



**Figure 2. Model Organisms Used in Epigenetic Research**

Schematic representation of model organisms used in epigenetic research. *S. cerevisiae*: Mating-type switching to study epigenetic chromatin control. *S. pombe*: Variegated gene silencing manifests as colony sectoring. *Neurospora crassa*: Epigenetic genome defense systems include repeat-induced point mutation, quelling, and meiotic silencing of unpaired DNA, revealing an interplay between RNAi pathways, DNA and histone methylation. *Tetrahymena*: Chromatin in somatic and germ-line nuclei are distinguished by epigenetically regulated mechanisms. *Arabidopsis*: Model for repression by DNA, histone, and RNA-guided silencing mechanisms. *Maize*: Model for imprinting, paramutation, and transposon-induced gene silencing. *C. elegans*: Epigenetic regulation in the germ line. *Drosophila*: Position-effect variegation (PEV) manifest by clonal patches of expression and silencing of the white gene in the eye. *Mammals*: X-chromosome inactivation.