Transnetyx
Serving research. Saving time.

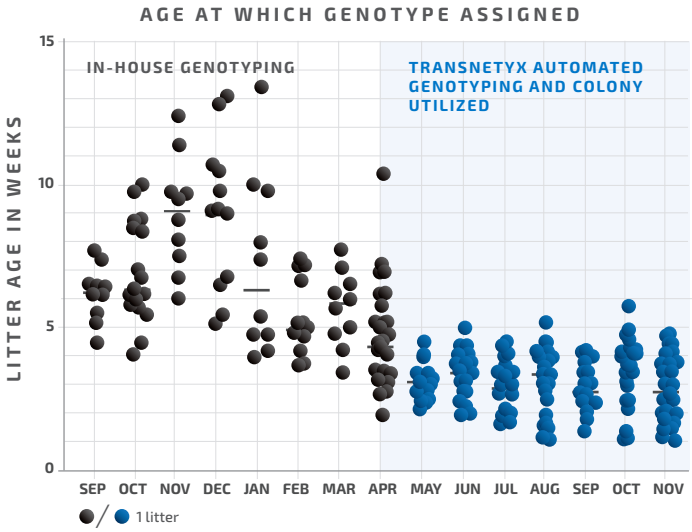
The Effects and Impact of Automated Genotyping + Colony

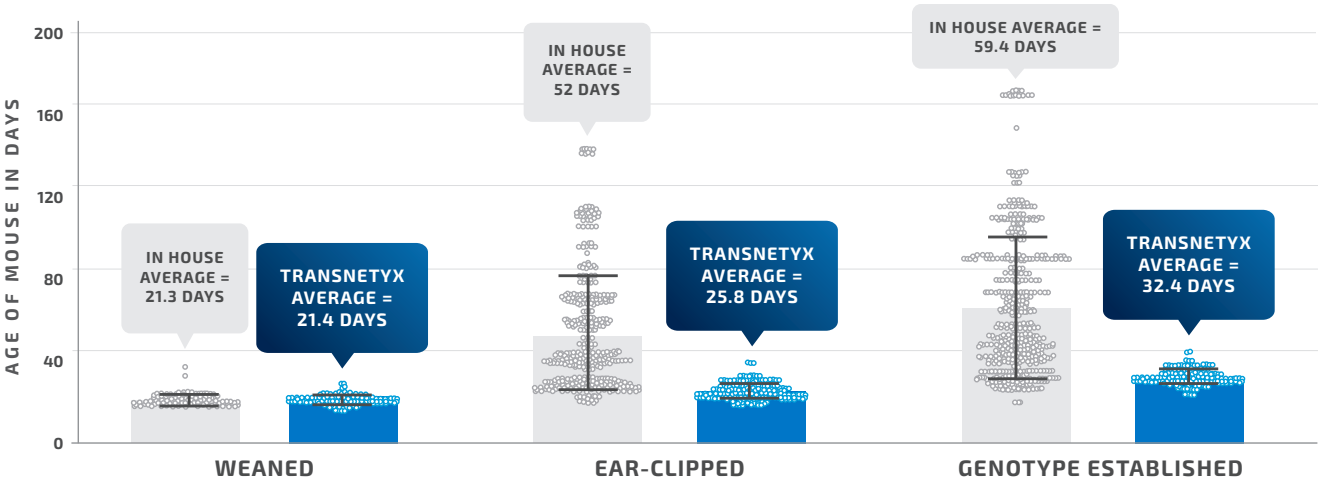
These studies track several labs from 2020 to 2021 who outsourced their genotyping to Transnetyx. Some of those labs also used the Transnetyx Colony software to manage their colonies. What we found is that these labs consistently had extra time, more efficient breeding, higher scientific productivity, more experimental animals, and decreased time required for experimenting.

Assigning genotypes earlier = Taking action earlier

A lab at a major U.S. research institution in Baltimore shared litter ages (in weeks) at which genotypes were assigned to all mice, both before and after the use of the Transnetyx Automated Genotyping service in connection with Transnetyx Colony.

Transnetyx assigned genotypes, on average, **24.5 days faster** than in-house genotyping, allowing for earlier removal of non-scientifically useful animals, effective cage consolidation, and additional space within the rack. As the charts below demonstrate, a lab based in Oxford, UK reported similar findings with an average of **27 days faster**.





All labs identified some key benefits and changes as a resultof using Transnetyx

1 Lab members saved time. They had no need to run gels and run them again when they failed.

2 Samples no longer needed to be batched. Free shipping with Transnetyx TAGCenter eliminates additional costs to genotype smaller batches.

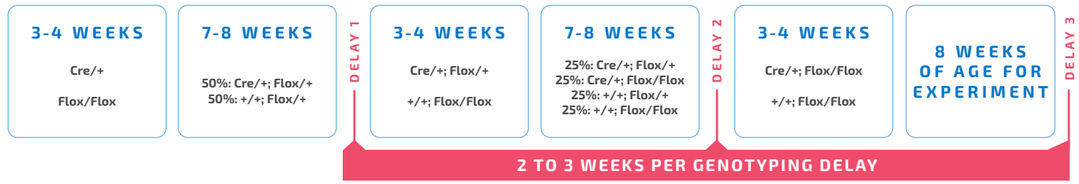
3 Lab members don't love genotyping, and they were relieved to focus on more engaging tasks.

4 Transnetyx provided custom assays for strains with multiple alleles, meaning lab members didn't need to run multiple PCRs to genotype.

Eliminating genotyping delays increases speed to experiment

A lab in Boston, MA, identified that removing genotyping delays when crossing animals enabled them to produce experimental animals **2 months faster**.

PRODUCED EXPERIMENTAL ANIMALS 2 MONTHS FASTER

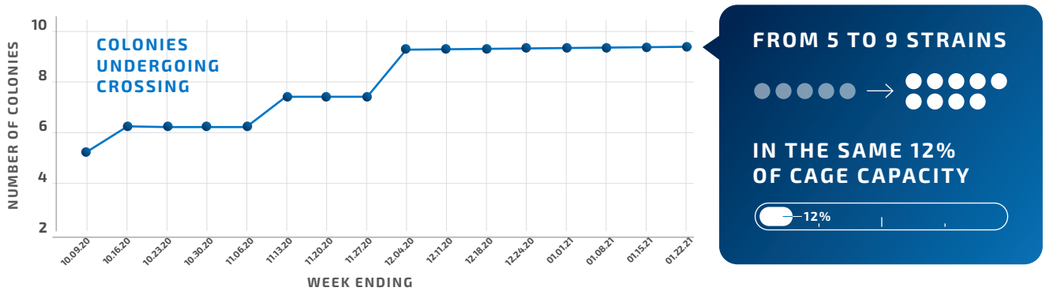


> I realized I have been setting up the crosses a lot faster, because I got the genotyping results a lot faster. Everything was in the system, so I knew exactly which mice to pull and which to cull. The Transnetyx Colony system made it very easy and it just became second nature. When you multiply this by strain, it adds up very quickly."
>
> **-BOSTON RESEARCHER**

Increased scientific output within the same space

A UK lab found that during the study, the number of crosses increased by **80%, from 5 to 9**. With the additional crosses, the rate of cage occupancy did not increase at the same rate – **staying at around 12%**.

Researchers in the lab had been waiting for space to start the breedings — which meant delayed experiments.



> Using the Transnetyx service has enabled us to keep animal numbers down by minimizing holding time for surplus mice and selecting for breeders faster, which have increased crossing productivity.
>
> Ideally, the genotype of a mouse would be established by 42 days old (6 weeks) – the age at which breeding pairs can be set up to enable crosses to progress at the optimal rate. By using the Transnetyx service, mouse genotype is now definitely established prior to this time point (32.4 days old compared to 59.4 days old), meaning that new strains can be developed much faster for our research group."
>
> **-UK RESEARCHER**

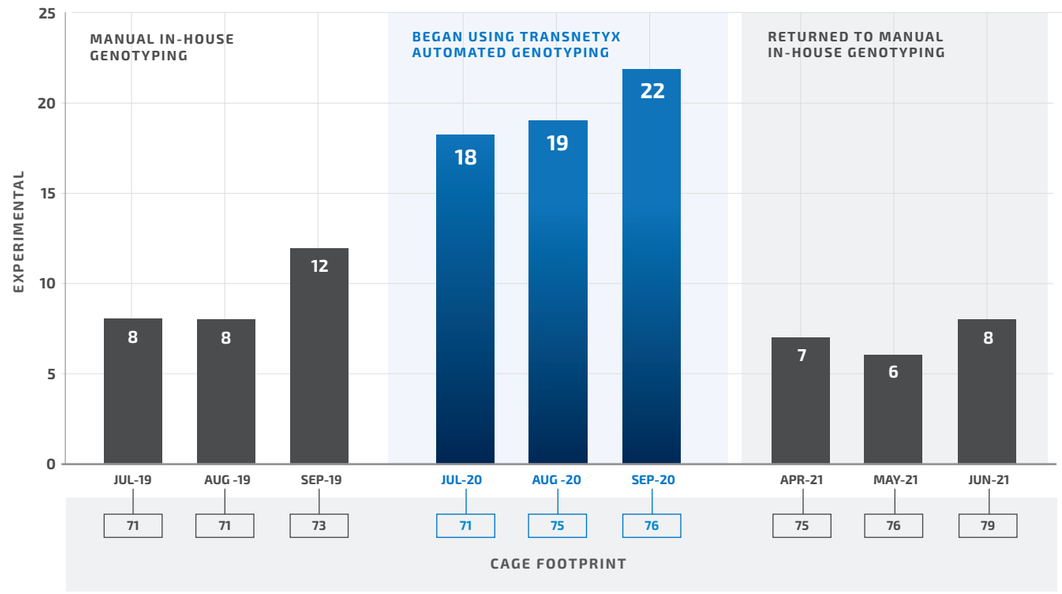
Double scientific productivity

After accounting for COVID, a Boston lab researcher's colony strains and breedings were consistent with only one major change: She outsourced her genotyping to Transnetyx.

> In terms of productivity, I have **doubled** the number of models for my experiments."

In January 2021, she returned to manual genotyping. The number of experimental cages decreased more than 60% and her total cages had a slight increase.

IMPACT OF OUTSOURCING



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