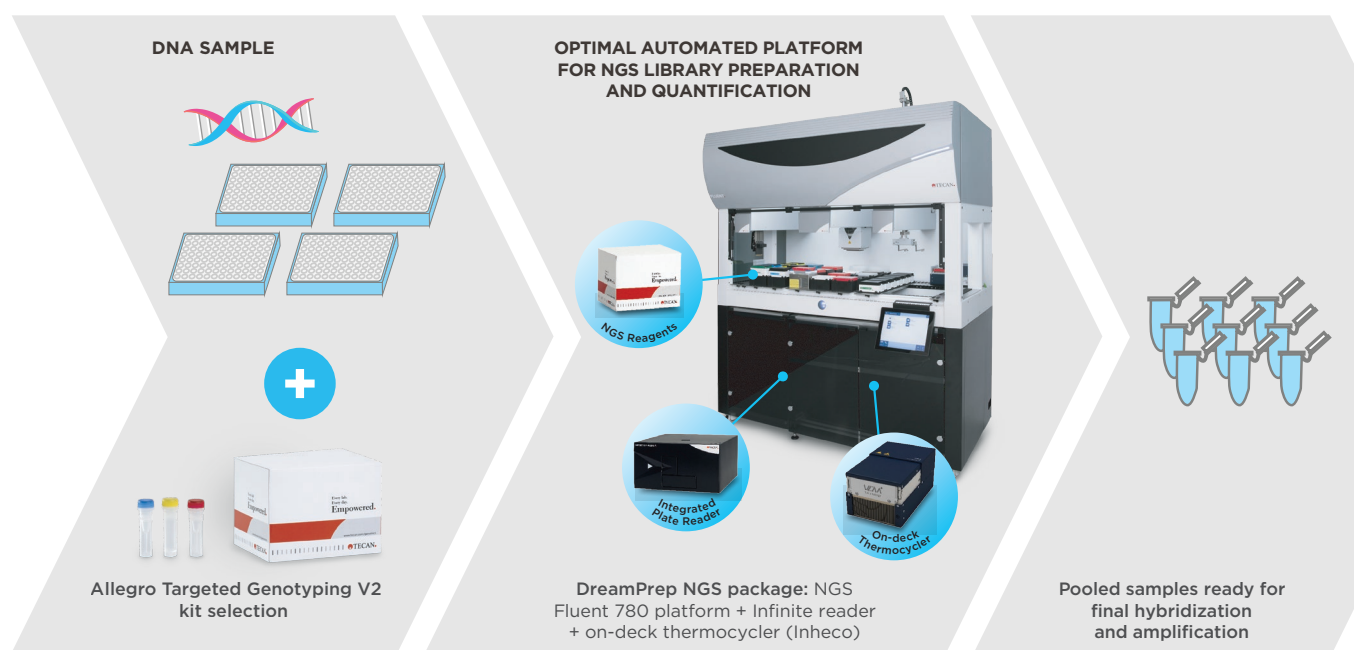## ALLEGRO TARGETED GENOTYPING V2 ON DREAMPREP NGS

Figure 2: **Allegro Targeted Genotyping V2 on DreamPrep NGS.** Our complete targeted genotyping by sequencing solution enables hands-free library preparation for the labor-intensive first steps of the protocol, starting with up to 384 samples and ending with 8 pooled samples ready for the final hybridization and amplification steps.

www.tecan.com

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Australia +61 3 9647 4100 **Austria** +43 62 46 89 330 **Belgium** +32 15 42 13 19 **China** +86 21 220 63 206 **France** +33 4 72 76 04 80 **Germany** +49 79 51 94 170 **Italy** +39 02 92 44 790 **Japan** +81 44 556 73 11 **Netherlands** +31 18 34 48 17 4 **Nordic** +46 8 750 39 40 **Singapore** +65 644 41 886 **Spain** +34 93 595 25 31 **Switzerland** +41 44 922 89 22 **UK** +44 118 9300 300 **USA** +1 919 361 5200 **Other countries** +41 44 922 81 11

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