Toronto Gardeners Survey (2018) Analysis

Shirin Arghandeh

Updated: June 22, 2020

Cross-Tabluations Note: coop_garden has been integrated into other_garden.

1. Cross-tabulation of types of garden on duration gardeners have grown food:

growing_duration	allot_garden	balcony_garden	comm_garden	else_garden	inside_garden	landlord_garden	other_garden	yard_garden	Total
>10 yrs	4	9	10	7	16	4	7	47	104
1-5 yrs	0	7	7	0	3	5	2	11	35
6-10 yrs	5	3	4	5	4	2	4	20	47
Total	9	19	21	12	23	11	13	78	186

2. Cross tabulation of types of gardens on number of plants gardeners have grown:

num_plants	allot_garden	balcony_garden	comm_garden	else_garden	inside_garden	landlord_garden	other_garden	yard_garden	Total
>10 plants	3	7	9	3	7	4	1	24	58
>20 plants	5	3	4	3	6	3	6	13	43
>30 plants	1	1	1	3	5	1	3	9	24
1-5 plants	0	7	4	2	3	2	3	12	33
6-10 plants	0	1	3	1	2	1	0	20	28
Total	9	19	21	12	23	11	13	78	186

3. Cross-tabulation of garden type versus where gardeners get seeds.

get_seed	allot_garden	balcony_garden	comm_garden	else_garden	inside_garden	landlord_garden	other_garden	yard_garden	Total
else_can_seed	4	10	12	6	9	7	6	25	79
else_coun_seed	1	4	3	2	4	2	3	3	22
lib_seed	7	10	13	6	13	7	7	34	97
other_seed	1	2	3	4	5	2	3	11	31
own_seed	8	15	16	10	20	10	10	53	142
self_coun_seed	3	3	2	2	4	2	4	6	26
store_seed	7	16	15	10	18	10	9	64	149
Total	31	60	64	40	73	40	42	196	546

4. Cross-tabulation of garden type versus where gardeners get seedlings.

get_sling	allot_garden	balcony_garden	comm_garden	else_garden	inside_garden	landlord_garden	other_garden	yard_garden	Total
comm_sling	2	5	7	3	7	4	6	18	52
else_sling	4	8	10	5	9	8	7	29	80
other_sling	2	6	6	7	4	2	7	11	45
store_sling	7	13	13	8	16	10	9	59	135
Total	15	32	36	23	36	24	29	117	312

5. Cross-tabulation of garden type versus what gardeners do with their food.

do_with_food	allot_garden	balcony_garden	comm_garden	else_garden	inside_garden	landlord_garden	other_garden	yard_garden	Total
donate_food	0	3	9	2	2	3	4	8	31
eat_food	9	18	20	12	21	11	13	76	180
family_food	7	6	10	8	16	6	9	43	105
friends_food	6	11	17	8	18	10	12	56	138
other_food	0	2	2	1	2	0	1	3	11
preserve_food	8	15	14	10	20	8	10	50	135
sell_food	0	2	2	3	2	2	3	5	19
Total	30	57	74	44	81	40	52	241	619

Fisher's Exact Test

1. Testing for significance, we use Fisher's Exact Test to test whether the proportions of variable growing_duration are independent to variable garden_type. Our null hypothesis is that the probability of gardening for 1-5, 6-10 or >10 years is the same whether you have a allotment plot, balcony garden, community garden etc.

```r
fisher.test(td_cross, simulate.p.value = TRUE,B=1e7)
```

```
## Warning: Setting row names on a tibble is deprecated.
```

```
##
##  Fisher's Exact Test for Count Data with simulated p-value (based
##  on 1e+07 replicates)
##
## data:  td_cross
## p-value = 0.5722
## alternative hypothesis: two.sided
```

Received error when workspace was set to $2e^{-7}$. Continued to simulate p-values based on number of Monte Carlo tests but this requires a very large number of simulations, thus the p-value may not be accurate. If $p < 1e^{-7}$ the p-value is extremely small, therefore the null hypothesis can be rejected.

2. Fisher's Exact Test for testing independence between garden type and number of plants grown.

```r
fisher.test(tp_cross, simulate.p.value=TRUE, B = 1e7)
```

```
## Warning: Setting row names on a tibble is deprecated.
```

```
##
##  Fisher's Exact Test for Count Data with simulated p-value (based
##  on 1e+07 replicates)
##
## data:  tp_cross
## p-value = 0.7203
## alternative hypothesis: two.sided
```