CO_2 footprint scenario analysis

Rose import from Kenya and Ecuador

1 General information

Roses for the Dutch market can be imported from Kenya and Ecuador. This document aims to calculate the transport of 1 rose (50, 70, or 80 cm) from an (average) Kenyan or Ecuadorian grower to the Dutch market. The calculations are performed in line with the distribution guidelines of the FloriPEFCR, with the EF database.

2 Modelling assumptions

The functional unit is 1 rose. Included in the calculations are transport from the farm to the airport (200 km for Nakuru to Nairobi in Kenya and 60 km for Cayambe to Quito in Ecuador) and air transport from Kenya to Amsterdam (6 678 km) and from Ecuador to Amsterdam (9 562 km). Both transport routes are refrigerated. For the calculation, the following four roses have been defined:

50 cm – Kenya: 1 rose packed per box of 240 pc (incl. packaging) with a weight of 12.5 kg

70 cm – Kenya: 1 rose packed per box of 200 pc (incl. packaging) with a weight of 12.5 kg

50 cm – Ecuador: 1 rose packed per box of 160 pc (incl. packaging) with a weight of 10 kg

80 cm – Ecuador: 1 rose packed per box of 250 pc (incl. packaging) with a weight of 19 kg

During transport, a default loss of 2.5% has been included, as defined in the FloriPEFCR. It is assumed that 53% of the transport is belly freight and 47% is dedicated freight. The impact of other life cycle stages (cultivation, processing, etc.) and of material use during transport has not been included.

3 Results

Figure 1 shows the CO_2 footprint of importing different roses from Kenya and Ecuador. The 50 cm Kenyan rose has the lowest import impact (259 g CO_2-eq.), followed by the 70 cm Kenyan rose (283 g CO_2-eq.), the 50 cm Ecuadorian rose (441 g CO_2-eq.) and the 80 cm Ecuadorian rose (536 g CO_2-eq.).

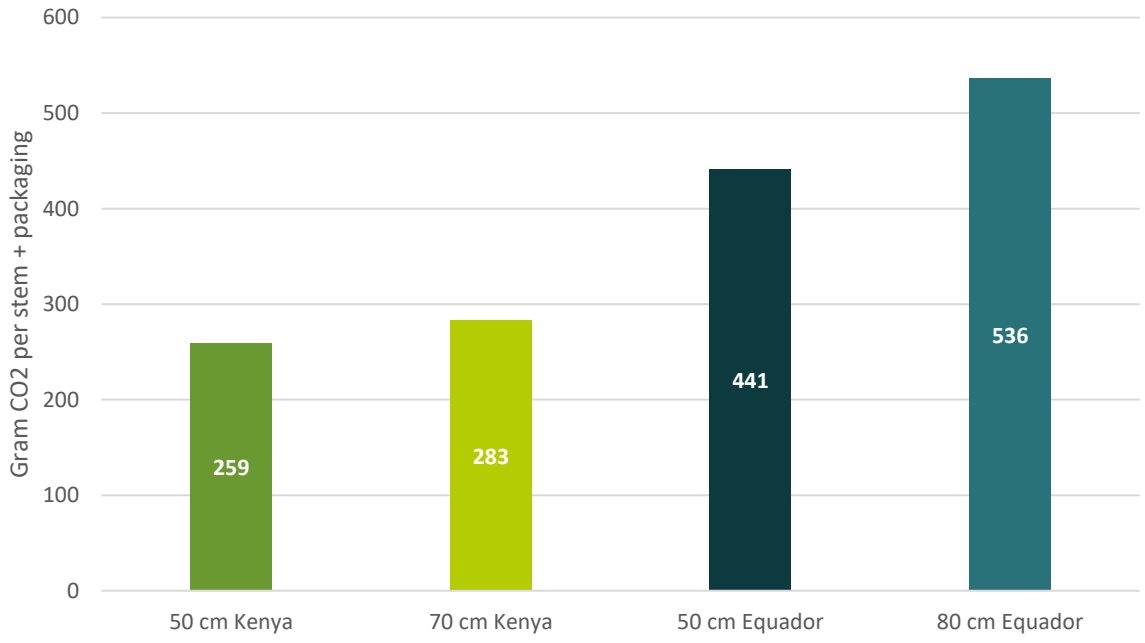

Figure 1: *CO_2 footprint (in gr CO_2-eq) of importing different roses from Kenya and Ecuador*