

# INFINI-SEA

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Next generation solutions for  
the aquaculture industry

James Collins, CEO

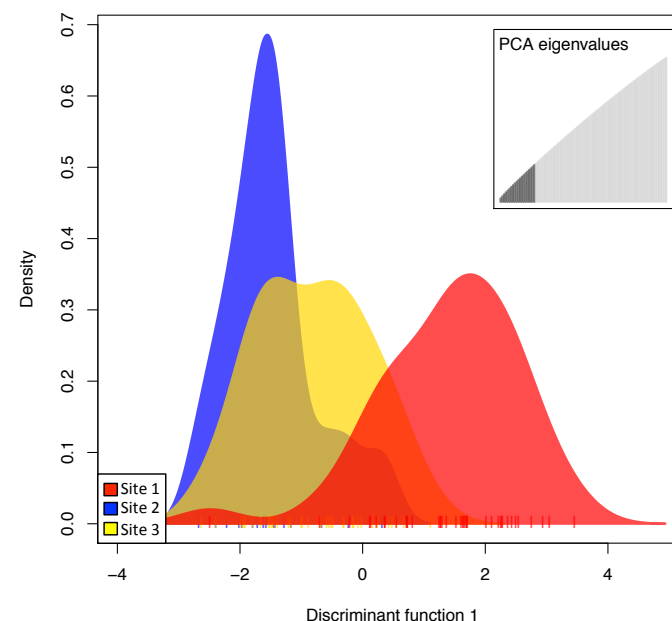
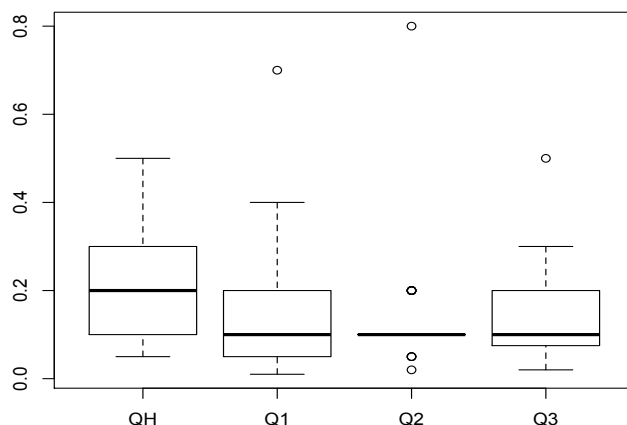
# Services: Receive and Quarantine

- Infini-SEA offers services to receive and quarantine candidate strains. Tissue samples are requested for disease tests at our in house laboratory prior to shipment arrangement.
- Quarantine facilities have several isolated zones with various tank sizes including micro-habitat chambers for individual screening.
- At our disease diagnostic laboratory, each candidate can be screened for specific pathogens using a real time PCR (qPCR) approach.



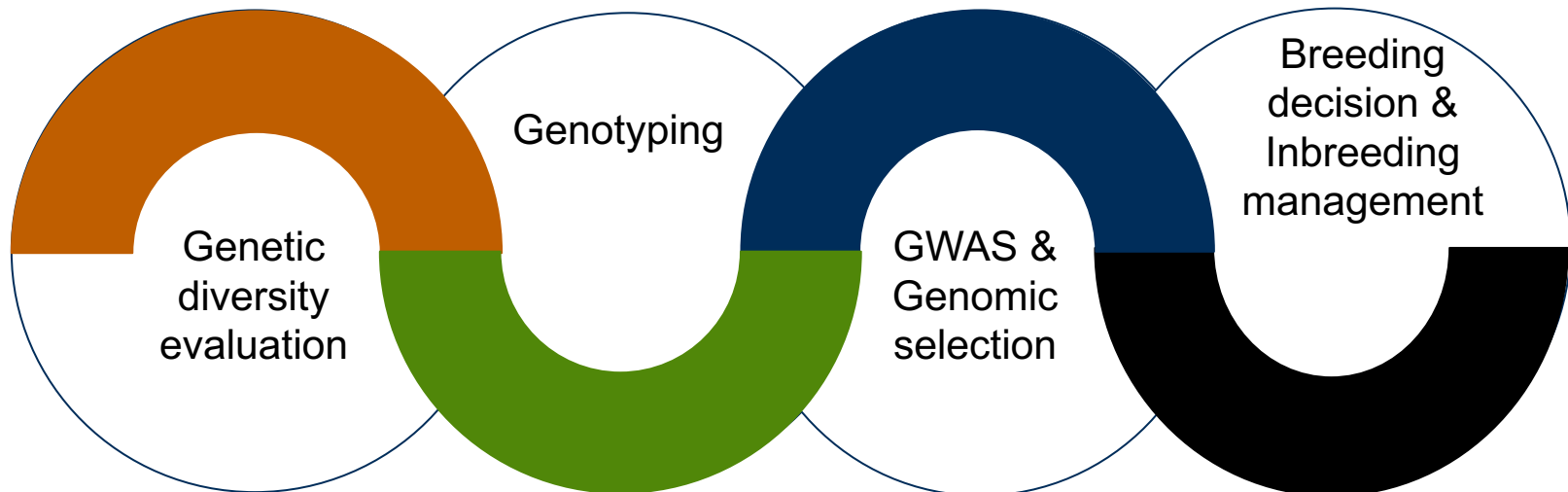
# Services: Experimental trials

- Infini-SEA offers services to run experimental trials involving feed, environmental factors such as temperature, hardness, etc.
- All research projects are managed, supervised, and analyzed by PhD level scientists.



# Services: Selective breeding

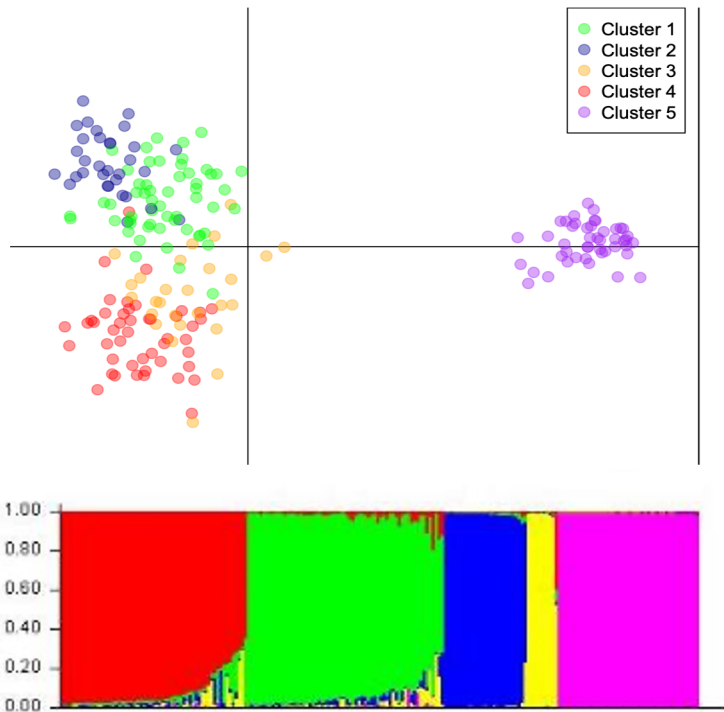
Infini-SEA offers services for genetic improvement of *L. vannamei* including genetic diversity evaluation, genotyping, genome-wide association study (GWAS), and genomic selection, facilitating breeders in making breeding decisions and managing inbreeding rates.



# Genetic Diversity Evaluation

Evaluate genetic diversity of your populations at any resolution from low density markers to full genome level.

- Choosing the right candidates for breeding.
- Comparing levels of genetic diversity and genetic differentiations to reference populations in Infini-SEA's database.
- Identifying the stock origin of your populations.

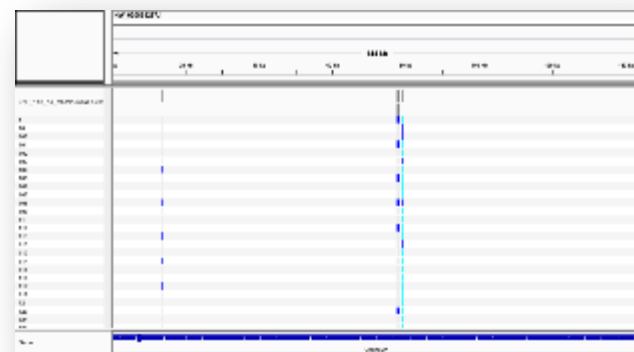
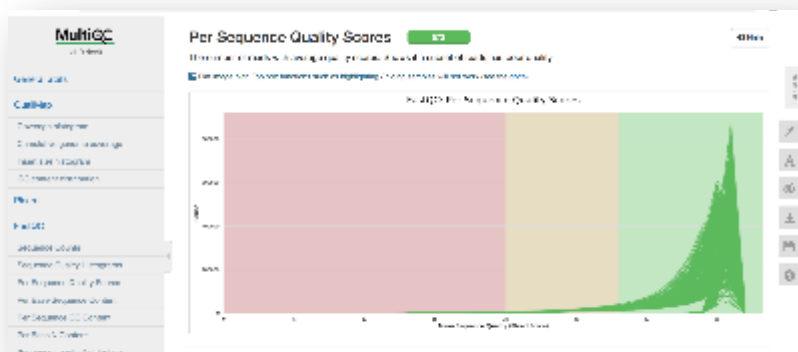


# SNP genotyping

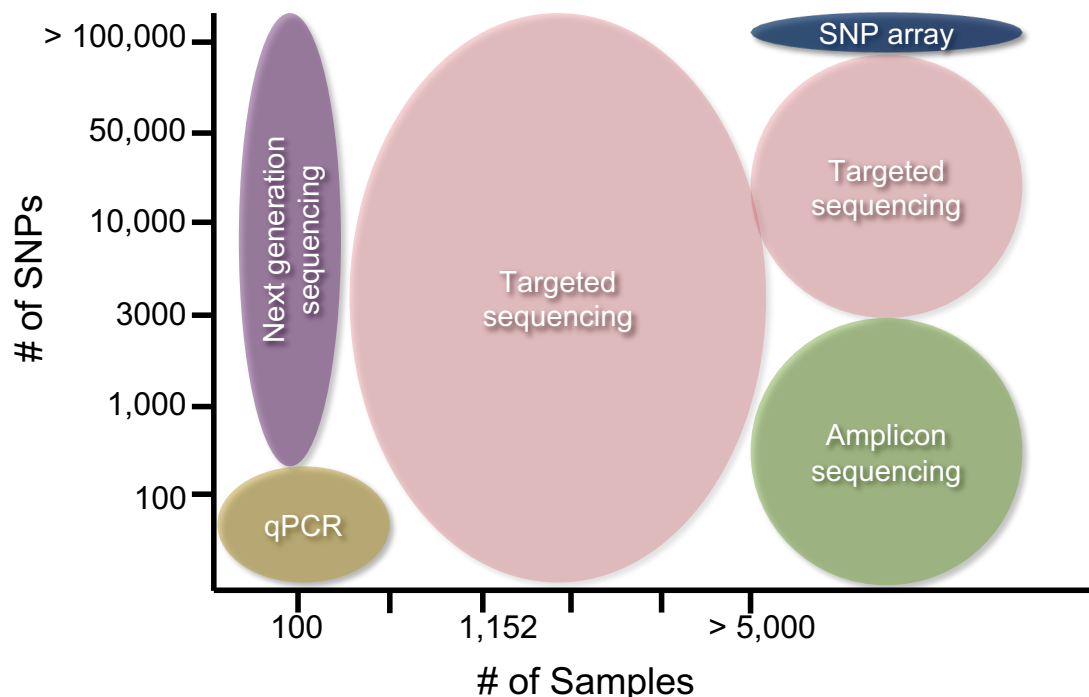
- Infini-SEA's R&D team has developed universal SNP panels for *L. vannamei*.
- The SNP panels are carefully chosen for their properties to represent genetic diversity throughout *L. vannamei* genome, and can be used in any breeding program no matter which origin the populations were derived from.
- These SNP panels are scalable, offering low, medium to high density to accommodate budgets, genotyping techniques, and various applications.

# Next generation sequencing

- Customers may also choose to discover SNPs in your own populations, employing next generation sequencing technologies.
- Infini-SEA offers services for whole genome sequencing and reduced representation sequencing such as GBS, RAD, etc., including bioinformatics and data analyses.



# Choosing Genotyping Technologies

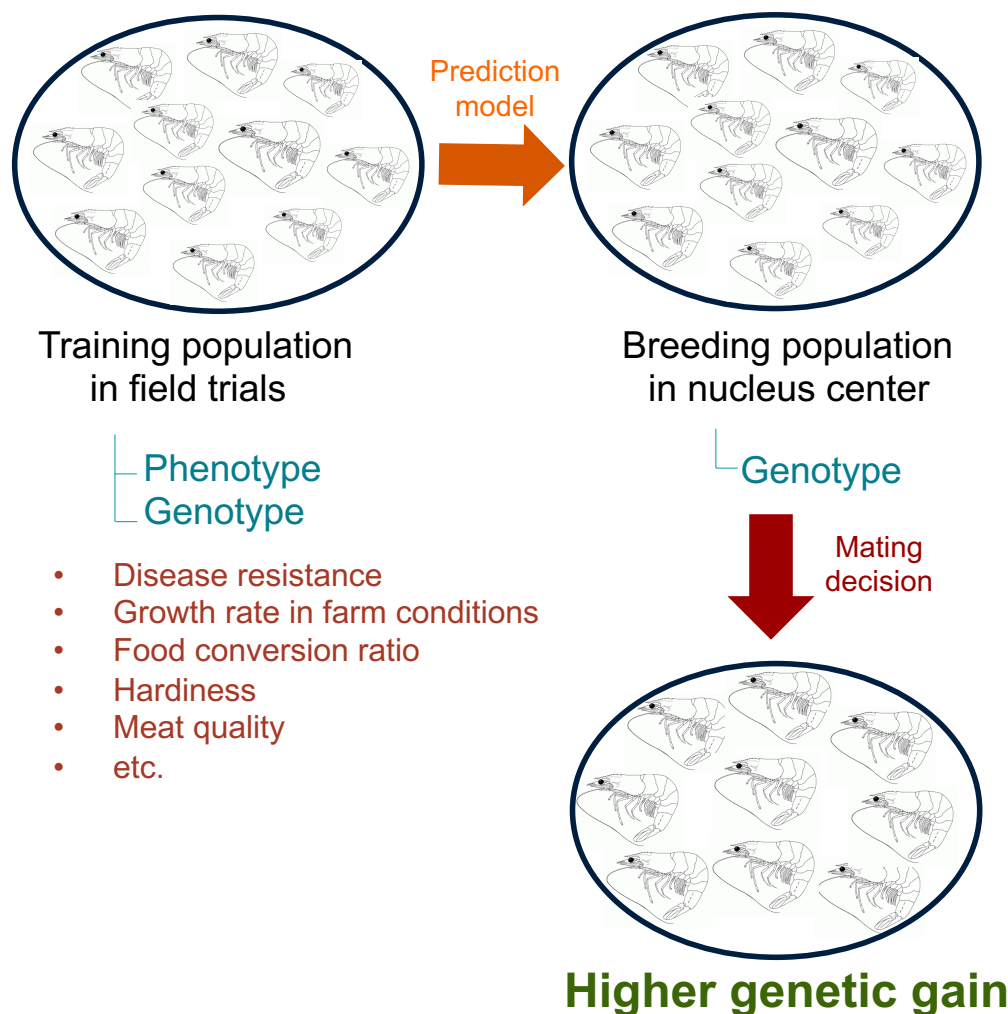


Infini-SEA works with you in choosing the right genotyping technologies for the right applications to gain the lowest cost per data point.

# Genotype to Phenotype Mapping

- Genome wide markers are now used for mapping quantitative trait loci (QTL) that are associated with economically important traits such as growth, disease resistance, etc. This is known as genome-wide association studies (GWAS).
- Infini-SEA offers GWAS consulting services from the study design to data analyses. Mapped QTLs can be integrated into the genomic prediction model to increase the accuracy of genomic prediction.

# Genomic Selection

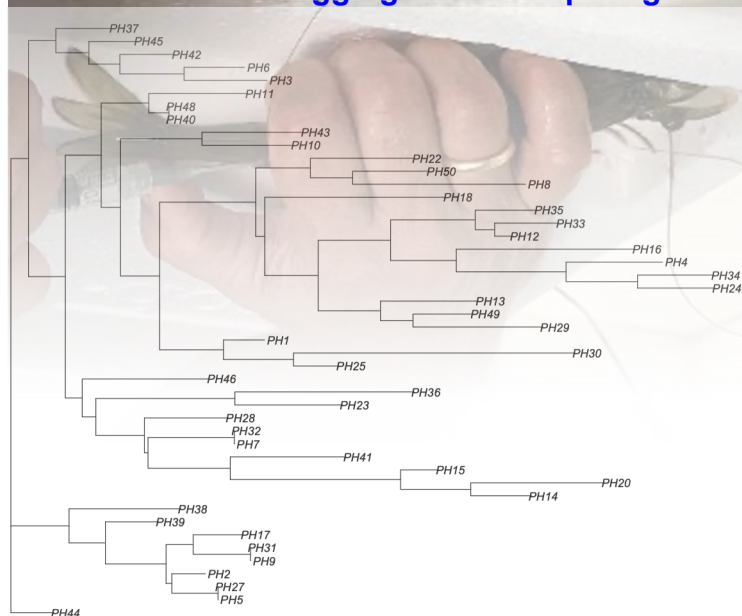


- Advancements in genomic selection allow faster and more accurate selection of important traits. The implementation of this technology has been recently verified in *L. vannamei*.
- Many factors have been shown to affect the accuracy of genome prediction. These include marker density, the characteristics of the QTL underlying the trait, heritability, population size, relatedness of training and validation populations, genetic composition of the investigated populations, and statistical methods.

# Genomic Selection



Broodstock tagging with RFID pit tag



Genetic relationship among broodstock candidates

- Infini-SEA offers genomic selection consulting services; providing guidance on project design, genetic tools, and data analyses.
- The estimated genomic breeding values will aid the mating decisions in your breeding program, allowing a much more accurate selection of the traits and a better inbreeding management.

# Protection of Confidential Information

Your breeding program and projects are your business. Infini-SEA respects the privacy and integrity of your confidential information.

Infini-SEA agrees to a legally binding contract (non-disclosure agreement) to make sure your trade secrets and proprietary information remain private.



# Contact us

Each facility and breeding program is unique. Infini-SEA is willing to offer customized solutions that are best suited to each individual program. Contact us to find out more what we can do to increase your success in managing your breeding program and increase your production.

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