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Flower development is regulated by two classes of regulatory genes, floral meristem identity genes and floral organ identity genes. Floral meristem identity genes regulate the initiation of flower meristem on the flanks of the shoot apical meristem. Once flower development is initiated, floral organ identity genes regulate the formation of floral organs that arise in four concentric rings (whorls) with the fate of individual organs. The specification of floral organ identity is explained by the well-known ABC model in which three classes of floral homeotic genes, A, B, C act in two adjacent whorls and thus A genes alone specify sepal, A and B genes specify petal, B and C genes specify stamen and C genes alone specify carpel. A floral meristem identity gene, LEAFY(LFY) is known to be necessary and sufficient to initiate flower development and the genetic and molecular evidences suggest that LFY regulates floral organ identity genes. However it is not known how LFY regulates A, B, C organ identity genes. Here we will present the regulatory mechanism over ABC genes by LFY and suggest a modified ABC model to explain floral organ development.