



Figure 2. Model organisms used in epigenetic research. Schematic representation of model organisms used in epigenetic research. *Saccharomyces cerevisiae*: Mating-type switching to study epigenetic chromatin control. *Schizosaccharomyces pombe*: Variegated gene silencing manifests as colony sectoring. *Neurospora crassa*: Epigenetic genome defense systems include repeat-induced point mutation (RIP), quelling, and meiotic silencing of unpaired DNA, revealing interplay between RNAi pathways, DNA, and histone methylation. *Tetrahymena*: Chromatin in somatic and germline nuclei is 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. *Caenorhabditis elegans*: Epigenetic regulation in the germline. *Drosophila*: Position effect variegation (PEV) manifest by clonal patches of expression and silencing of the white gene in the eye. Mammals: X-chromosome inactivation.