

List of Table

Table 1.1: Pesticide shops in Vadodara, Gujarat.....	10
Table 3.1: Analysis of the agricultural areas in and around the district of Vadodara.....	48
Table 3.2: Assessment and severity of insect pests and the crops they damage in the agricultural fields of Vadodara.....	50
Table 3.3: Artificial maize-flour-based diet ingredients for larvae.....	55
Table 3.4: Artificial diet for adults.....	55
Table 3.5: Different diet composition in gm or ml for <i>Spodoptera frugiperda</i> (1:1 diet).....	56
Table 3.6: Technical details of Chlorantraniliprole.....	63
Table 3.7: Technical details of Emamectin benzoate.....	65
Table 4.1: Agriculture fields of Vadodara with location and crops are grown there.....	76
Table 4.2: Pupal percentage emerged from natural and artificial diet.....	84
Table 4.3: Larval Growth Index from natural and artificial diet.....	84
Table 4.4: Statistical analysis showing survival rate of different stages on two diets: natural & artificial.....	85
Table 4.5: Percent survival of <i>Spodoptera frugiperda</i> larva on diets.....	85
Table 4.6: Assessment of larval growth index (in FAW) using four artificial diets.....	86
Table 4.7: Larval (%) mortality obtained in <i>S. frugiperda</i> against Chlorantraniliprole (1st generation).....	90
Table 4.8: Larval (%) mortality obtained in <i>S. frugiperda</i> against Emamectin Benzoate (1st gen).....	91
Table 4.9: Larval (%) mortality obtained in <i>S. frugiperda</i> against Chlorantraniliprole (2nd gen).....	91
Table 4.10: Larval (%) mortality obtained in <i>S. frugiperda</i> against Emamectin B. (2nd gen).....	92

Table 4.11: Larval (%) mortality obtained in <i>S. frugiperda</i> against Chlorantraniliprole (3rd gen).....	92
Table 4.12: Larval (%) mortality obtained in <i>S. frugiperda</i> against Emamectin B. (3rd gen).....	93
Table 4.13: Larval (%) mortality obtained in <i>S. frugiperda</i> against Chlorantraniliprole (4th gen).....	93
Table 4. 14: Larval (%) mortality obtained in <i>S. frugiperda</i> against Emamectin B. (4th gen).....	94
Table 4.15: Mortality of <i>S. frugiperda</i> larvae against Chlorantraniliprole over generations (G 1-4).....	94
Table 4.16: Mortality values of <i>S. frugiperda</i> larvae against Emamectin Benzoate over generations (G1-4).....	95
Table 4.17: Probit analysis using software SPSS for chlorantraniliprole-generation.....	95
Table 4.18: Probit analysis using software SPSS for chlorantraniliprole-generation 2.....	96
Table 4.19: Probit analysis using software SPSS for chlorantraniliprole-generation 3.....	97
Table 4.20: Probit analysis using software SPSS for chlorantraniliprole-generation 4.....	98
Table 4.21: Probit analysis using software SPSS for emamectin benzoate-generation 1.....	99
Table 4.22: Probit analysis using software SPSS for emamectin benzoate-generation 2.....	100
Table 4.23: Probit analysis using software SPSS for emamectin benzoate-generation 3....	101
Table 4.24: Probit analysis using software SPSS for emamectin benzoate-generation 4.....	102
Table 4.25: RNA Quality check for the samples.....	108
Table 4.26: Sample Overview.....	109
Table 4.27: Sample QC Statistics of raw and trimmed data.....	109
Table 4.28: Hisat2 Alignment Statistics against <i>Spodoptera frugiperda</i>	109

Table 4.29: Upregulated and downregulated count based on p-value (unadjusted value), FDR (adjusted p-value) and Log2FoldChange.....	110
Table 4.30: Naming of gene ids of MA plot.....	114
Table 4.31: Naming gene ids of Volcano plot.....	115
Table 4.32: Status and function of MA plot genes,.....	116
Table 4.33: Status and function of MA plot genes.....	118
Table 4.34: Top fifty differentially expressed genes.....	120
Table 4.35: Top differentially expressed cytochromes.....	126
Table 4.36: Top upregulated detoxification and cuticle genes.....	127
Table 5.1: Totality mortality values of <i>S. frugiperda</i> against over generations.....	149