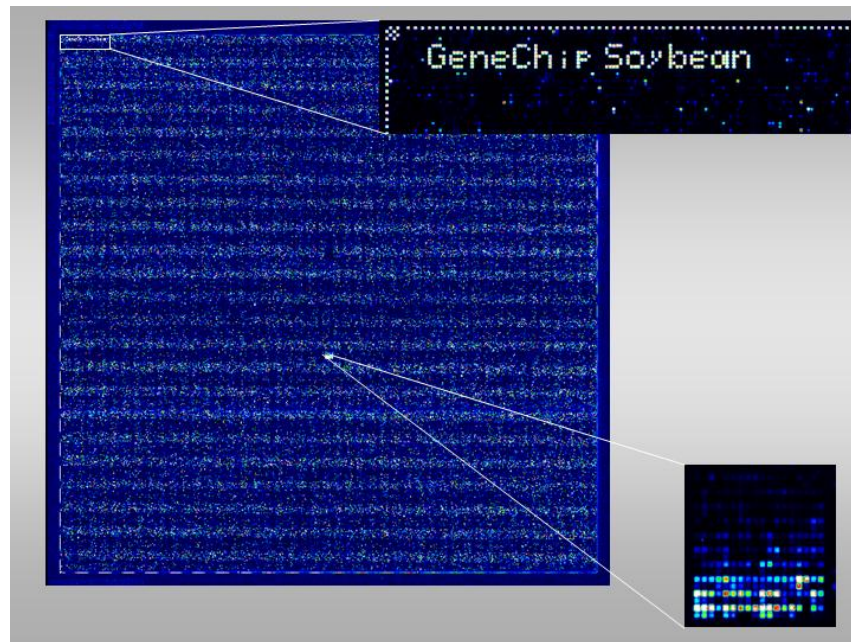


## High-throughput soybean gene expression analysis

The changes in the atmosphere are altering gene expression and affecting the interaction between plants and pathogens and insects.

We are using Affymetrix soybean oligoarrays to analyze changes in the gene expression profile. Affymetrix GeneChip® Soybean Genome Arrays contains 37593 probe sets representing 35611 soybean transcripts.



## Dissecting Signaling Pathways with Virus Induced Gene Silencing (VIGS)

VIGS is used to suppress genes at transcript level by using a viral delivery vector. Bean pod mottle virus (BPMV) based VIGS vector (Zhang and Ghabrial 2006) is used for gene silencing in soybean. A short sequence of targeted plant gene is cloned into the vector. Soybean unifoliate leaves are inoculated with *in vitro* transcribed viral RNA. In few weeks, plant gene silencing mechanism against virus replication results in degradation of targeted endogenous mRNA.

Phytoene desaturase (PDS) gene is silenced in  
*Glycine max* (Williams 82)

