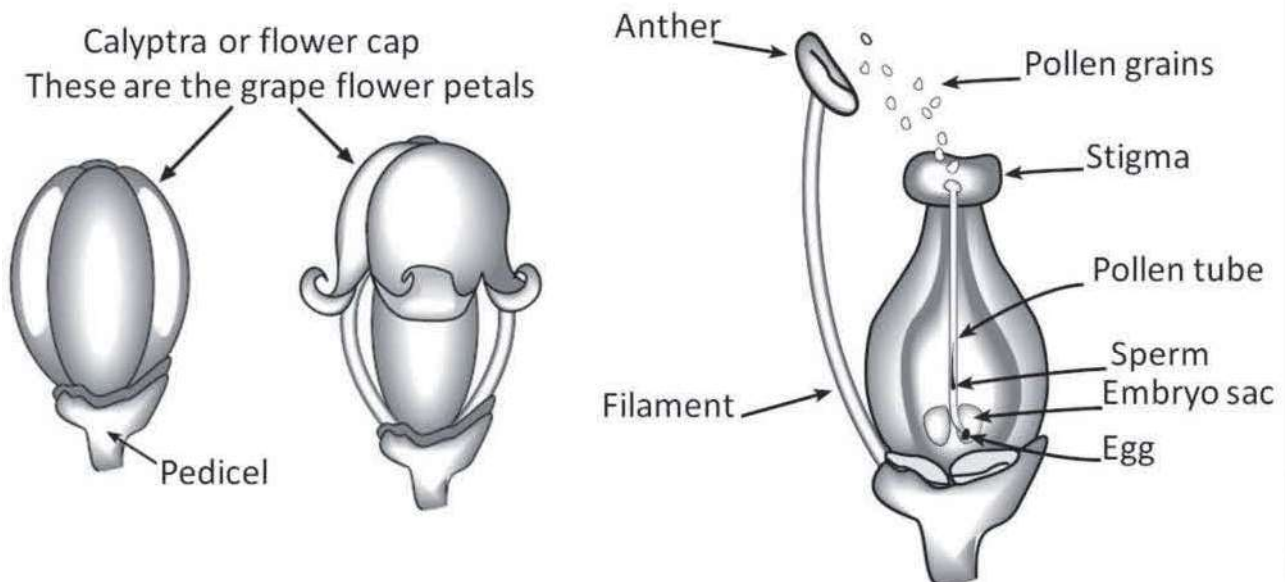


Flowering

Nature does not allow standstills, the driving force behind survival is the need for constant development. The changes seen in the vines during bud-break and flowering are tremendous. During this time, the new shoots have grown and developed panicles on which the flowers sit. The petals act as a protecting envelope and are covered with a brown flower cap enclosing the reproductive organs and other tissues within the flower. This cap separates from the base of the flower, becomes dislodged and usually falls off. This splits open to reveal a single pistil (female organ > consisting of stigma and ovary) and five stamens, each tipped with an anther (male organ > consisting of filament and anther). The anthers release their pollen either before or after the cap falls off. Pollen grains randomly land on the stigma of the pistil, hopefully resulting in pollination. See the enclosed image for a visual example of the “in-house” fertilisation process. We call it in-house because all the varieties we grow at *Quinta dos Vales* are hermaphroditic, i.e. they need to fertilise themselves. Multiple pollen grains can germinate, each growing a pollen tube down the pistil to the ovary and entering an ovule, where a sperm unites with an egg to form an embryo. The successful union is termed fertilization, and the subsequent growth of berries is called the *fruit set*. The berry develops from the tissues of the pistil, primarily the ovary. The ovule together with its enclosed embryo develops into the seed.

Berry Growth and Development¹



The process of Flowering (or blooming) started in the vineyards of Quinta dos Vales around the third week of April. Flowering begins when the grapevines bloom, which determines both the size of the crop and the size of the berries. The flower clusters will emit a lovely smell that covers the entire vineyard in a sweet aroma. Whereas for the eyes it is a barely perceptible process. Pollination occurs when the male pollen sticks to the moist female ovary.



During this period Marta is on high alert, and even quite nervous. Because wet or cold weather, and especially strong winds, can hinder the fertilisation process. Any damages now would be irreparable for the year, a situation which we have been able to avoid and insofar we predict a healthy and solid production for 2021. Now we are finally able to make our first prognosis of this year's harvest. About 10-14 days after full bloom, the fruit sets have been established and the pollinated flowers have begun to form small green berries that will eventually grow into individual grapes and thereafter into perfect clusters. The berries are still very hard and unattractive, but this will change soon with the coming *Véraison*, which is officially the term for the “change of colour of the grape berries”.