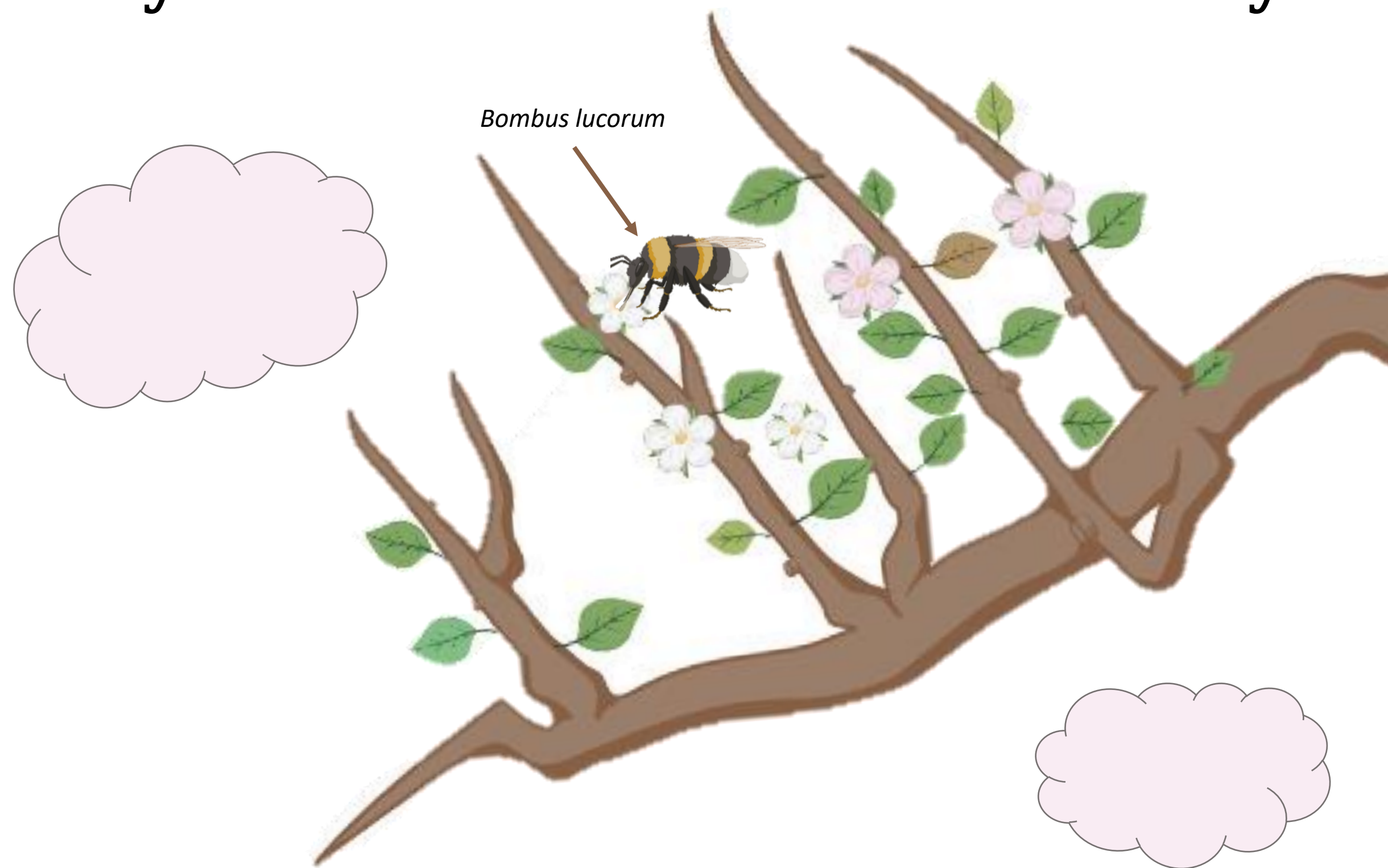


Ditching the bad apples

- does pollination affect apple quality in western and eastern Norway?

Apple farms are dependent on pollination

When the flowers of the apple tree (*Malus domestica*) bloom they need to be pollinated to produce good quality fruit. Wild bees, honeybees, bumblebees and hoverflies are the most important pollinators of apple flowers. They feed on nectar, pollen and honeydew. A reduction in foraging and nesting sites for pollinators are contributing to their decline.



Pollinators were identified to species and apples checked in quality

Pollinators were caught in both orchards using flight intercept traps and nets. They were identified down to species. The apples picked were also analysed for quality factors such as color, firmness, weight, sugar and acid content and number of developed seeds.

Eastern Norway orchards has the least developed seeds

As seen in figure 1, the Svelvik orchard area in the East has the least developed seeds. This can be due to less wildflower areas around the farm and more monoculture farming. It seems like most of apples with many developed seeds are around 60-130 grams (Fig 2). Sugar content gave ambiguous results (Fig 3). Going forward we will analyse the pollen on the pollinators and some of the flowers to see where it came from.

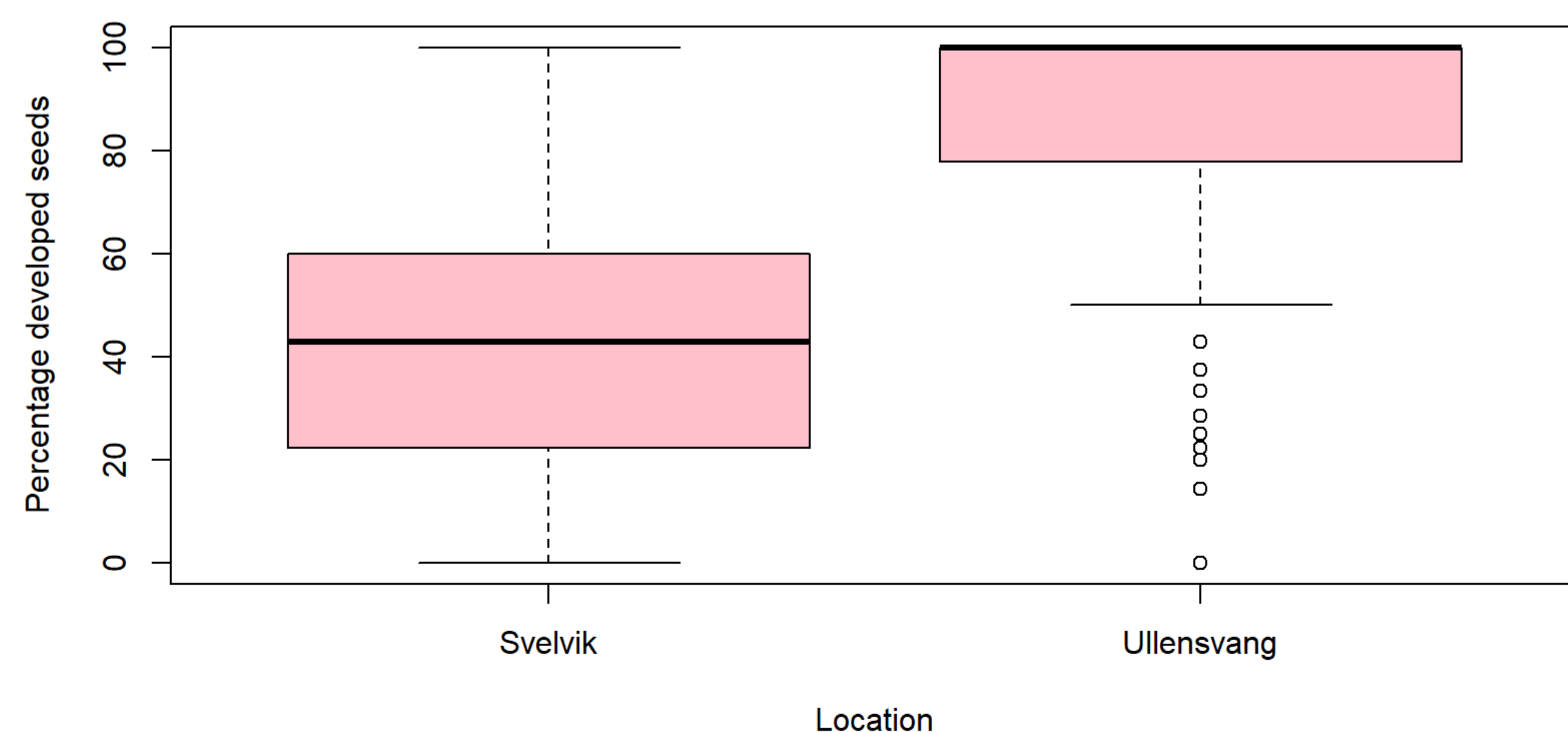
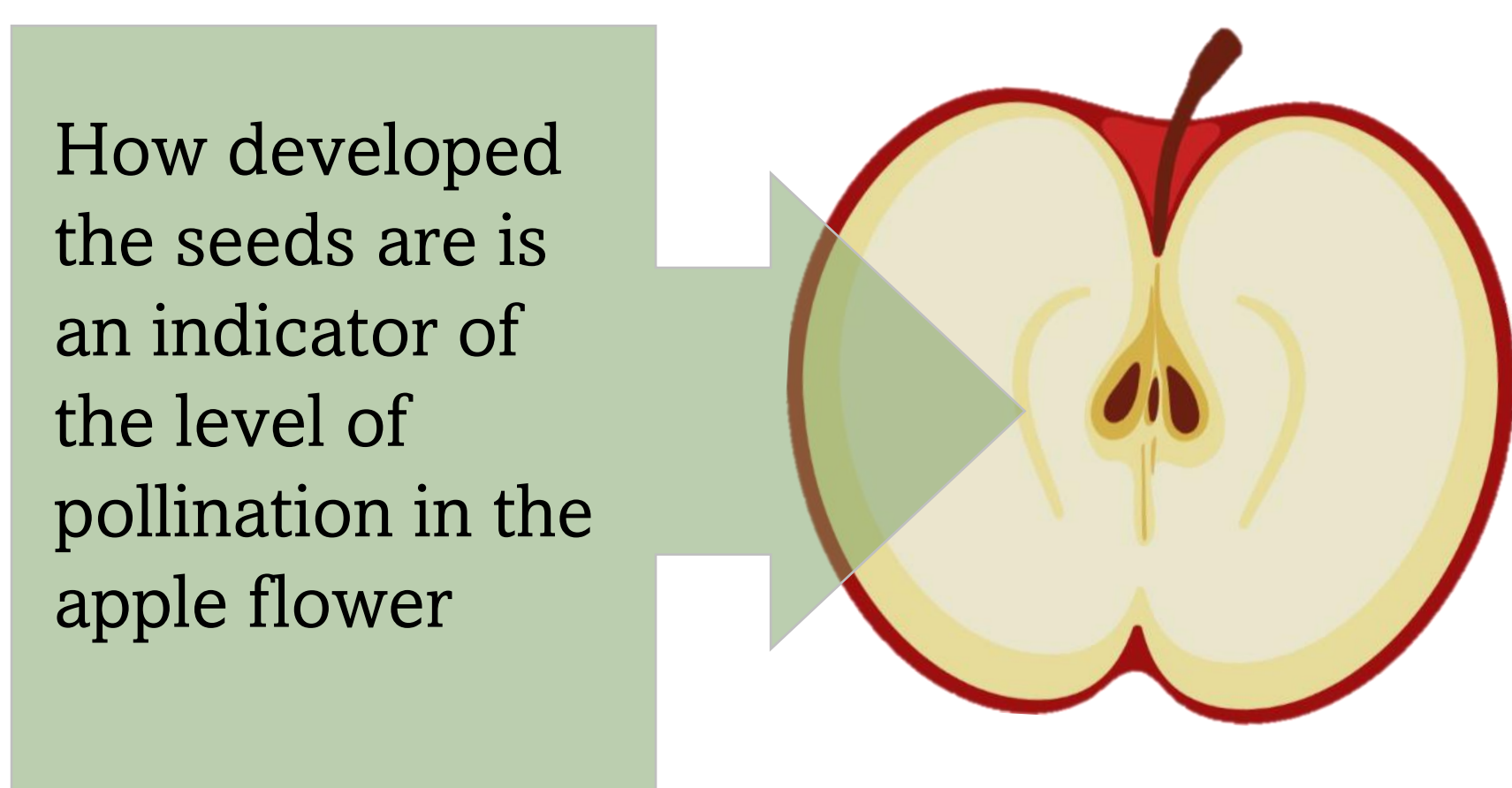


Figure 1: Boxplot of percentage developed seeds vs location (Svelvik is Eastern and Ullensvang Western)



Figure 3: Plot of percentage developed seeds vs sugar content, one of the indicators of quality

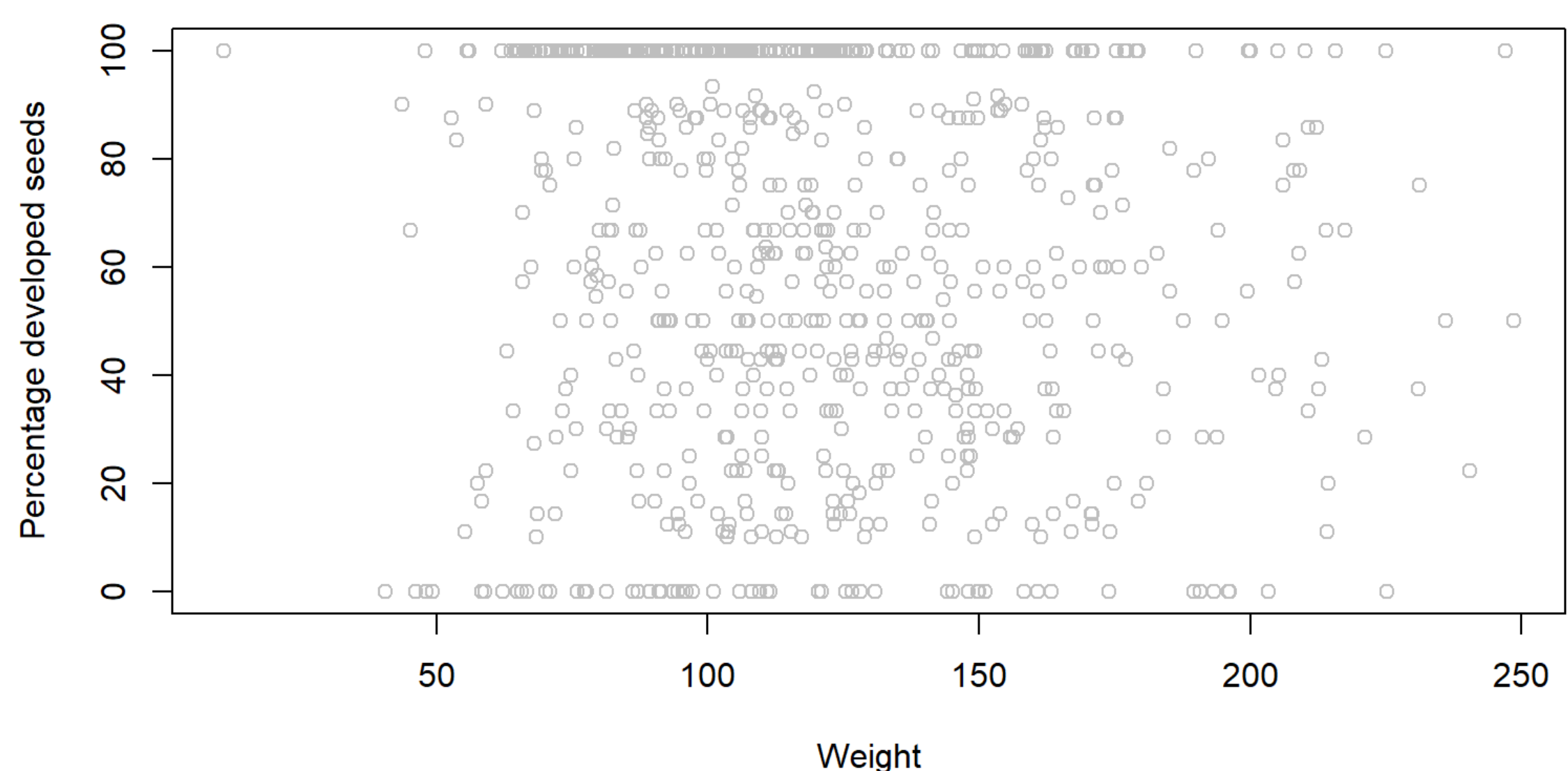


Figure 2: Plot of percentage developed seeds vs weight, one of the indicators of good quality

