

The thickness of plastic is important factor in durability of tunnel especially in areas exposed to rain, strong wind and hailstorm. Plastic materials ranging from 70-120 GSM are commonly used for protected structures in Nepal (Bhusal et al., 2022).

3.2.3 Size of the plastic tunnel used by the respondents

Different tunnel sizes were observed among farmers. The most common tunnel size was 6*12 m, adopted by 35% of respondents. Other tunnel sizes included 6*18 m (20%), 6*10 m (15%), 6*15 m (12%), and other sizes (18%) include 12*15 m, 15*18 m, 18*24 m of plastic tunnels (Figure 4).

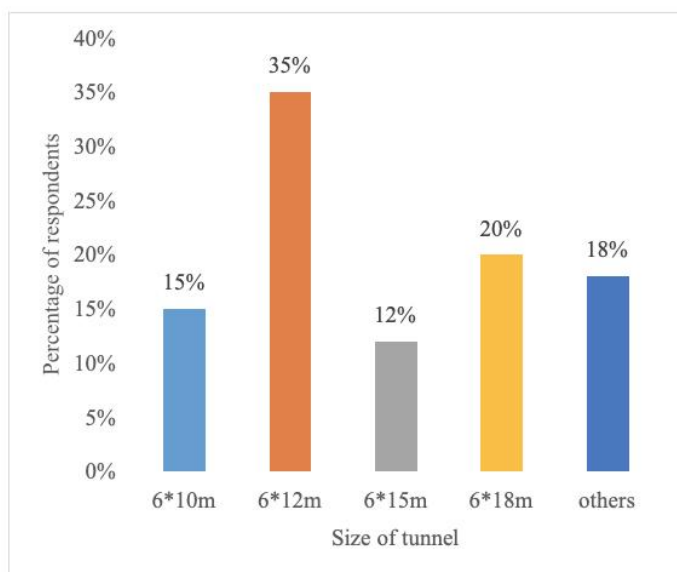


Figure 4 Size of the plastic tunnel used by the respondents

3.3 Vegetable production practices

3.3.1 Major vegetables grown by respondents

Tomato was the dominant vegetable cultivated under tunnels, grown by 70% of respondents. Beside tomato, other vegetables grown in the field were cauliflower, cabbage, leafy greens, cucumber, others (peas, beans, chilli, eggplants) which holds 8%, 4%, 6%, 10%, 2% respectively. The dominance of tomato shows its commercial importance and suitability for protected cultivation. According to MoALD (2024), tomato is among the major commercial vegetable crops cultivated in Nepal.

The most recent district level statistics (2022/23) indicate that Nuwakot has approximately 3049 ha, 39741Mt and 13034 kg/ha of total area, production, and productivity of vegetables respectively and the major vegetables grown in Nuwakot district are radish, cabbage, cauliflower, pumpkin, broad leaf mustard, cucumber, peas etc (Pokhrel et al., 2022).

3.3.2 Major varieties of vegetable crops grown for commercial farming

The major varieties of tomato were Sirjana and Sarbashrestha. They were the highest yielding varieties as per the farmers with a maximum reported yield of around 120 t/ha for Sirjana, and around 70 t/ha for Sarbashrestha (Table 2). White Top was most common variety of cauliflower. The variety of cabbage planted was Green Coronet, while Bhaktapur Local was the major variety of cucumber.

3.3.3 Types of seed used by the respondents

The majority of the respondent 60% people used hybrid seeds, (such as Sirjana and Sarbashrestha, for tomato, White Top, Snow Grace for cauliflower, Green Coronet, Futoski F1, for cabbage and Madhu F1, for cucumber). 10% of the respondents used local seeds (such as Kathmandu Local for cauliflower, and Bhaktapur Local for cucumber). While 18% used both local and hybrid seeds, and 12% of them used improved seeds (such as