

Question 5.26

- a. The frequency table is shown in Table 1.

Table 1. Frequency table for the fire-blight data. Note that A=no action (control), B=removal of the affected branches, C=spraying of foliage with an antibiotic and the removal of affected branches, 1=the tree died in the same year that the disease was noticed, 2=the tree died after 2-4 years, 3=the tree died after 4 years.

	1	2	3
A	5	2	0
B	3	3	2
C	2	4	3

- b. The row percentage table is shown in Table 2.

Table 2. Row percentages table for the fire-blight data. Abbreviations are given in Table 1.

	1	2	3	Sum
A	71.4	28.6	0.0	100.0
B	37.5	37.5	25.0	100.0
C	22.2	44.4	33.3	100.0

- c. The column percentage table is shown in Table 3.

Table 3. Column percentages table for the fire-blight data. Abbreviations are given in Table 1.

	1	2	3
A	50.0	22.2	0.0
B	30.0	33.3	40.0
C	20.0	44.4	60.0
Sum	100.0	100.0	100.0

- d. The table percentage table is shown in Table 4.

Table 4. Table percentages table for the fire-blight data. Abbreviations are given in Table 1.

	1	2	3	Sum
A	20.8	8.3	0.0	29.2
B	12.5	12.5	8.3	33.3
C	8.3	16.7	12.5	37.5
Sum	41.7	37.5	20.8	100.0

- e. The percentage of all trees in Treatment A that were dead within the first year (i.e., outcome=1) is 71.4% (Table 2).
- f. The percentage of ALL trees that were in Treatment A AND were dead within the first year (i.e., outcome=1) is 20.8% (Table 4).
- g. The percentage of the trees in the control treatment (treatment A) that died after four years (i.e., outcome=3) is 0.0% (Table 2).
- h. The percentage of the trees that died after 2-4 years (outcome 2) that were in the control treatment (treatment A) is 22.2% (Table 3).
- i. The percentage of all trees that were dead within the first year is 41.7% (Table 4).

Appendix – R Commands

```
treat <- c("A","A","A","A","A","B","B","B","C","C","A","A","B","B","B",  
"C","C","C","C","B","B","C","C","C")  
out <- factor(c(1,1,1,1,1,1,1,1,1,1,2,2,2,2,2,2,2,2,3,3,3,3,3))  
d2 <- data.frame(treat,out)  
tbl <- table(d2$treat,d2$out)  
row.tbl <- percTable(tbl,margin=1)  
col.tbl <- percTable(tbl,margin=2)  
perc.tbl <- percTable(tbl)
```

Notes From Professor

- You must provide labeled tables and figures to support your results and refer to these tables in your sentences.
- It probably would have been easier to enter the data into Excel, save it as a text file, and then use `read.table()` to load the data into R.
- Sentences cannot begin with a number (e.g., you cannot say “22.2% of”). You must reorganize the sentence so that it does not begin with a number.