Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	Ethalfluralin	0.300	0.171	0.500	1.350
Y-6	HCH	0.020	0.012	0.040	0.049
	Dichlorvos	0.0006	0.015	0.0007	0.072
	Fenthion	0.050	0.060	1.100	0.201
	Cyromazine	0.200	0.062	16	0.212
	Diflubenzuron	0.130	0.063	0.130	0.215
	Ethalfluralin	0.300	0.120	0.500	0.590
Y-7	HCH	0.020	0.006	0.040	0.020
	Dichlorvos	0.0006	0.028	0.0007	0.107
	Atrazine-desethyl	0.300	0.203	3	0.421
Y-8	Dichlorvos	0.0006	0.033	0.0007	0.143
	Fenthion	0.050	0.073	1.1	0.408
	Fenpropimorph	0.100	0.179	30	1.086
Y-9	Dichlorvos	0.0006	0.050	0.0007	0.295
	Chlorsulfuron	0.020	0.013	0.6	0.030
Y-10	HCH	0.020	0.005	0.04	0.026
	Aclonifen	0.120	0.041	0.12	0.312
	Dichlorvos	0.0006	0.030	0.0007	0.143
	Ethalfluralin	0.300	0.056	0.5	0.433
Y-11	Aclonifen	0.120	0.049	0.12	0.375
	Atrazine-desethyl	0.300	0.213	3	0.501
	Ethalfluralin	0.300	0.131	0.5	1.029
	Prothiofos	0.100	0.035	16	0.103
Y-12	HCB	-	0.013	0.05	0.098
	Dichlorvos	0.0006	0.025	0.0007	0.107
	Atrazine-desethyl	0.300	0.253	3	0.821
	Chlorsulfuron	0.02	0.012	0.6	0.027
	Diflubenzuron	0.13	0.054	0.13	0.255
Y-13	HCH	0.02	0.006	0.04	0.027
	Dichlorvos	0.0006	0.012	0.0007	0.098
	Atrazine-desethyl	0.3	0.240	3	0.721
	Chlorsulfuron	0.02	0.014	0.6	0.043
	Prothiofos	0.1	0.071	16	0.369
Y-14	Aclonifen	0.12	0.131	0.12	0.645

Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	Chlorsulfuron	0.02	0.015	0.6	0.037
	Diflubenzuron	0.13	0.085	0.13	0.323
	Ethalfluralin	0.3	0.196	0.5	0.968
	Prothiofos	0.1	0.066	16	0.231
Y-15	Bifenox	0.012	0.037	0.04	0.280
	Dichlorvos	0.0006	0.009	0.0007	0.067
	Diflubenzuron	0.13	0.046	0.13	0.195
	Ethalfluralin	0.3	0.135	0.5	1.066
	Fenpropimorph	0.1	0.102	30	0.464
	Prothiofos	0.1	0.071	16	0.353
Y-16	HCB	-	0.008	0.05	0.060
	HCH	0.02	0.005	0.04	0.022
	Aclonifen	0.12	0.052	0.12	0.395
	Dichlorvos	0.0006	0.010	0.0007	0.077
	Atrazine-desethyl	0.3	0.205	3	0.440
Y-17	Aclonifen	0.12	0.043	0.12	0.328
	Dichlorvos	0.0006	0.019	0.0007	0.153
	Diflubenzuron	0.13	0.061	0.13	0.311
	Prothiofos	0.1	0.067	16	0.315
Y-18	HCH	0.02	0.008	0.04	0.048
	Aclonifen	0.12	0.045	0.12	0.340
	Dichlorvos	0.0006	0.010	0.0007	0.080
	Diflubenzuron	0.13	0.093	0.13	0.567
	Fenpropimorph	0.1	0.083	30	0.317
	Prothiofos	0.1	0.101	16	0.631
Y-19	HCB	-	-	0.05	1.379
	Dichlorvos	0.0006	0.075	0.0007	0.343
	Diflubenzuron	0.13	0.041	0.13	0.154
	Prothiofos	0.1	0.149	16	1.013
Y-20	Bifenox	0.012	0.016	0.04	0.111
	Dichlorvos	0.0006	0.013	0.0007	0.075
	Chlorfenapyr	0.007	0.003	0.4	0.008
	Cyromazine	0.2	0.048	16	0.208
	Prothiofos	0.1	0.549	16	4.161
Y-21	HCH	0.02	0.017	0.04	0.120
	Dichlorvos	0.0006	0.017	0.0007	0.133
	DDT total	0.01	0.004	0.65	0.017

Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	Atrazine-desethyl	0.3	0.224	3	0.592
	Diflubenzuron	0.13	0.044	0.13	0.181
	Fenpropimorph	0.1	0.090	30	0.372
Y-22	HCH	0.02	0.005	0.04	0.024
	Bifenox	0.012	0.020	0.04	0.145
	Dichlorvos	0.0006	0.031	0.0007	0.246
	Atrazine-desethyl	0.3	0.249	3	0.792
	Diflubenzuron	0.13	0.051	0.13	0.231
Y-23	Bifenox	0.012	0.027	0.04	0.197
	Dichlorvos	0.0006	0.017	0.0007	0.136
	Chlorsulfuron	0.02	0.015	0.6	0.052
	Ethalfluralin	0.3	0.079	0.5	0.615
Y-24	HCH	0.02	0.012	0.04	0.067
	Dichlorvos	0.0006	0.012	0.0007	0.081
	Chlorsulfuron	0.02	0.014	0.6	0.036
	Diflubenzuron	0.13	0.281	0.13	1.815
	Imidacloprid	0.14	0.074	1.4	0.314
Y-25	Aclonifen	0.12	0.054	0.12	0.415
	Dichlorvos	0.0006	0.046	0.0007	0.256
	Chlorsulfuron	0.02	0.015	0.6	0.049
	Diflubenzuron	0.13	0.065	0.13	0.346
	Fenpropimorph	0.1	0.271	30	1.819
	Imidacloprid	0.14	0.152	1.4	0.671
Y-26	HCH	0.02	0.011	0.04	0.072
	Aclonifen	0.12	0.076	0.12	0.594
	Dichlorvos	0.0006	0.011	0.0007	0.086
	Chlorfenapyr	0.007	0.008	0.4	0.044
	Chlorsulfuron	0.02	0.015	0.6	0.048
	Diflubenzuron	0.13	0.054	0.13	0.254
	Diflufenican	0.01	0.006	0.01	0.015
	Ethalfluralin	0.3	0.042	0.5	0.316
Y-27	HCH	0.02	0.025	0.04	0.180
	Aclonifen	0.12	0.047	0.12	0.357
	Bifenox	0.012	0.016	0.04	0.108
	Dichlorvos	0.0006	0.013	0.0007	0.105
	Chlorsulfuron	0.02	0.015	0.6	0.046

Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	Ethalfluralin	0.3	0.049	0.5	0.377
Y-28	Dichlorvos	0.0006	0.093	0.0007	0.462
Y-29	HCH	0.02	0.013	0.04	0.083
	Dichlorvos	0.0006	0.011	0.0007	0.084
	Chlorsulfuron	0.02	0.012	0.6	0.028
	Diflubenzuron	0.13	0.075	0.13	0.427
Y-30	Dichlorvos	0.0006	0.374	0.0007	0.374
Y-31	Chlorpyrifos	0.03	0.009	0.1	0.033
	Hekzakloro-siklohekzan	0.02	0.005	0.04	0.024
	Dichlorvos	0.0006	0.032	0.0007	0.252
	Chlorsulfuron	0.02	0.013	0.6	0.034
Y-32	Bifenox	0.012	0.034	0.04	0.225
	Dichlorvos	0.0006	0.083	0.0007	0.427
	Fenthion	0.05	0.051	1.1	0.208
	Chlorfenapyr	0.007	0.004	0.4	0.011
	Chlorsulfuron	0.02	0.012	0.6	0.027
	Diflubenzuron	0.13	0.369	0.13	2.432
	Ethalfluralin	0.3	0.062	0.5	0.421
	Fenpropimorph	0.1	0.147	30	0.731
	Nicosulfuron	0.05	0.020	0.2	0.081
Y-33	HCB	-		0.05	0.079
	HCH	0.02	0.018	0.04	0.107
	Bifenox	0.012	0.031	0.04	0.228
	Dichlorvos	0.0006	0.021	0.0007	0.163
	Fenthion	0.05	0.053	1.1	0.252
	Atrazine-desethyl	0.3	0.268	3	0.940
	Diflubenzuron	0.13	0.043	0.13	0.172
	Ethalfluralin	0.3	0.083	0.5	0.649
Y-34	HCH	0.02	0.006	0.04	0.030
	Dichlorvos	0.0006	0.024	0.0007	0.169
	Chlorothalonil	0.3	0.051	4.2	0.326
	Chlorsulfuron	0.02	0.013	0.6	0.034
	Diflubenzuron	0.13	0.078	0.13	0.396
	Diflufenican	0.01	0.007	0.01	0.018
	Ethalfluralin	0.3	0.088	0.5	0.600
Y-35	Dichlorvos	0.0006	0.016	0.0007	0.126

Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	Chlorothalonil	0.3	0.065	4.2	0.481
	Cyromazine	0.2	0.048	16	0.206
	Diflufenican	0.01	0.008	0.01	0.025
	Ethalfluralin	0.3	0.087	0.5	0.681
Y-36	HCB	-		0.05	0.323
	Dichlorvos	0.0006	0.009	0.0007	0.068
	Chlorothalonil	0.3	0.082	4.2	0.619
	Atrazine-desethyl	0.3	0.202	3	0.417
	Chlorsulfuron	0.02	0.016	0.6	0.056
	Ethalfluralin	0.3	0.201	0.5	1.591
Y-37	Bifenox	0.012	0.046	0.04	0.349
	Dichlorvos	0.0006	0.039	0.0007	0.218
	Azinphos-methyl	0.05	0.030	0.4	0.064
	Chlorothalonil	0.3	0.065	4.2	0.486
	Ethalfluralin	0.3	0.268	0.5	2.128
Y-39	HCH	0.02	0.007	0.04	0.035
	Aclonifen	0.12	0.073	0.12	0.565
	Dichlorvos	0.0006	0.012	0.0007	0.091
	Chlorothalonil	0.3	0.060	4.2	0.446
	Atrazine-desethyl	0.3	0.199	3	0.393
	Chlorsulfuron	0.02	0.013	0.6	0.033
	Ethalfluralin	0.3	0.176	0.5	1.392
Y-40	HCH	0.02	0.014	0.04	0.091
	Aclonifen	0.12	0.108	0.12	0.844
	Bifenox	0.012	0.032	0.04	0.236
	Dichlorvos	0.0006	0.017	0.0007	0.131
	Chlorothalonil	0.3	0.082	4.2	0.621
	Chlorsulfuron	0.02	0.018	0.6	0.073
	Ethalfluralin	0.3	0.412	0.5	3.279
Y-41	HCB		0.031	0.05	0.238
	Aclonifen	0.12	0.124	0.12	0.972
	Dichlorvos	0.0006	0.023	0.0007	0.179
	Diflubenzuron	0.13	0.041	0.13	0.157
	Ethalfluralin	0.3	0.184	0.5	1.453
Y-42	HCB			0.05	0.118

Table 4.1 (cont'd)

Sampling Station	*Pesticides	AA-EQS, µg/L	Average Value, µg/L	MAC-EQS, µg/L	Maximum Value, µg/L
	HCH	0.02	0.039	0.04	0.298
	Bifenox	0.012	0.020	0.04	0.146
	DDT total	0.01	0.004	0.65	0.017
	Chlorothalonil	0.3	0.061	4.2	0.453
	Atrazine-desethyl	0.3	0.191	3	0.331
	Chlorsulfuron	0.02	0.014	0.6	0.043
	Diflubenzuron	0.13	0.058	0.13	0.292
	Ethalfluralin	0.3	0.184	0.5	1.451
Y-43	Dichlorvos	0.0006	0.044	0.0007	0.308
	Chlorothalonil	0.3	0.059	4.2	0.382
	Ethalfluralin	0.3	0.488	0.5	3.404
	Thiacloprid	0.13	0.054	2	0.228

* The pesticides written in red letters have the concentration data that exceeded at least one of the AA-EQS and MAC-EQS values.

B. AGRICULTURAL SOURCE IDENTIFICATION OF PESTICIDE POLLUTION FOR SAMSUN PROVINCE

Ladik District of Samsun Province (Y-40 Sampling Station)

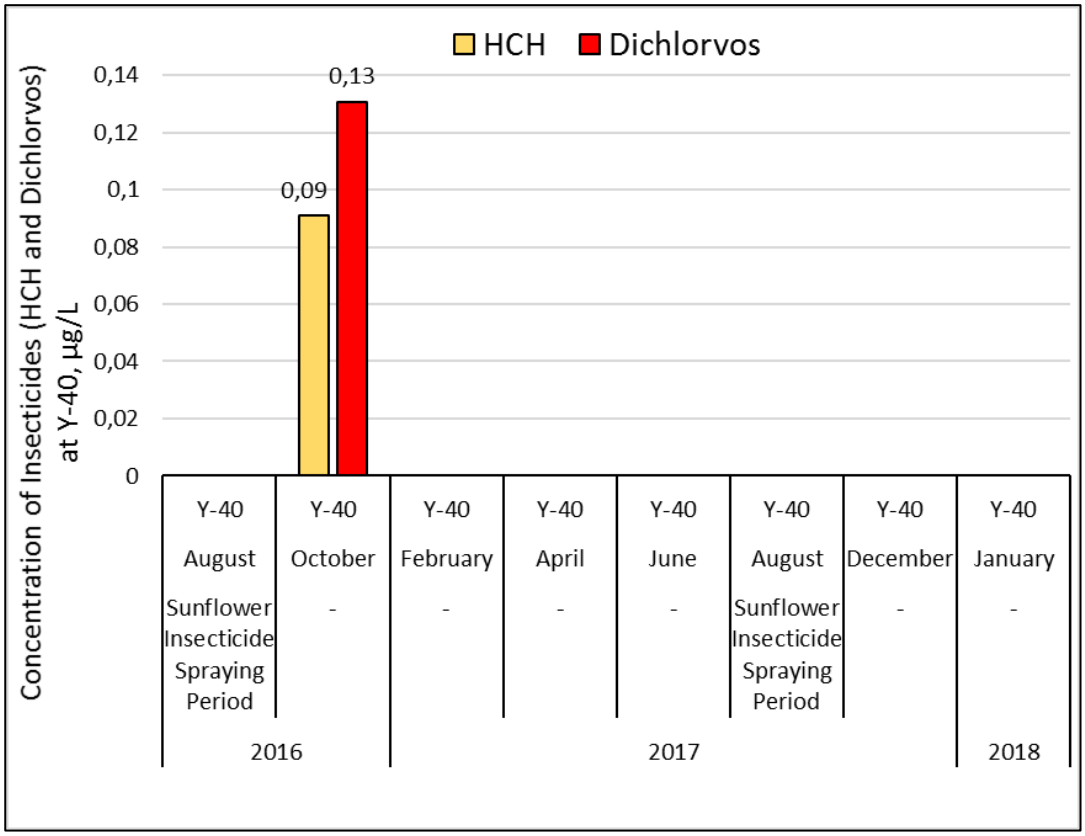

Figure 4.1 Correlation Between EQS Exceedance Months of Insecticides (at Y-40) and Insecticide Spraying Periods for the Dominant Crops of Ladik

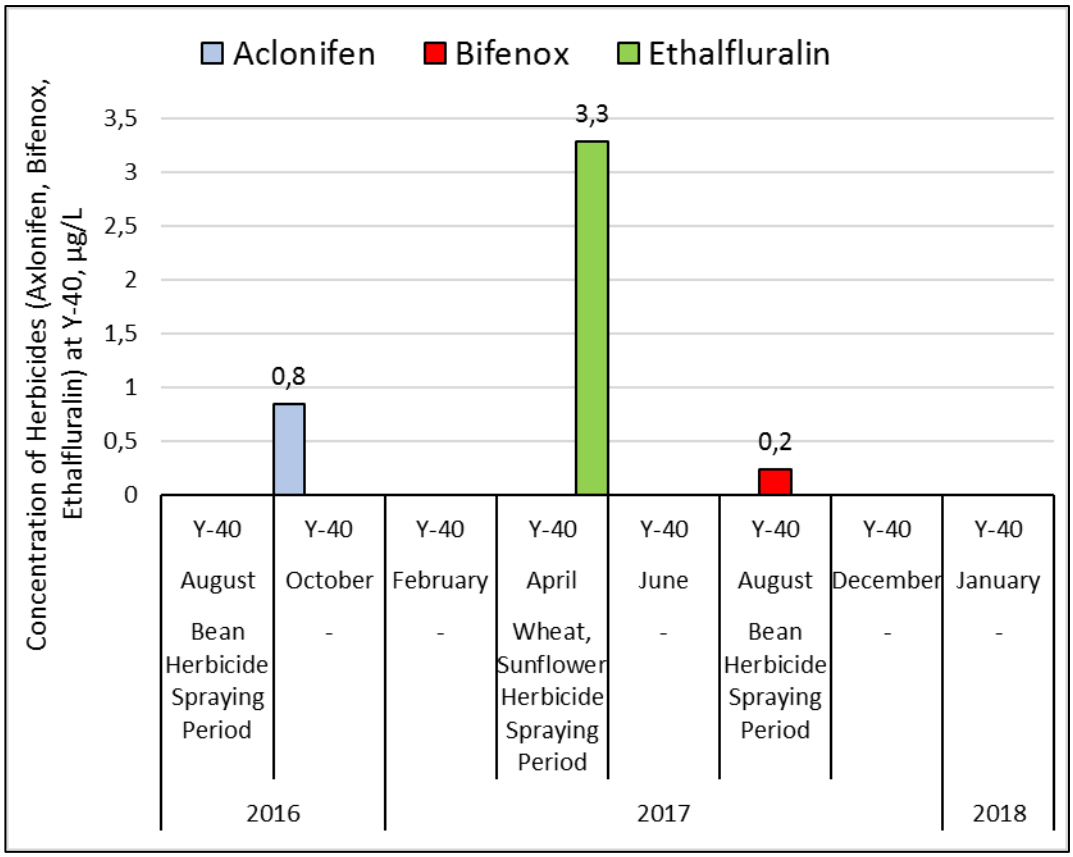

Figure 4.2 Correlation Between EQS Exceedance Months of Herbicides (at Y-40) and Herbicide Spraying Periods for the Dominant Crops of Ladik

Table 4.2 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-40 Sampling Station of Ladik

Stations	**Pesticides**	**EQS Exceedance %**		**Detection Frequency %**	**Potential Sources of the Observed Pesticides**
		AA-EQS	**MAC-EQS**		
Y-40	Dichlorvos	2656	18549	12.5	**Agricultural Source:** - Sunflower Farmland: 12940 da
	Aclonifen	-	603	12.5	**Agricultural Source:** - Bean Farmland: 6750 da
	Bifenox	164	490	12.5	
	Ethalfluralin	37	555	12.5	**Agricultural Source:** -Wheat Farmland: 80188 da - Sunflower Farmland: 12940 da

İlkadım District of Samsun Province (Y-41 Sampling Station)

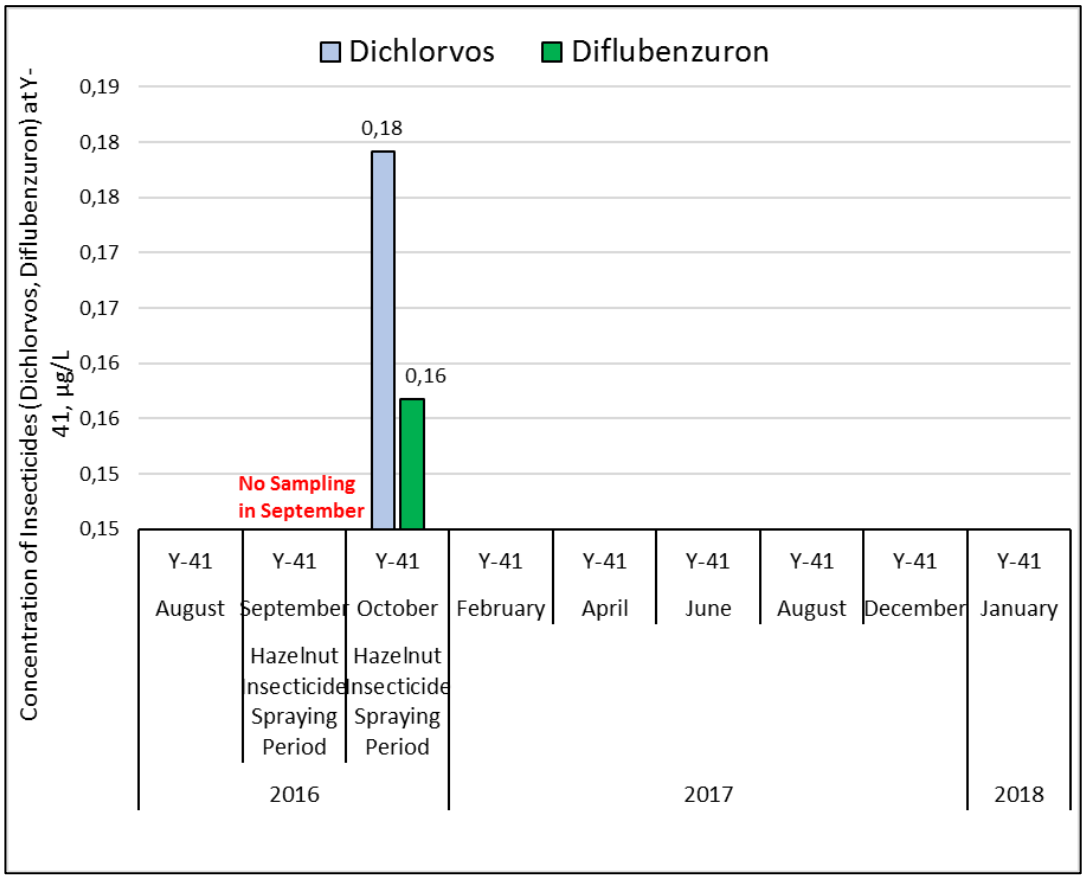

Figure 4.3 Correlation Between EQS Exceedance Months of Insecticides (at Y-41) and Insecticide Spraying Periods for the Dominant Crops of İlkadım

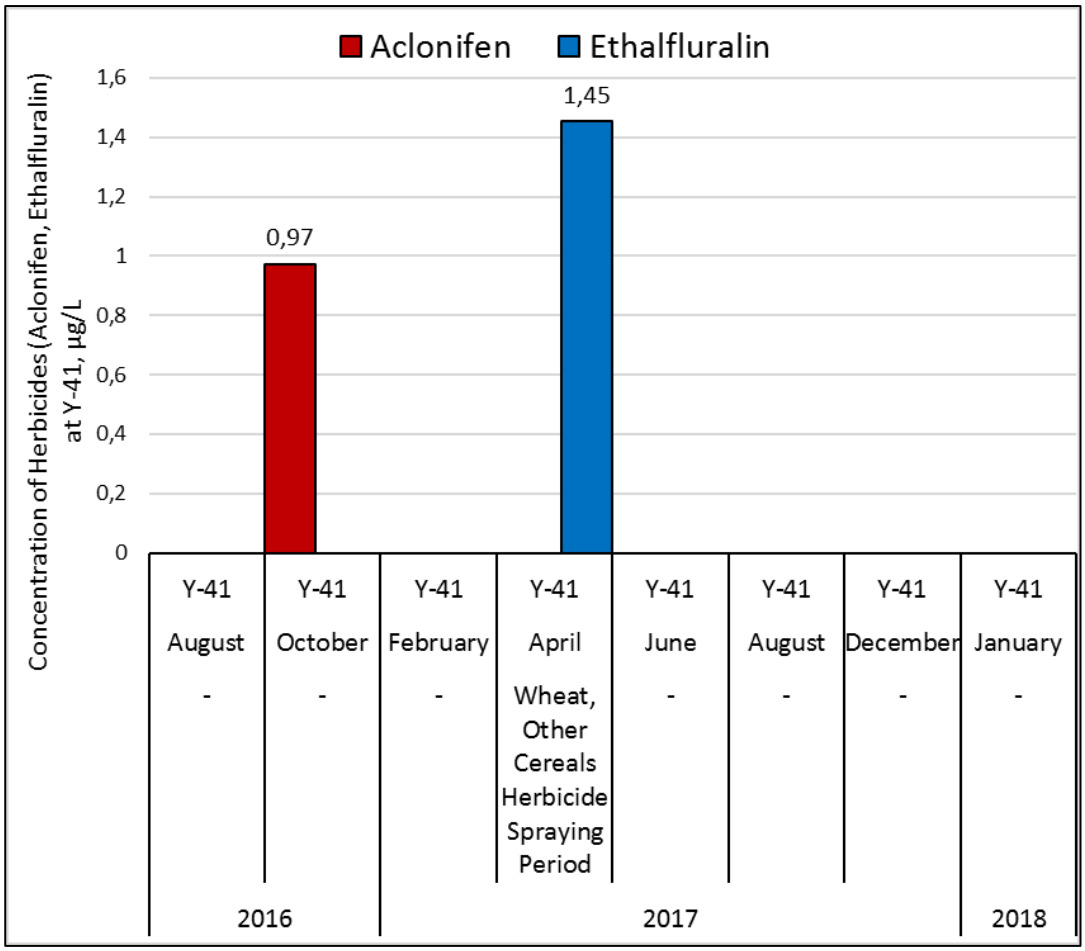

Figure 4.4 Correlation Between EQS Exceedance Months of Herbicides (at Y-41) and Herbicide Spraying Periods for the Dominant Crops of İlkadım

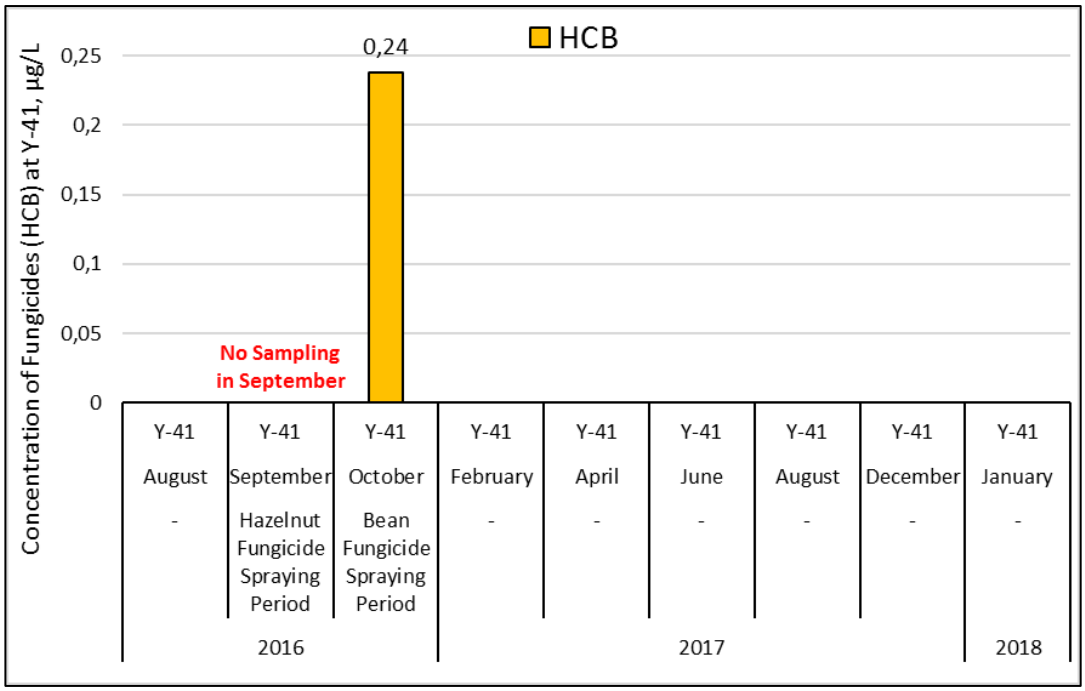

Figure 4.5 Correlation Between EQS Exceedance Months of Fungicides (at Y-41) and Fungicide Spraying Periods for the Dominant Crops of İlkadım

Table 4.3 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-41 Sampling Station of İlkadım

Stations	Pesticides	EQS Exceedance %		Detection Frequency %	Potential Sources of the Observed Pesticides
		AA-EQS	MAC-EQS		
Y-41	Dichlorvos	3669	25495	12.5	**Agricultural Source:** - Hazelnut Farmland: 5300 da
	Diflubenzuron	-	21	12.5	
	Aclonifen	3	710	12.5	**Agricultural Source:** - Not Exist
	Ethalfluralin	-	191	12.5	**Agricultural Source:** - Wheat Farmland: 22379 da
	HCB	-	376	25	**Agricultural Source:** - Bean Farmland: 1400 da - Hazelnut Farmland: 5300 da

Çarşamba District of Samsun Province (Y-42 and Y-43 Sampling Stations)

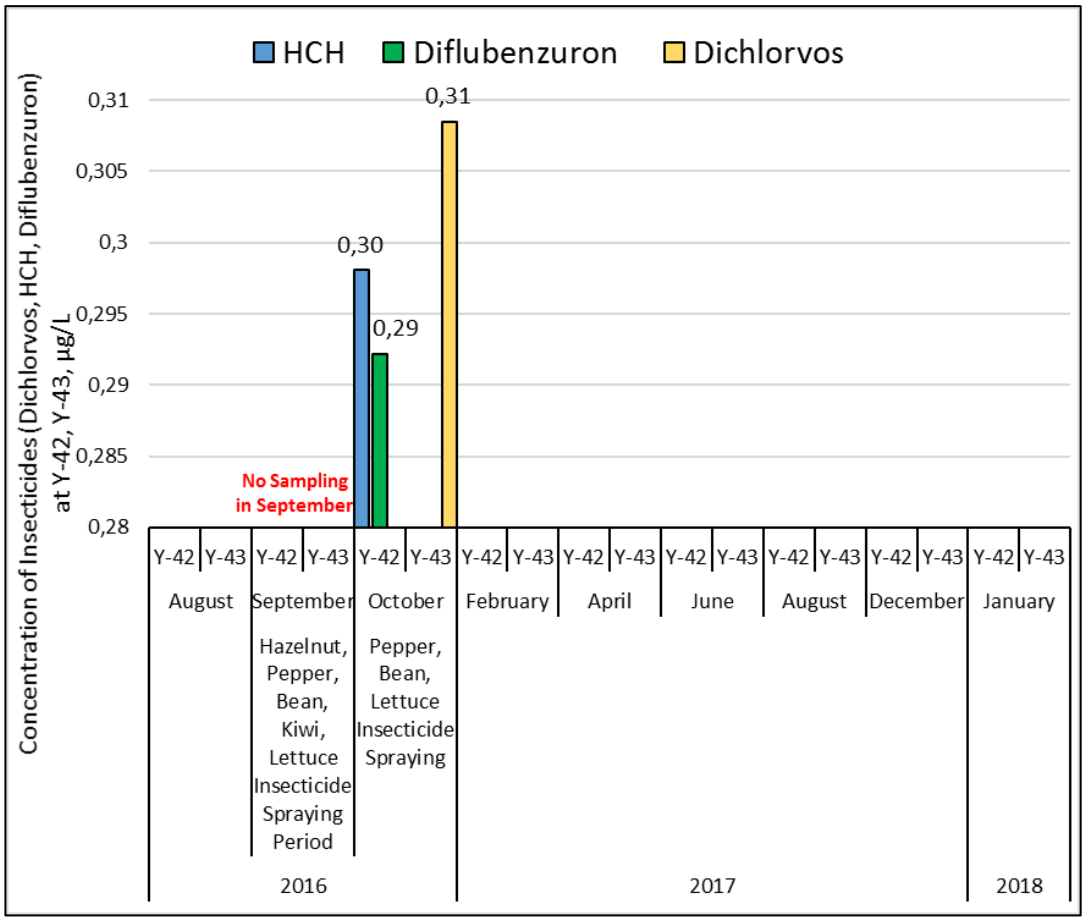

Figure 4.6 Correlation Between EQS Exceedance Months of Insecticides (at Y-42 and Y-43) and Insecticide Spraying Periods for the Dominant Crops of Çarşamba

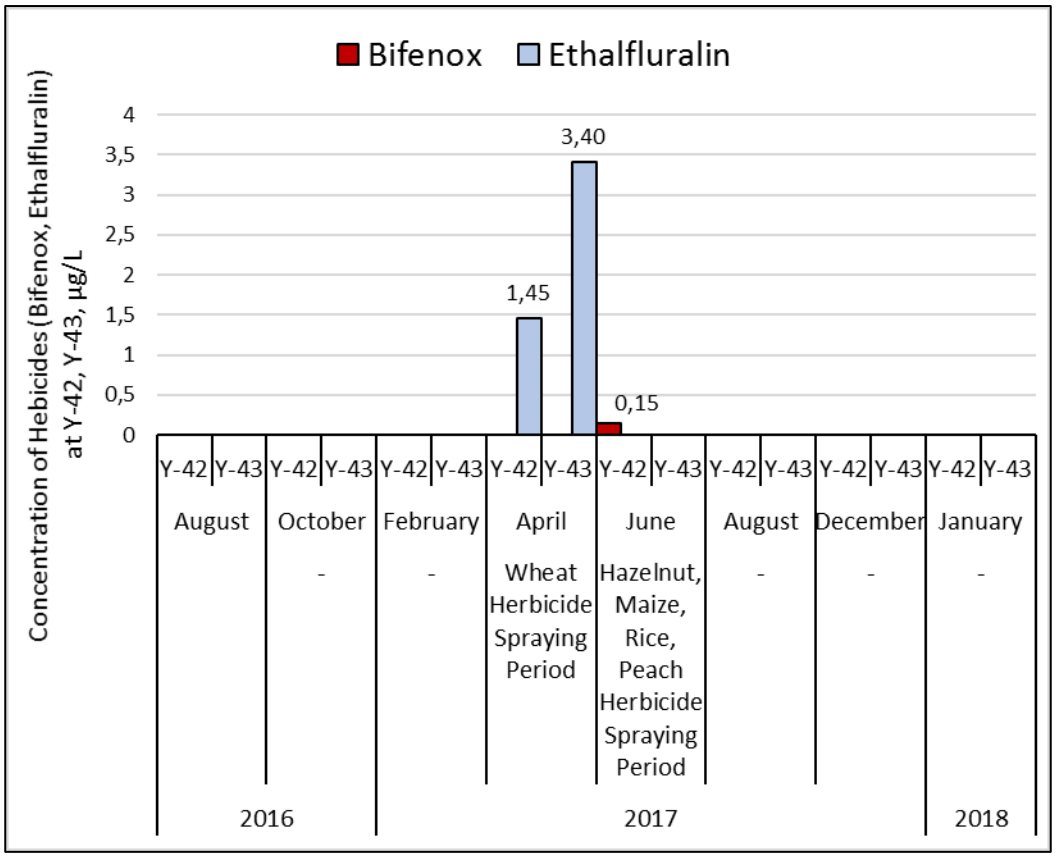

Figure 4.7 Correlation Between EQS Exceedance Months of Herbicides (at Y-42 and Y-43) and Herbicide Spraying Periods for the Dominant Crops of Çarşamba

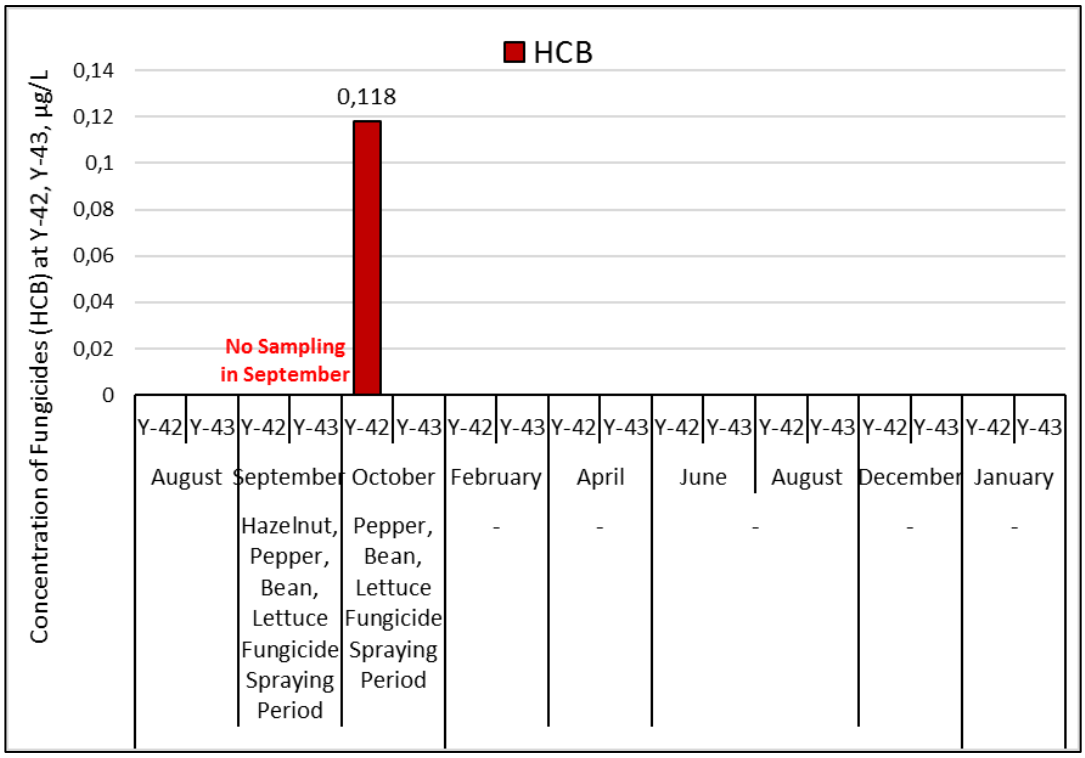

Figure 4.8 Correlation Between EQS Exceedance Months of Fungicides (at Y-42 and Y-43) and Fungicide Spraying Periods for the Dominant Crops of Çarşamba

Table 4.4 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-42 and Y-43 Sampling Station of Çarşamba

Stations	**Pesticides**	**EQS Exceedance %**		**Detection Frequency %**	**Potential Sources of the Observed Pesticides**
		AA-EQS	**MAC-EQS**		
Y-42	HCH	97	645	12.5	**Agricultural Sources:** -Hazelnut: 455500 da -Pepper: 8676 da -Bean: 4080 da -Lettuce: 1970 da -Kiwi: 2500 da
	Diflubenzuron	-	125	12.5	
Y-43	Dichlorvos	7280	43967	14.3	
Y-42	Bifenox	70	265	12.5	**Agricultural Sources:** -Hazelnut: 455500 da -Maize: 47952 da -Rice: 7849 da -Peach: 6000 da
	Ethalfluralin	-	190	12.5	**Agricultural Sources:** -Wheat: 6394 da
Y-43	Ethalfluralin	63	581	14.3	
Y-42	HCB	-	136	25	**Agricultural Sources:** -Hazelnut: 455500 da -Pepper: 8676 da -Bean: 4080 -Lettuce: 1970 da

C. AGRICULTURAL SOURCE IDENTIFICATION OF PESTICIDE POLLUTION FOR CORUM PROVINCE (MERKEZ AND ALACA DISTRICTS)

Merkez District of Çorum Province (Y-25, Y-26, Y-29 and Y-30 Sampling Stations)

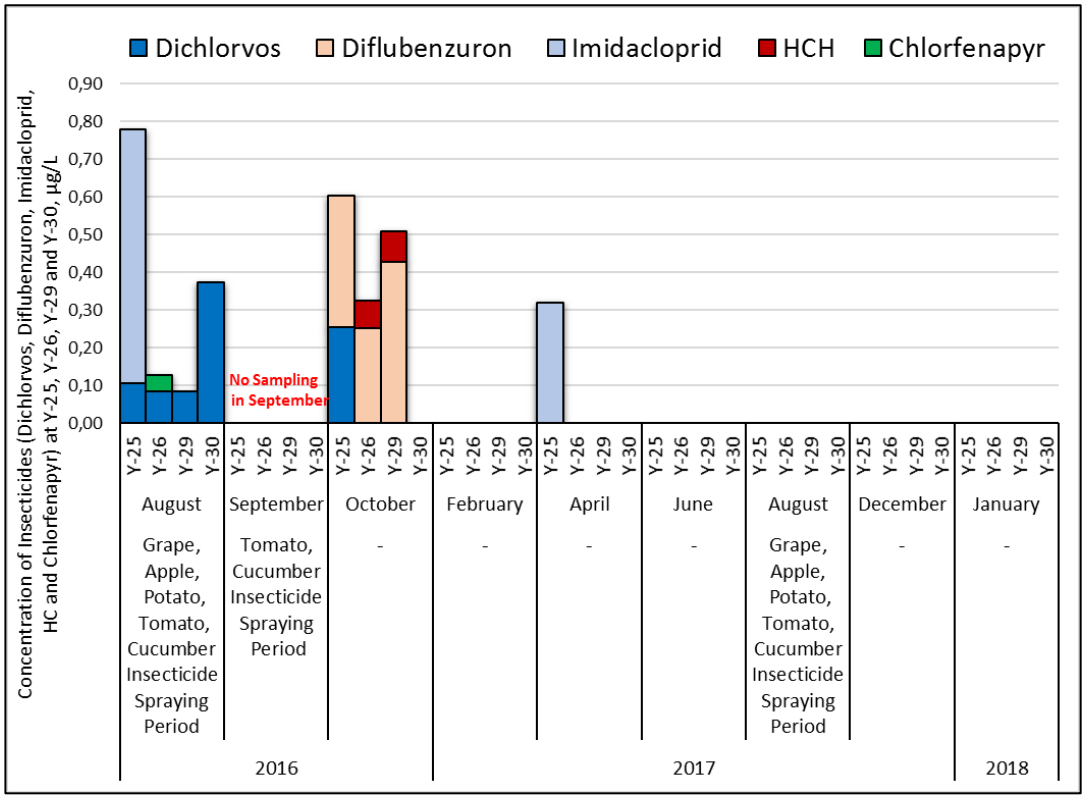

Figure 4.9 Correlation Between EQS Exceedance Months of Insecticides (at Y25, Y-26, Y-29 and Y-30) and Insecticide Spraying Periods for the Dominant Crops of Merkez-Çorum

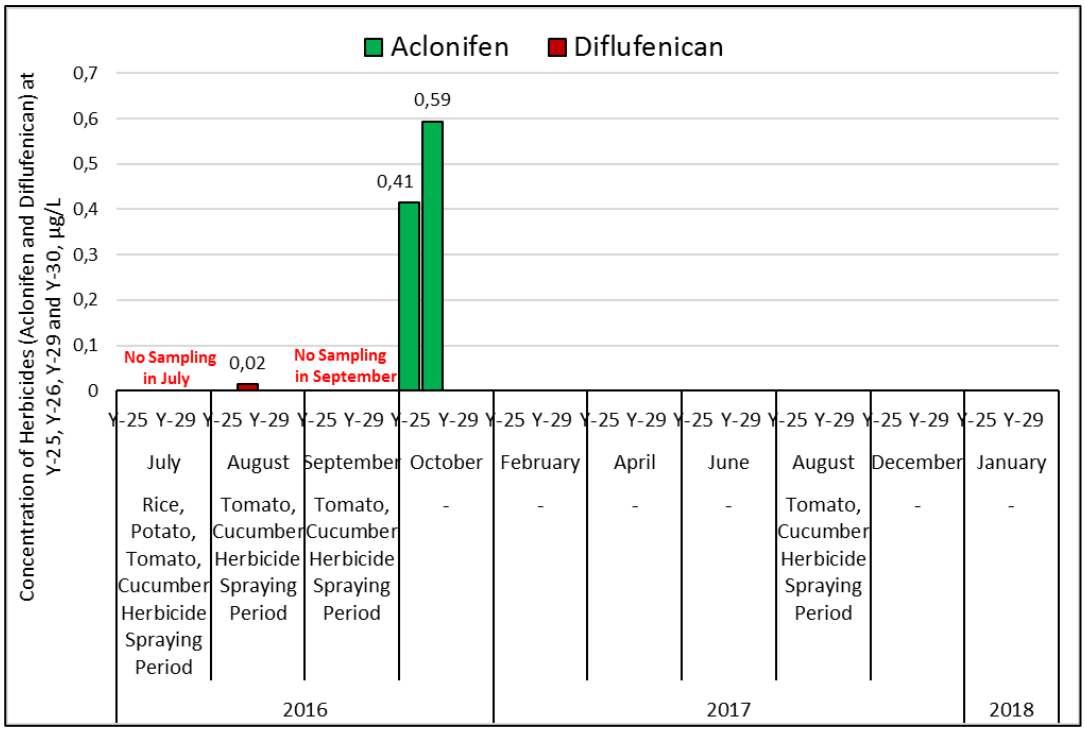

Figure 4.10 Correlation Between EQS Exceedance Months of Herbicides (at Y25, Y-26, Y-29 and Y-30) and Herbicide Spraying Periods for the Dominant Crops of Merkez-Çorum

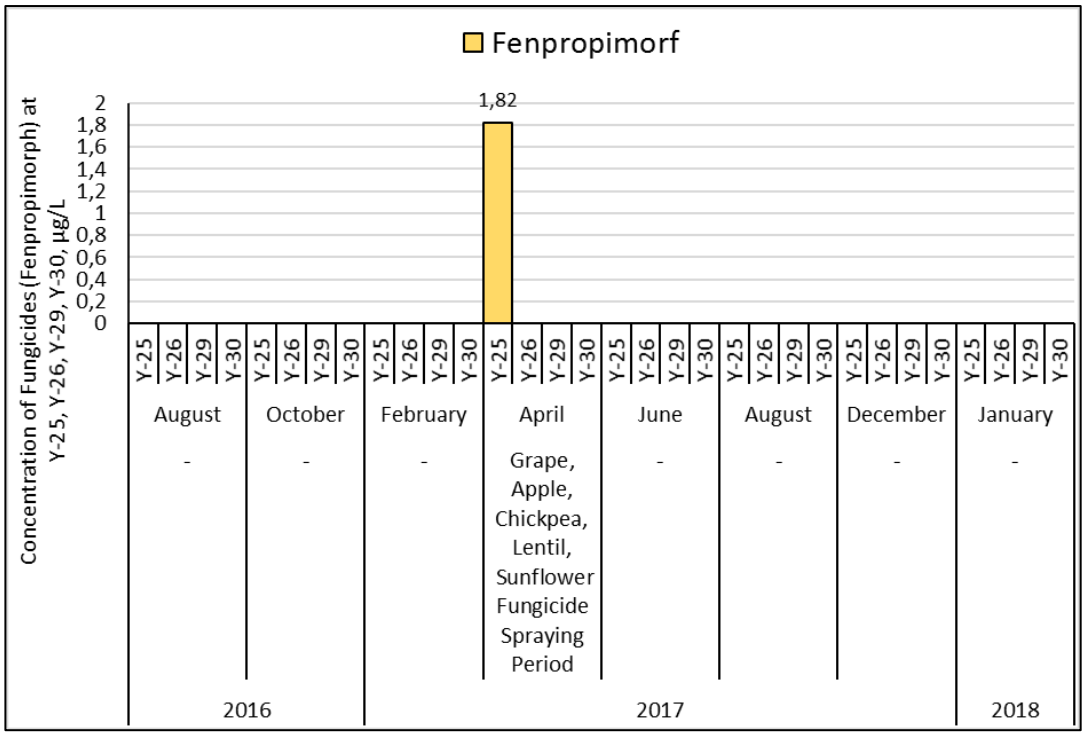

Figure 4.11 Correlation Between EQS Exceedance Months of Fungicides (at Y25, Y-26, Y-29 and Y-30) and Fungicide Spraying Periods for the Dominant Crops of Merkez-Çorum

Table 4.5 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-25 and Y-26, Y-29 and Y-30 Sampling Stations of Merkez-Çorum

Station	Pesticides	EQS Exceedance %		Detection Frequency %	Potential Sources of the Observed Pesticides
		AA-EQS	MAC-EQS		
Y-25	Dichlorvos	7514	36524	25.0	- Grape: 7558 da - Apple: 1745 da - Tomato: 3821 da - Potato: 8000 da - Cucumber: 1236 da
	Diflubenzuron	-	166	12.5	
	Imidacloprid	8	-	62.5	
Y-26	Dichlorvos	1719	12123	12.5	
	HCH	-	81	12.5	
	Chlorfenapyr	10	-	12.5	
	Diflubenzuron	-	95	12.5	
Y-29	HCH	-	108	12.5	
	Dichlorvos	1693	11942	12.5	
	Diflubenzuron	-	228	12.5	
Y-30	Dichlorvos	62205	53304	100	
Y-25	Aclonifen	-	246	12.5	Tomato: 3821 da Cucumber: 1236 da
Y-26	Aclonifen	-	395	12.5	
	Diflufenican	-	50	12.5	Rice: 930 da Tomato: 3821 da Potato: 8000 da Cucumber: 1236 da
Y-25	Fenpropimorph	171	-	12.5	Sunflower: 104994 Chickpea: 20000 Grape: 7558 Apple: 1745 Lentil: 3105

Alaca District of Çorum Province (Y-28 Sampling Station)

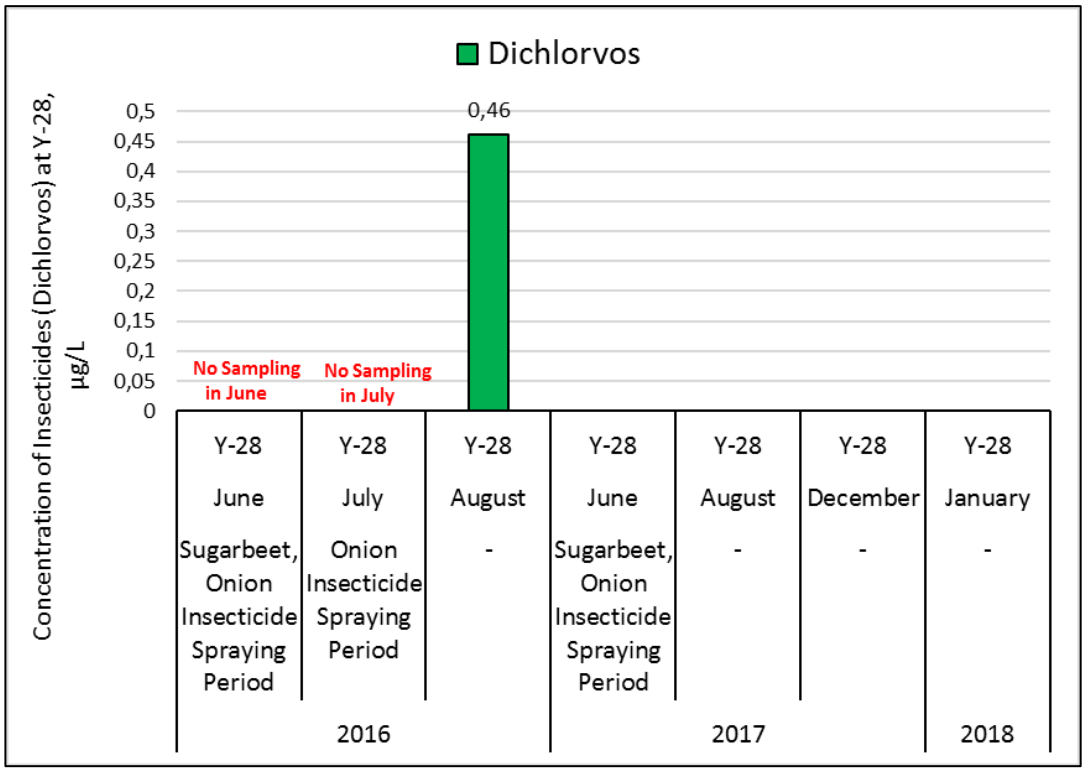

Figure 4.12 Correlation Between EQS Exceedance Months of Insecticides (at Y-28) and Insecticide Spraying Periods for the Dominant Crops of Alaca

Table 4.6 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-28 Sampling Station of Alaca

Station	Pesticides	EQS Exceedance %		Detection Frequency %	Potential Sources of the Observed Pesticides
		AA-EQS	MAC-EQS		
Y-28	Dichlorvos	2656	18549	12.5	**Agricultural Source:** - Sugarbeet: 15299 da -Onion: 12813 da

D. AGRICULTURAL SOURCE IDENTIFICATION OF PESTICIDE POLLUTION FOR YOZGAT PROVINCE (SARAYKENT AND AYDINCIK DISTRICTS)

Saraykent District of Yozgat Province (Y-15 Sampling Station)

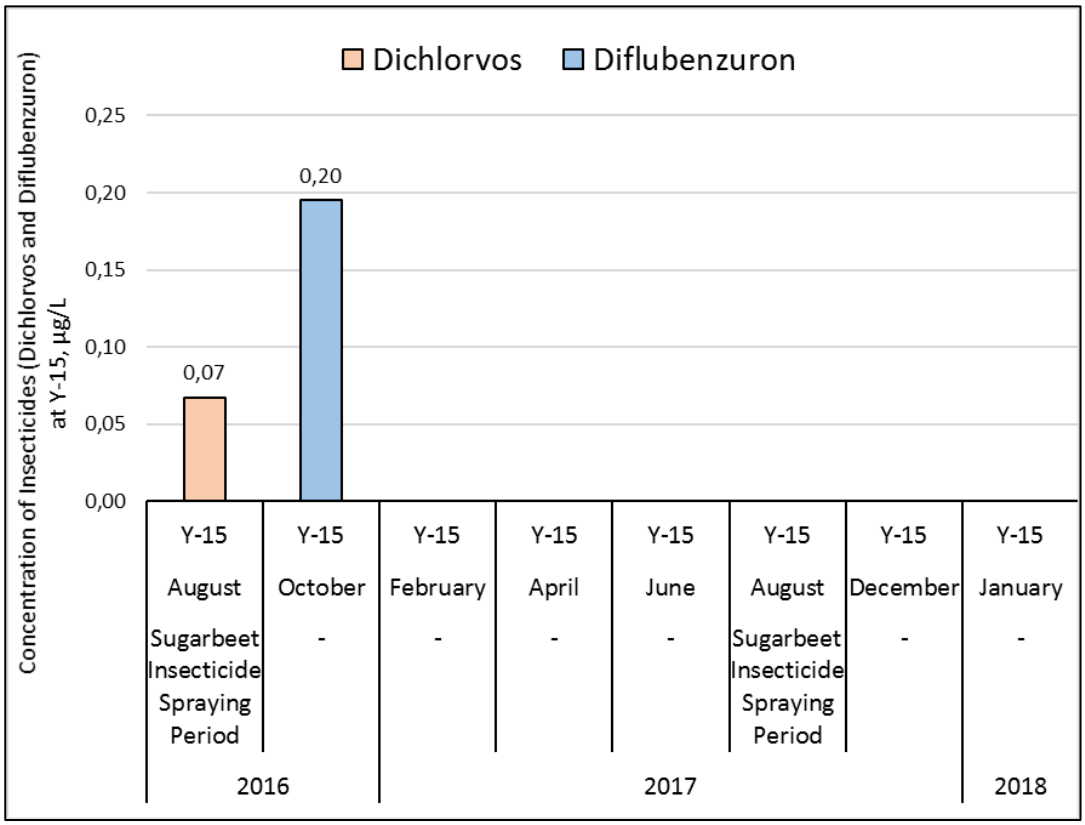

Figure 4.13 Correlation Between EQS Exceedance Months of Insecticides (at Y-15) and Insecticide Spraying Periods for the Dominant Crops of Saraykent

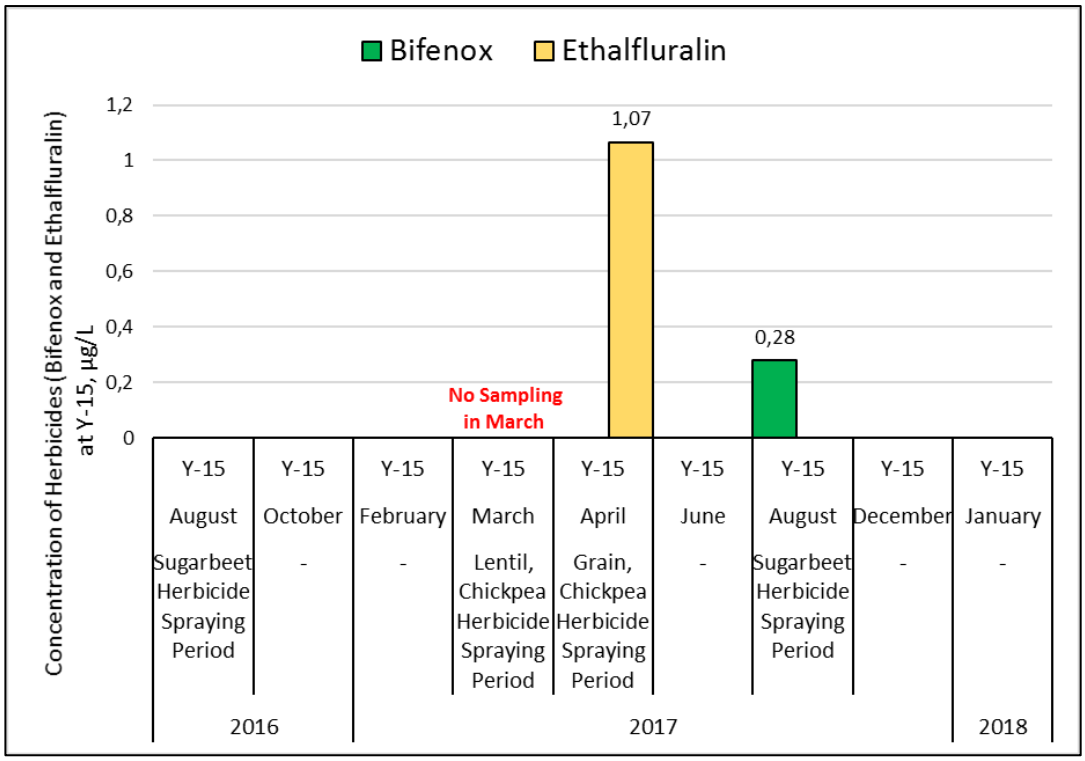

Figure 4.14 Correlation Between EQS Exceedance Months of Herbicides (at Y-15) and Herbicide Spraying Periods for the Dominant Crops of Saraykent

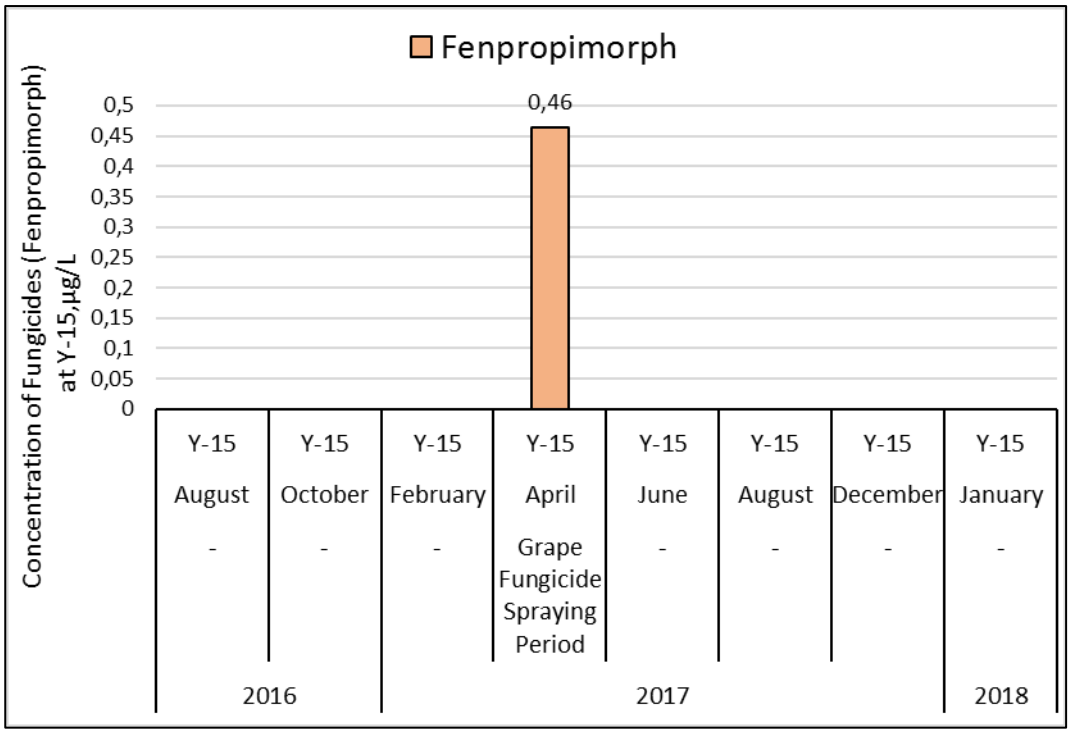

Figure 4.15 Correlation Between EQS Exceedance Months of Fungicides (at Y-15) and Fungicide Spraying Periods for the Dominant Crops of Saraykent

Table 4.7 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-15 Sampling Station of Saraykent

Station	**Pesticides**	**EQS Exceedance %**		**Detection Frequency %**	**Potential Sources of the Observed Pesticides**
		AA-EQS	**MAC-EQS**		
Y-15	Dichlorvos	1343	9542	12.5	**Agricultural Source:** -Sugarbeet: 512 da
	Diflubenzuron	-	50	12.5	
	Ethalfluralin	-	113	12.5	**Agricultural Source:** -Chickpea : 3000 da -Lentil: 1703 da -Wheat: 57956 da
	Bifenox	210	599	12.5	**Agricultural Source:** -Sugarbeet: 512 da
	Fenpropimorph	2	-	12.5	**Agricultural Source:** -Grape: 867 da

Aydıncık District of Yozgat Province (Y-27 Sampling Station)

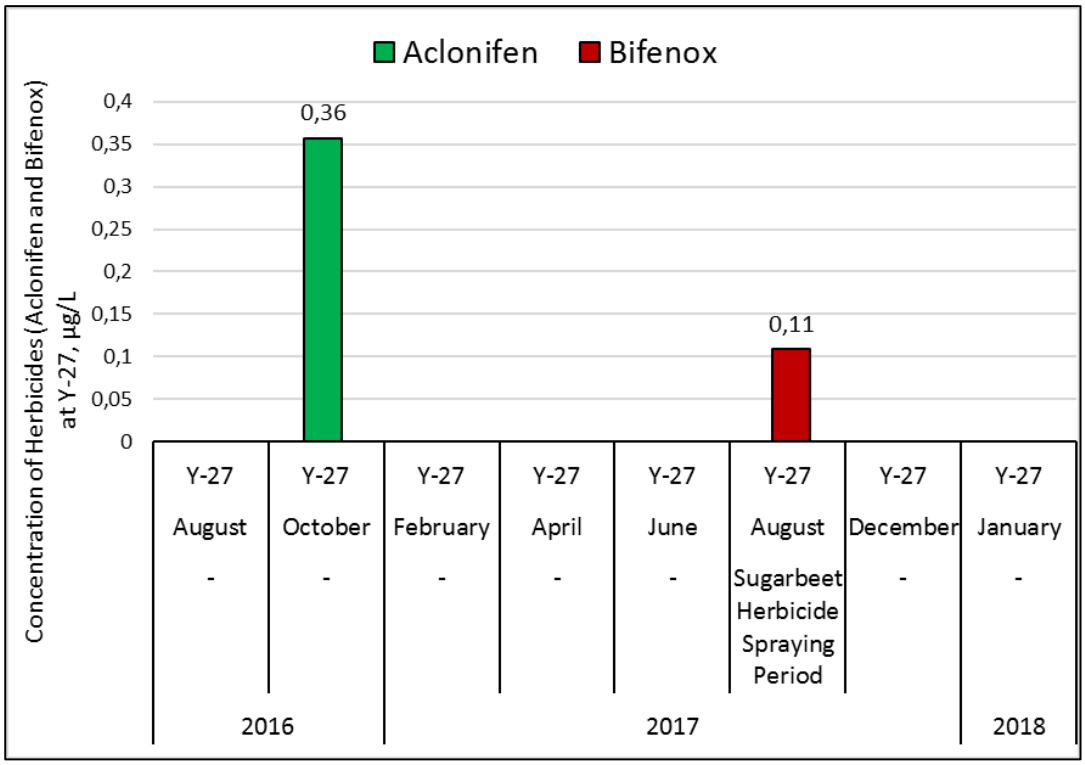

Figure 4.16 Correlation Between EQS Exceedance Months of Herbicides (at Y-27) and Herbicide Spraying Periods for the Dominant Crops of Aydıncık

Table 4.8 Potential Sources and Detection Percentages of the Pesticides Observed at the Y-27 Sampling Station of Aydıncık

Stations	Pesticides	EQS Exceedance %		Detection Frequency %	Potential Sources of the Observed Pesticides
		AA-EQS	MAC-EQS		
Y-27	HCH	24	351	12.5	**Agricultural Source:** - Not Exist
	Dichlorvos	2127	14918	12.5	
	Aclonifen	-	197	12.5	**Agricultural Source:** - Not Exist
	Bifenox	31	171	12.5	**Agricultural Source:** - Sugarbeet: 2661 da