

Hymenoptera: genetically identical specimens get a completely different phenotype

Q1: What is the role of DNA methylation on caste determination, worker reproductive behavior and overall colony development?



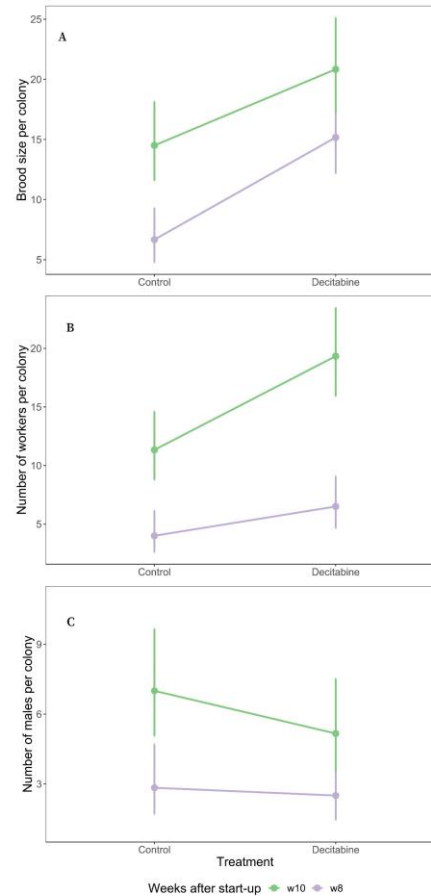
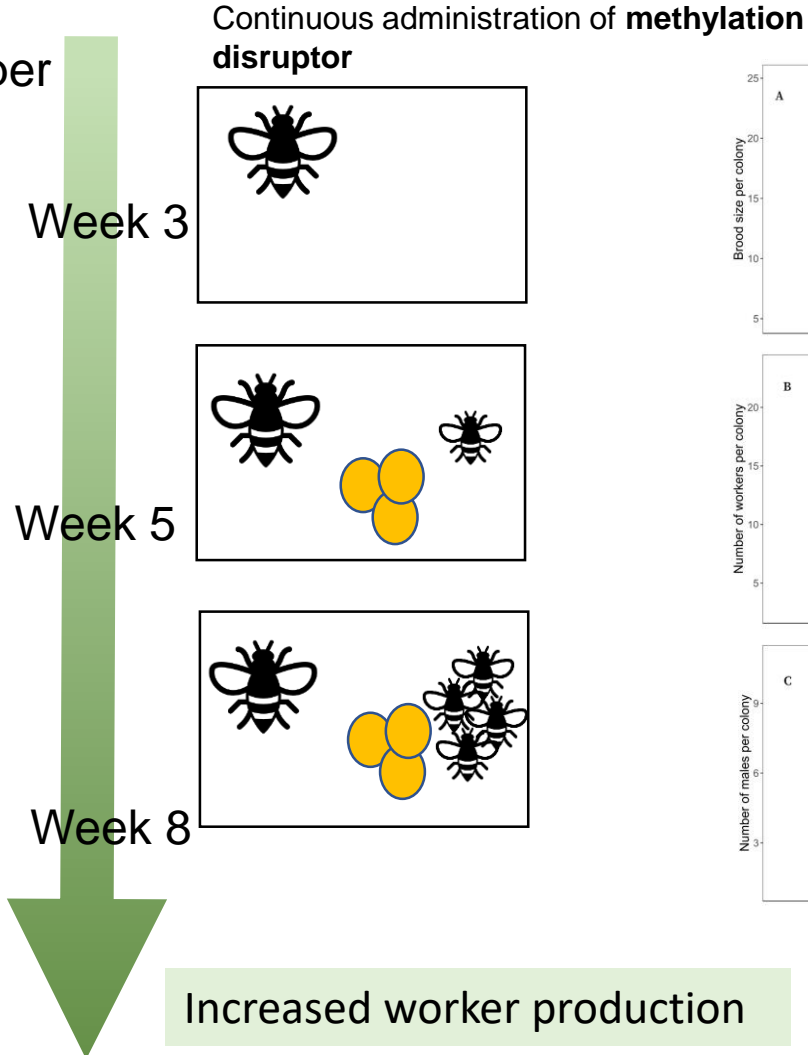
Lack of genetic clones!



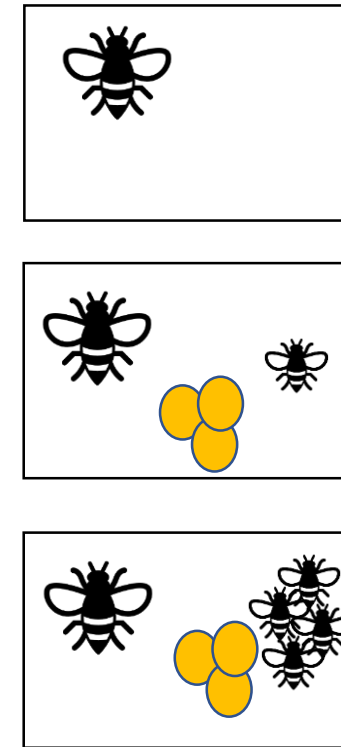
Pure genetic line of founder queens

6 colonies per treatment

Follow up of colony development



Control



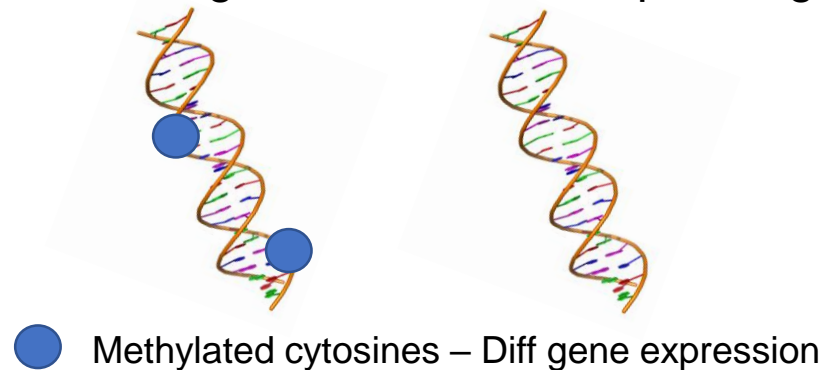
Increased male production

Q2: What is the effect of Decitabine on genome methylation on our experimental subjects?

Random dissection of workers (brain tissue)



Whole genome bisulfite sequencing



Fewer methylated loci in control colonies

Where in genome?

CpG: 22 annotated loci

Which biological functions are affected?

Neuron function, oocyte regulation and metabolic processes