Between the primary walls of adjacent cells is a middle lamella: a thin layer with sticky polysaccharides called pectins that glues cells together.

When a plant cell stops growing, it strengthens its wall by adding a secondary cell wall between the plasma membrane and the primary wall.

The secondary wall may be deposited in several layers. It has a strong and durable matrix that provides support and protection. (Wood consists mainly of secondary walls.)

Plant cell walls are perforated by channels between adjacent cells called plasmodesmata.

Plants have an intricate defense system.