

SCHw2

R26131133

Data

```
data = read.csv("primary_data.csv", sep=";")
data$class <- factor(data$class, levels = c("e", "p"), labels = c("edible", "poisonous"))
head(data)
```

	family	name	class	cap.diameter	cap.shape	Cap.surface	
1	Amanita Family	Fly Agaric	poisonous	[10, 20]	[x, f]	[g, h]	
2	Amanita Family	Panther Cap	poisonous	[5, 10]	[p, x]	[g]	
3	Amanita Family	False Panther Cap	poisonous	[10, 15]	[x, f]		
4	Amanita Family	The Blusher	edibile	[5, 15]	[x, f]		
5	Amanita Family	Death Cap	poisonous	[5, 12]	[x, f]	[h]	
6	Amanita Family	False Death Cap	edibile	[4, 9]	[x]		
	cap.color	does.bruise.or.bleed	gill.attachment	gill.spacing	gill.color		
1	[e, o]	[f]	[e]		[w]		
2	[n]	[f]	[e]		[w]		
3	[g, n]	[f]	[e]		[w]		
4	[n]	[t]			[w]		
5	[r]	[f]		[c]	[w]		
6	[w, y]	[f]	[e]		[w]		
	stem.height	stem.width	stem.root	stem.surface	stem.color	veil.type	veil.color
1	[15, 20]	[15, 20]	[s]	[y]	[w]	[u]	[w]
2	[6, 10]	[10, 20]		[y]	[w]	[u]	[w]
3	[10, 12]	[10, 20]			[w]	[u]	[w]
4	[7, 15]	[10, 25]	[b]		[w]	[u]	[w]
5	[10, 12]	[10, 20]			[w]	[u]	[w]
6	[5, 7]	[10, 15]	[b]		[w, y]	[u]	[y, w]
	has.ring	ring.type	Spore.print.color	habitat	season		
1	[t]	[g, p]		[d]	[u, a, w]		
2	[t]	[p]		[d]	[u, a]		

3	[t]	[e, g]	[d]	[u, a]
4	[t]	[g]	[d]	[u, a]
5	[t]	[g, p]	[d]	[u, a]
6	[t]	[g]	[d]	[u, a]

```
str(data)
```

```
'data.frame': 173 obs. of 23 variables:
 $ family      : chr "Amanita Family" "Amanita Family" "Amanita Family" "Amanita Family" ...
 $ name        : chr "Fly Agaric" "Panther Cap" "False Panther Cap" "The Blusher" ...
 $ class       : Factor w/ 2 levels "edibile","poisonous": 2 2 2 1 2 1 2 1 1 1 ...
 $ cap.diameter: chr "[10, 20]" "[5, 10]" "[10, 15]" "[5, 15]" ...
 $ cap.shape   : chr "[x, f]" "[p, x]" "[x, f]" "[x, f]" ...
 $ Cap.surface : chr "[g, h]" "[g]" "" "" ...
 $ cap.color   : chr "[e, o]" "[n]" "[g, n]" "[n]" ...
 $ does.bruise.or.bleed: chr "[f]" "[f]" "[f]" "[t]" ...
 $ gill.attachment: chr "[e]" "[e]" "[e]" "" ...
 $ gill.spacing: chr "" "" "" "" ...
 $ gill.color  : chr "[w]" "[w]" "[w]" "[w]" ...
 $ stem.height : chr "[15, 20]" "[6, 10]" "[10, 12]" "[7, 15]" ...
 $ stem.width  : chr "[15, 20]" "[10, 20]" "[10, 20]" "[10, 25]" ...
 $ stem.root   : chr "[s]" "" "" "[b]" ...
 $ stem.surface: chr "[y]" "[y]" "" "" ...
 $ stem.color  : chr "[w]" "[w]" "[w]" "[w]" ...
 $ veil.type   : chr "[u]" "[u]" "[u]" "[u]" ...
 $ veil.color  : chr "[w]" "[w]" "[w]" "[w]" ...
 $ has.ring    : chr "[t]" "[t]" "[t]" "[t]" ...
 $ ring.type   : chr "[g, p]" "[p]" "[e, g]" "[g]" ...
 $ Spore.print.color: chr "" "" "" "" ...
 $ habitat     : chr "[d]" "[d]" "[d]" "[d]" ...
 $ season      : chr "[u, a, w]" "[u, a]" "[u, a]" "[u, a]" ...
```

Summary

```
latex(describe(data), file="")
```

	data
23 Variables	173 Observations

family	n	missing	distinct
	173	0	23

name		
n	missing	distinct
173	0	173

class		
n	missing	distinct
173	0	2

cap.diameter		
n	missing	distinct
173	0	51

cap.shape		
n	missing	distinct
173	0	27

Cap.surface
n
missing
distinct
133
40
40

cap.color

n missing distinct
173 0 67

lowest : [b, p, e, y] [b, u] [b] [e, n, p, w] [e, n, y]
highest: [y, n] [y, o, g, n, r] [y, o, r, n] [y, o] [y]

does.bruise.or.bleed

n missing distinct
173 0 2

Value [f] [t]
Frequency 143 30
Proportion 0.827 0.173

gill.attachment

n missing distinct
145 28 8

Value [a, d] [a] [d] [e] [f] [p] [s] [x]
Frequency 8 32 25 16 10 17 16 21
Proportion 0.055 0.221 0.172 0.110 0.069 0.117 0.110 0.145

gill.spacing

n missing distinct
102 71 3

Value [c] [d] [f]
Frequency 70 22 10
Proportion 0.686 0.216 0.098

gill.color

n missing distinct
173 0 59

lowest : [b, p, w] [b, u] [b] [e] [f]
highest: [y, o, e] [y, r, k] [y, r] [y, w] [y]

stem.height

n missing distinct
173 0 46

lowest : [0] [1, 2] [1, 3] [10, 12] [10, 15], highest: [8, 12] [8, 15] [8, 20] [8, 25] [8, 30]

stem.width

n missing distinct
173 0 48

lowest : [0.5, 1] [0] [1, 2] [1, 3] [1], highest: [7, 15] [8, 12] [8, 15] [8, 18] [8, 20]

stem.root

n	missing	distinct
27	146	5

Value	[b]	[c]	[f]	[r]	[s]
Frequency	9	2	3	4	9
Proportion	0.333	0.074	0.111	0.148	0.333

stem.surface

n	missing	distinct
65	108	14

Value	[f]	[g]	[h]	[i, s]	[i, t]	[i, y]	[i]	[k, s]	[k]	[s, h]	[s]	[t]
Frequency	3	5	1	1	1	1	11	1	4	1	15	7
Proportion	0.046	0.077	0.015	0.015	0.015	0.015	0.169	0.015	0.062	0.015	0.231	0.108

Value	[y, s]	[y]
Frequency	1	13
Proportion	0.015	0.200

stem.color

n	missing	distinct
173	0	41

lowest :	[b, u]	[e, n]	[e, u, y]	[e, y]	[e]
highest:	[w]	[y, e, n]	[y, n]	[y, o, k]	[y]

veil.type

n	missing	distinct	value
9	164	1	[u]

Value	[u]
Frequency	9
Proportion	1

veil.color

n	missing	distinct
21	152	7

Value	[e, n]	[k]	[n]	[u]	[w]	[y, w]	[y]
Frequency	1	1	1	1	15	1	1
Proportion	0.048	0.048	0.048	0.048	0.714	0.048	0.048

has.ring

n	missing	distinct
173	0	2

Value	[f]	[t]
Frequency	130	43
Proportion	0.751	0.249

ring.type

	n	missing	distinct	
	166	7	13	
Value	[e, g]	[e]	[f]	[g, p]
Frequency	1	6	137	2
Proportion	0.006	0.036	0.825	0.012
Value	[g]	[l, e]	[l, p]	[l, r]
Frequency	2	1	1	2
Proportion	0.012	0.006	0.006	0.012
Value	[l]	[m]	[p]	[r]
Frequency	2	1	2	3
Proportion	0.012	0.006	0.012	0.018
Value	[z]			
Frequency	6			
Proportion	0.036			

Spore.print.color

	n	missing	distinct	
	18	155	8	
Value	[g]	[k, r]	[k, u]	[k]
Frequency	1	1	1	5
Proportion	0.056	0.056	0.056	0.278
Value	[n]	[p, w]	[p]	[w]
Frequency	3	1	3	3
Proportion	0.167	0.056	0.167	0.167

habitat

	n	missing	distinct	
	173	0	21	
lowest :	[d, h]	[d]	[g, d, h]	[g, d]
highest:	[m, d]	[m, h]	[m]	[p, d]
				[g, h, d]
				[w]

season

	n	missing	distinct	
	173	0	10	
Value	[a, w]	[a]	[s, a, w]	[s, u, a, w]
Frequency	15	16	1	13
Proportion	0.087	0.092	0.006	0.075
Value	[s]	[u, a, w]	[u, a]	[u]
Frequency	1	12	106	1
Proportion	0.006	0.069	0.613	0.006

Table1

```
table1(~. -name| class, data = data)
```

Get nicer `table1` LaTeX output by simply installing the `kableExtra` package

	edibile	poisonous	Overall
	(N=77)	(N=96)	(N=173)
family			
Amanita Family	3 (3.9%)	5 (5.2%)	8 (4.6%)
Bolbitius Family	1 (1.3%)	2 (2.1%)	3 (1.7%)
Bolete Family	11 (14.3%)	3 (3.1%)	14 (8.1%)
Bracket Fungi	1 (1.3%)	6 (6.3%)	7 (4.0%)
Chanterelle Family	3 (3.9%)	0 (0%)	3 (1.7%)
Entoloma Family	1 (1.3%)	6 (6.3%)	7 (4.0%)
Hydnum Family	1 (1.3%)	0 (0%)	1 (0.6%)
Ink Cap Family	6 (7.8%)	7 (7.3%)	13 (7.5%)
Lepiota Family	2 (2.6%)	1 (1.0%)	3 (1.7%)
Morel Family	1 (1.3%)	0 (0%)	1 (0.6%)
Mushroom Family	4 (5.2%)	1 (1.0%)	5 (2.9%)
Oyster Mushroom Family	2 (2.6%)	0 (0%)	2 (1.2%)
Pluteus Family	2 (2.6%)	0 (0%)	2 (1.2%)
Russula Family	11 (14.3%)	16 (16.7%)	27 (15.6%)
Stropharia Family	1 (1.3%)	7 (7.3%)	8 (4.6%)
Tricholoma Family	23 (29.9%)	20 (20.8%)	43 (24.9%)
Wax Gill Family	4 (5.2%)	4 (4.2%)	8 (4.6%)
Cortinarius Family	0 (0%)	11 (11.5%)	11 (6.4%)
Crepidotus Family	0 (0%)	1 (1.0%)	1 (0.6%)
Ear-Pick Family	0 (0%)	1 (1.0%)	1 (0.6%)
Jelly Discs Family	0 (0%)	1 (1.0%)	1 (0.6%)
Paxillus Family	0 (0%)	3 (3.1%)	3 (1.7%)
Saddle-Cup Family	0 (0%)	1 (1.0%)	1 (0.6%)
cap.diameter			
[0.5, 1.5]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[1, 2]	3 (3.9%)	4 (4.2%)	7 (4.0%)
[1, 4]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[10, 25]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[12, 18]	1 (1.3%)	0 (0%)	1 (0.6%)
[12, 25]	1 (1.3%)	0 (0%)	1 (0.6%)
[2, 10]	1 (1.3%)	0 (0%)	1 (0.6%)
[2, 4]	1 (1.3%)	7 (7.3%)	8 (4.6%)
[2, 5]	7 (9.1%)	9 (9.4%)	16 (9.2%)
[2, 6]	2 (2.6%)	8 (8.3%)	10 (5.8%)
[2, 7]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[2, 8]	1 (1.3%)	0 (0%)	1 (0.6%)
[3, 10]	4 (5.2%)	1 (1.0%)	5 (2.9%)
[3, 5]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[3, 6]	4 (5.2%)	2 (2.1%)	6 (3.5%)

	edible	poisonous	Overall
[3, 7]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[3, 8]	2 (2.6%)	4 (4.2%)	6 (3.5%)
[4, 10]	4 (5.2%)	4 (4.2%)	8 (4.6%)
[4, 12]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[4, 8]	5 (6.5%)	4 (4.2%)	9 (5.2%)
[4, 9]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[5, 10]	4 (5.2%)	8 (8.3%)	12 (6.9%)
[5, 12]	3 (3.9%)	3 (3.1%)	6 (3.5%)
[5, 15]	7 (9.1%)	1 (1.0%)	8 (4.6%)
[5, 18]	1 (1.3%)	0 (0%)	1 (0.6%)
[5, 20]	1 (1.3%)	0 (0%)	1 (0.6%)
[50]	1 (1.3%)	0 (0%)	1 (0.6%)
[6, 10]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[6, 12]	2 (2.6%)	3 (3.1%)	5 (2.9%)
[6, 14]	1 (1.3%)	0 (0%)	1 (0.6%)
[7, 15]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[8, 12]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 15]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 20]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[8, 25]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[8, 30]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[0.4, 1]	0 (0%)	2 (2.1%)	2 (1.2%)
[0.5, 1]	0 (0%)	1 (1.0%)	1 (0.6%)
[0.7, 1.3]	0 (0%)	1 (1.0%)	1 (0.6%)
[1, 1.5]	0 (0%)	1 (1.0%)	1 (0.6%)
[1, 3]	0 (0%)	5 (5.2%)	5 (2.9%)
[10, 15]	0 (0%)	1 (1.0%)	1 (0.6%)
[10, 20]	0 (0%)	1 (1.0%)	1 (0.6%)
[2, 3]	0 (0%)	1 (1.0%)	1 (0.6%)
[3, 12]	0 (0%)	1 (1.0%)	1 (0.6%)
[4, 7]	0 (0%)	1 (1.0%)	1 (0.6%)
[5, 14]	0 (0%)	1 (1.0%)	1 (0.6%)
[6, 15]	0 (0%)	2 (2.1%)	2 (1.2%)
[6, 18]	0 (0%)	1 (1.0%)	1 (0.6%)
[7, 20]	0 (0%)	1 (1.0%)	1 (0.6%)
[8, 14]	0 (0%)	1 (1.0%)	1 (0.6%)
cap.shape			
[b, f]	2 (2.6%)	3 (3.1%)	5 (2.9%)
[b]	2 (2.6%)	8 (8.3%)	10 (5.8%)
[c, x, f]	1 (1.3%)	0 (0%)	1 (0.6%)
[c, x]	1 (1.3%)	0 (0%)	1 (0.6%)

	edible	poisonous	Overall
[c]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[f, s]	3 (3.9%)	5 (5.2%)	8 (4.6%)
[f, x]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[f]	4 (5.2%)	4 (4.2%)	8 (4.6%)
[o]	1 (1.3%)	7 (7.3%)	8 (4.6%)
[p, b]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[p, c, o]	1 (1.3%)	0 (0%)	1 (0.6%)
[p, f]	2 (2.6%)	0 (0%)	2 (1.2%)
[p, x, f]	2 (2.6%)	0 (0%)	2 (1.2%)
[p, x]	3 (3.9%)	1 (1.0%)	4 (2.3%)
[s, o]	2 (2.6%)	0 (0%)	2 (1.2%)
[s]	4 (5.2%)	5 (5.2%)	9 (5.2%)
[x, f, s]	7 (9.1%)	6 (6.3%)	13 (7.5%)
[x, f]	14 (18.2%)	15 (15.6%)	29 (16.8%)
[x, p]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[x, s]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[x]	23 (29.9%)	25 (26.0%)	48 (27.7%)
[b, f, s]	0 (0%)	1 (1.0%)	1 (0.6%)
[b, x, f]	0 (0%)	1 (1.0%)	1 (0.6%)
[b, x]	0 (0%)	3 (3.1%)	3 (1.7%)
[c, f]	0 (0%)	2 (2.1%)	2 (1.2%)
[p]	0 (0%)	1 (1.0%)	1 (0.6%)
[x, o]	0 (0%)	1 (1.0%)	1 (0.6%)
Cap.surface			
	19 (24.7%)	21 (21.9%)	40 (23.1%)
[d, k]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[d, s]	1 (1.3%)	0 (0%)	1 (0.6%)
[d]	4 (5.2%)	5 (5.2%)	9 (5.2%)
[e, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[e]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[g, s, h, t]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, s, t]	1 (1.3%)	0 (0%)	1 (0.6%)
[g]	5 (6.5%)	7 (7.3%)	12 (6.9%)
[h, s, d]	1 (1.3%)	0 (0%)	1 (0.6%)
[h, t]	6 (7.8%)	4 (4.2%)	10 (5.8%)
[h]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[i, y]	2 (2.6%)	0 (0%)	2 (1.2%)
[l]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[s, d]	1 (1.3%)	0 (0%)	1 (0.6%)
[s, t]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[s, y]	1 (1.3%)	2 (2.1%)	3 (1.7%)

	edible	poisonous	Overall
[s]	8 (10.4%)	5 (5.2%)	13 (7.5%)
[t, h, s]	1 (1.3%)	0 (0%)	1 (0.6%)
[t, h]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[t]	2 (2.6%)	10 (10.4%)	12 (6.9%)
[w, t]	1 (1.3%)	0 (0%)	1 (0.6%)
[w]	2 (2.6%)	3 (3.1%)	5 (2.9%)
[y, s]	1 (1.3%)	0 (0%)	1 (0.6%)
[y]	7 (9.1%)	7 (7.3%)	14 (8.1%)
[d, e, y, i]	0 (0%)	1 (1.0%)	1 (0.6%)
[d, k, s]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, k, s, h]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, t, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, h]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, s, d]	0 (0%)	1 (1.0%)	1 (0.6%)
[h, s, t]	0 (0%)	1 (1.0%)	1 (0.6%)
[h, t, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[h, t, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[i, e]	0 (0%)	1 (1.0%)	1 (0.6%)
[i]	0 (0%)	4 (4.2%)	4 (2.3%)
[k, e]	0 (0%)	1 (1.0%)	1 (0.6%)
[k]	0 (0%)	4 (4.2%)	4 (2.3%)
[s, h]	0 (0%)	1 (1.0%)	1 (0.6%)
[s, i]	0 (0%)	1 (1.0%)	1 (0.6%)
[t, w, d]	0 (0%)	1 (1.0%)	1 (0.6%)
cap.color			
[b, u]	1 (1.3%)	0 (0%)	1 (0.6%)
[b]	1 (1.3%)	0 (0%)	1 (0.6%)
[e, n, y]	2 (2.6%)	0 (0%)	2 (1.2%)
[g, k]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[g, n]	6 (7.8%)	4 (4.2%)	10 (5.8%)
[g, u, n, p]	1 (1.3%)	0 (0%)	1 (0.6%)
[k, n, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, g, b, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, r, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, u, g, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, b]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[n, e]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[n, g]	3 (3.9%)	0 (0%)	3 (1.7%)
[n, o, e]	1 (1.3%)	0 (0%)	1 (0.6%)

	edible	poisonous	Overall
[n, o]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[n, p, e]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[n, r, u, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, w]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[n, y, e]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, y, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, y]	3 (3.9%)	6 (6.3%)	9 (5.2%)
[n]	22 (28.6%)	16 (16.7%)	38 (22.0%)
[o, b]	1 (1.3%)	0 (0%)	1 (0.6%)
[o, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[o, p, e]	1 (1.3%)	0 (0%)	1 (0.6%)
[u, k]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, g]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[w, n]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[w, p, o]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, y]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[w]	6 (7.8%)	6 (6.3%)	12 (6.9%)
[y]	6 (7.8%)	4 (4.2%)	10 (5.8%)
[b, p, e, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, n, p, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, n]	0 (0%)	2 (2.1%)	2 (1.2%)
[e, o, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, o]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, p, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[e, u, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[e]	0 (0%)	3 (3.1%)	3 (1.7%)
[g, n, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, r, k, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, r, n]	0 (0%)	2 (2.1%)	2 (1.2%)
[g, u, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[g]	0 (0%)	1 (1.0%)	1 (0.6%)
[l, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, e, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, o, y, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[o, e, n, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[o, y, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[o, y]	0 (0%)	3 (3.1%)	3 (1.7%)
[o]	0 (0%)	2 (2.1%)	2 (1.2%)
[p]	0 (0%)	2 (2.1%)	2 (1.2%)
[r, l]	0 (0%)	1 (1.0%)	1 (0.6%)
[r, n]	0 (0%)	1 (1.0%)	1 (0.6%)

	edible	poisonous	Overall
[r, p, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[r, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[r]	0 (0%)	1 (1.0%)	1 (0.6%)
[u]	0 (0%)	2 (2.1%)	2 (1.2%)
[w, u]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, y, g, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, n]	0 (0%)	3 (3.1%)	3 (1.7%)
[y, o, g, n, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, o, r, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, o]	0 (0%)	1 (1.0%)	1 (0.6%)
does.bruise.or.bleed			
[f]	63 (81.8%)	80 (83.3%)	143 (82.7%)
[t]	14 (18.2%)	16 (16.7%)	30 (17.3%)
gill.attachment			
	10 (13.0%)	18 (18.8%)	28 (16.2%)
[a, d]	5 (6.5%)	3 (3.1%)	8 (4.6%)
[a]	11 (14.3%)	21 (21.9%)	32 (18.5%)
[d]	9 (11.7%)	16 (16.7%)	25 (14.5%)
[e]	10 (13.0%)	6 (6.3%)	16 (9.2%)
[f]	4 (5.2%)	6 (6.3%)	10 (5.8%)
[p]	12 (15.6%)	5 (5.2%)	17 (9.8%)
[s]	7 (9.1%)	9 (9.4%)	16 (9.2%)
[x]	9 (11.7%)	12 (12.5%)	21 (12.1%)
gill.spacing			
	31 (40.3%)	40 (41.7%)	71 (41.0%)
[c]	29 (37.7%)	41 (42.7%)	70 (40.5%)
[d]	13 (16.9%)	9 (9.4%)	22 (12.7%)
[f]	4 (5.2%)	6 (6.3%)	10 (5.8%)
gill.color			
[b, u]	1 (1.3%)	0 (0%)	1 (0.6%)
[b]	1 (1.3%)	0 (0%)	1 (0.6%)
[f]	4 (5.2%)	6 (6.3%)	10 (5.8%)
[g, k]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[g, n]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[g, p]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, w, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, w]	2 (2.6%)	0 (0%)	2 (1.2%)
[g]	3 (3.9%)	1 (1.0%)	4 (2.3%)
[k, n]	2 (2.6%)	4 (4.2%)	6 (3.5%)
[k, p, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, y]	1 (1.3%)	1 (1.0%)	2 (1.2%)

	edible	poisonous	Overall
[n]	3 (3.9%)	8 (8.3%)	11 (6.4%)
[o, b]	1 (1.3%)	0 (0%)	1 (0.6%)
[o, e]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[o, y]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[o]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[p, n, k]	1 (1.3%)	0 (0%)	1 (0.6%)
[p, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[p, w]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[p]	3 (3.9%)	5 (5.2%)	8 (4.6%)
[r]	1 (1.3%)	0 (0%)	1 (0.6%)
[u, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, n]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[w, p, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, p]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[w, u, g, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, y]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[w]	21 (27.3%)	15 (15.6%)	36 (20.8%)
[y, e, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[y, k]	1 (1.3%)	0 (0%)	1 (0.6%)
[y, n]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[y, r]	1 (1.3%)	0 (0%)	1 (0.6%)
[y]	6 (7.8%)	7 (7.3%)	13 (7.5%)
[b, p, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[e]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, n, u]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, r, w]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, u]	0 (0%)	1 (1.0%)	1 (0.6%)
[k, p]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, e, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, p]	0 (0%)	2 (2.1%)	2 (1.2%)
[n, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, u]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, w]	0 (0%)	2 (2.1%)	2 (1.2%)
[p, y, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[p, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[r, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, b, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, g, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, g, p, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, g, u]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, g]	0 (0%)	1 (1.0%)	1 (0.6%)

	edible	poisonous	Overall
[w, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, y, g, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, g, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, o, e]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, r, k]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, w]	0 (0%)	1 (1.0%)	1 (0.6%)
stem.height			
[10, 15]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[12, 20]	1 (1.3%)	0 (0%)	1 (0.6%)
[15, 35]	1 (1.3%)	0 (0%)	1 (0.6%)
[2, 3]	1 (1.3%)	0 (0%)	1 (0.6%)
[2, 4]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[2, 5]	1 (1.3%)	10 (10.4%)	11 (6.4%)
[2, 6]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[2, 7]	1 (1.3%)	0 (0%)	1 (0.6%)
[2, 8]	1 (1.3%)	0 (0%)	1 (0.6%)
[3, 10]	3 (3.9%)	1 (1.0%)	4 (2.3%)
[3, 4]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[3, 6]	7 (9.1%)	8 (8.3%)	15 (8.7%)
[3, 7]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[3, 8]	5 (6.5%)	5 (5.2%)	10 (5.8%)
[4, 10]	10 (13.0%)	6 (6.3%)	16 (9.2%)
[4, 6]	3 (3.9%)	4 (4.2%)	7 (4.0%)
[4, 7]	1 (1.3%)	6 (6.3%)	7 (4.0%)
[4, 8]	11 (14.3%)	10 (10.4%)	21 (12.1%)
[5, 10]	6 (7.8%)	2 (2.1%)	8 (4.6%)
[5, 12]	2 (2.6%)	2 (2.1%)	4 (2.3%)
[5, 15]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[5, 7]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[5, 8]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[5, 9]	1 (1.3%)	0 (0%)	1 (0.6%)
[6, 12]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[7, 11]	1 (1.3%)	0 (0%)	1 (0.6%)
[7, 15]	1 (1.3%)	0 (0%)	1 (0.6%)
[7, 9]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 10]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 12]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[8, 15]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 25]	1 (1.3%)	0 (0%)	1 (0.6%)
[8, 30]	1 (1.3%)	0 (0%)	1 (0.6%)
[0]	0 (0%)	3 (3.1%)	3 (1.7%)

	edible	poisonous	Overall
[1, 2]	0 (0%)	1 (1.0%)	1 (0.6%)
[1, 3]	0 (0%)	1 (1.0%)	1 (0.6%)
[10, 12]	0 (0%)	2 (2.1%)	2 (1.2%)
[10, 20]	0 (0%)	1 (1.0%)	1 (0.6%)
[15, 20]	0 (0%)	1 (1.0%)	1 (0.6%)
[3, 5]	0 (0%)	2 (2.1%)	2 (1.2%)
[4, 5]	0 (0%)	1 (1.0%)	1 (0.6%)
[6, 10]	0 (0%)	6 (6.3%)	6 (3.5%)
[6, 14]	0 (0%)	1 (1.0%)	1 (0.6%)
[6, 15]	0 (0%)	3 (3.1%)	3 (1.7%)
[6, 18]	0 (0%)	1 (1.0%)	1 (0.6%)
[8, 20]	0 (0%)	1 (1.0%)	1 (0.6%)
stem.width			
[1, 2]	2 (2.6%)	3 (3.1%)	5 (2.9%)
[1, 3]	1 (1.3%)	0 (0%)	1 (0.6%)
[1]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[10, 15]	9 (11.7%)	6 (6.3%)	15 (8.7%)
[10, 18]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[10, 20]	6 (7.8%)	10 (10.4%)	16 (9.2%)
[10, 25]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[10, 30]	1 (1.3%)	0 (0%)	1 (0.6%)
[10, 60]	1 (1.3%)	0 (0%)	1 (0.6%)
[10]	3 (3.9%)	1 (1.0%)	4 (2.3%)
[12, 18]	1 (1.3%)	0 (0%)	1 (0.6%)
[15, 20]	5 (6.5%)	4 (4.2%)	9 (5.2%)
[15, 25]	5 (6.5%)	1 (1.0%)	6 (3.5%)
[15, 30]	3 (3.9%)	1 (1.0%)	4 (2.3%)
[2, 3]	1 (1.3%)	8 (8.3%)	9 (5.2%)
[2, 4]	2 (2.6%)	4 (4.2%)	6 (3.5%)
[2, 5]	2 (2.6%)	0 (0%)	2 (1.2%)
[20, 25]	1 (1.3%)	0 (0%)	1 (0.6%)
[20, 30]	4 (5.2%)	2 (2.1%)	6 (3.5%)
[20, 40]	1 (1.3%)	5 (5.2%)	6 (3.5%)
[20, 80]	1 (1.3%)	0 (0%)	1 (0.6%)
[3, 5]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[3, 6]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[3, 7]	1 (1.3%)	0 (0%)	1 (0.6%)
[3, 8]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[30, 40]	1 (1.3%)	0 (0%)	1 (0.6%)
[4, 8]	3 (3.9%)	5 (5.2%)	8 (4.6%)
[40, 100]	1 (1.3%)	0 (0%)	1 (0.6%)

	edible	poisonous	Overall
[5, 10]	4 (5.2%)	9 (9.4%)	13 (7.5%)
[5, 8]	2 (2.6%)	3 (3.1%)	5 (2.9%)
[6, 10]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[6, 12]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[8, 12]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[8, 15]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[8, 20]	1 (1.3%)	0 (0%)	1 (0.6%)
[0.5, 1]	0 (0%)	1 (1.0%)	1 (0.6%)
[0]	0 (0%)	3 (3.1%)	3 (1.7%)
[15, 40]	0 (0%)	1 (1.0%)	1 (0.6%)
[2]	0 (0%)	1 (1.0%)	1 (0.6%)
[20, 50]	0 (0%)	1 (1.0%)	1 (0.6%)
[20, 60]	0 (0%)	1 (1.0%)	1 (0.6%)
[3, 4]	0 (0%)	3 (3.1%)	3 (1.7%)
[4, 5]	0 (0%)	1 (1.0%)	1 (0.6%)
[4, 6]	0 (0%)	1 (1.0%)	1 (0.6%)
[4, 7]	0 (0%)	2 (2.1%)	2 (1.2%)
[5, 12]	0 (0%)	1 (1.0%)	1 (0.6%)
[7, 15]	0 (0%)	1 (1.0%)	1 (0.6%)
[8, 18]	0 (0%)	1 (1.0%)	1 (0.6%)
stem.root			
	67 (87.0%)	79 (82.3%)	146 (84.4%)
[b]	6 (7.8%)	3 (3.1%)	9 (5.2%)
[s]	4 (5.2%)	5 (5.2%)	9 (5.2%)
[c]	0 (0%)	2 (2.1%)	2 (1.2%)
[f]	0 (0%)	3 (3.1%)	3 (1.7%)
[r]	0 (0%)	4 (4.2%)	4 (2.3%)
stem.surface			
	53 (68.8%)	55 (57.3%)	108 (62.4%)
[i, t]	1 (1.3%)	0 (0%)	1 (0.6%)
[i]	4 (5.2%)	7 (7.3%)	11 (6.4%)
[k, s]	1 (1.3%)	0 (0%)	1 (0.6%)
[k]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[s]	9 (11.7%)	6 (6.3%)	15 (8.7%)
[t]	3 (3.9%)	4 (4.2%)	7 (4.0%)
[y, s]	1 (1.3%)	0 (0%)	1 (0.6%)
[y]	4 (5.2%)	9 (9.4%)	13 (7.5%)
[f]	0 (0%)	3 (3.1%)	3 (1.7%)
[g]	0 (0%)	5 (5.2%)	5 (2.9%)
[h]	0 (0%)	1 (1.0%)	1 (0.6%)
[i, s]	0 (0%)	1 (1.0%)	1 (0.6%)

	edible	poisonous	Overall
[i, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[s, h]	0 (0%)	1 (1.0%)	1 (0.6%)
stem.color			
[b, u]	1 (1.3%)	0 (0%)	1 (0.6%)
[e, n]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[e, y]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, n]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[g, w]	2 (2.6%)	0 (0%)	2 (1.2%)
[g]	2 (2.6%)	0 (0%)	2 (1.2%)
[k, n]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[l, r, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, g]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[n, o]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[n, p, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[n, w]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[n, y]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[n]	15 (19.5%)	20 (20.8%)	35 (20.2%)
[o, e]	1 (1.3%)	0 (0%)	1 (0.6%)
[o, n]	1 (1.3%)	0 (0%)	1 (0.6%)
[o, y]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[u]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[w, n]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[w, o]	1 (1.3%)	0 (0%)	1 (0.6%)
[w, y]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[w]	32 (41.6%)	25 (26.0%)	57 (32.9%)
[y]	5 (6.5%)	8 (8.3%)	13 (7.5%)
[e, u, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[e]	0 (0%)	1 (1.0%)	1 (0.6%)
[f]	0 (0%)	3 (3.1%)	3 (1.7%)
[g, r, n]	0 (0%)	2 (2.1%)	2 (1.2%)
[g, u, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[k]	0 (0%)	1 (1.0%)	1 (0.6%)
[n, e]	0 (0%)	2 (2.1%)	2 (1.2%)
[n, p]	0 (0%)	1 (1.0%)	1 (0.6%)
[o]	0 (0%)	1 (1.0%)	1 (0.6%)
[p]	0 (0%)	2 (2.1%)	2 (1.2%)
[r, y]	0 (0%)	1 (1.0%)	1 (0.6%)
[u, e]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, l, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[w, u]	0 (0%)	1 (1.0%)	1 (0.6%)

	edible	poisonous	Overall
[y, e, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[y, n]	0 (0%)	4 (4.2%)	4 (2.3%)
[y, o, k]	0 (0%)	1 (1.0%)	1 (0.6%)
veil.type			
	74 (96.1%)	90 (93.8%)	164 (94.8%)
[u]	3 (3.9%)	6 (6.3%)	9 (5.2%)
veil.color			
	68 (88.3%)	84 (87.5%)	152 (87.9%)
[w]	7 (9.1%)	8 (8.3%)	15 (8.7%)
[y, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[y]	1 (1.3%)	0 (0%)	1 (0.6%)
[e, n]	0 (0%)	1 (1.0%)	1 (0.6%)
[k]	0 (0%)	1 (1.0%)	1 (0.6%)
[n]	0 (0%)	1 (1.0%)	1 (0.6%)
[u]	0 (0%)	1 (1.0%)	1 (0.6%)
has.ring			
[f]	60 (77.9%)	70 (72.9%)	130 (75.1%)
[t]	17 (22.1%)	26 (27.1%)	43 (24.9%)
ring.type			
	4 (5.2%)	3 (3.1%)	7 (4.0%)
[e]	3 (3.9%)	3 (3.1%)	6 (3.5%)
[f]	61 (79.2%)	76 (79.2%)	137 (79.2%)
[g]	2 (2.6%)	0 (0%)	2 (1.2%)
[l, p]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, r]	2 (2.6%)	0 (0%)	2 (1.2%)
[l]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[m]	1 (1.3%)	0 (0%)	1 (0.6%)
[p]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[r]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[e, g]	0 (0%)	1 (1.0%)	1 (0.6%)
[g, p]	0 (0%)	2 (2.1%)	2 (1.2%)
[l, e]	0 (0%)	1 (1.0%)	1 (0.6%)
[z]	0 (0%)	6 (6.3%)	6 (3.5%)
Spore.print.color			
	72 (93.5%)	83 (86.5%)	155 (89.6%)
[g]	1 (1.3%)	0 (0%)	1 (0.6%)
[k]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[p]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[w]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[k, r]	0 (0%)	1 (1.0%)	1 (0.6%)
[k, u]	0 (0%)	1 (1.0%)	1 (0.6%)

	edible	poisonous	Overall
[n]	0 (0%)	3 (3.1%)	3 (1.7%)
[p, w]	0 (0%)	1 (1.0%)	1 (0.6%)
habitat			
[d, h]	1 (1.3%)	3 (3.1%)	4 (2.3%)
[d]	47 (61.0%)	57 (59.4%)	104 (60.1%)
[g, d, h]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, d]	6 (7.8%)	4 (4.2%)	10 (5.8%)
[g, h, d]	1 (1.3%)	2 (2.1%)	3 (1.7%)
[g, l, m, d]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, m, d]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[g, m]	3 (3.9%)	2 (2.1%)	5 (2.9%)
[g, u, d]	1 (1.3%)	0 (0%)	1 (0.6%)
[g]	1 (1.3%)	10 (10.4%)	11 (6.4%)
[l, d, h]	1 (1.3%)	0 (0%)	1 (0.6%)
[l, d]	7 (9.1%)	6 (6.3%)	13 (7.5%)
[l, h]	1 (1.3%)	0 (0%)	1 (0.6%)
[l]	1 (1.3%)	0 (0%)	1 (0.6%)
[m, d]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[m]	1 (1.3%)	1 (1.0%)	2 (1.2%)
[w]	1 (1.3%)	0 (0%)	1 (0.6%)
[g, l, d]	0 (0%)	1 (1.0%)	1 (0.6%)
[h, d]	0 (0%)	2 (2.1%)	2 (1.2%)
[m, h]	0 (0%)	1 (1.0%)	1 (0.6%)
[p, d]	0 (0%)	2 (2.1%)	2 (1.2%)
season			
[a, w]	9 (11.7%)	6 (6.3%)	15 (8.7%)
[a]	5 (6.5%)	11 (11.5%)	16 (9.2%)
[s, a, w]	1 (1.3%)	0 (0%)	1 (0.6%)
[s, u, a, w]	7 (9.1%)	6 (6.3%)	13 (7.5%)
[s, u, a]	1 (1.3%)	4 (4.2%)	5 (2.9%)
[s, u]	2 (2.6%)	1 (1.0%)	3 (1.7%)
[s]	1 (1.3%)	0 (0%)	1 (0.6%)
[u, a, w]	8 (10.4%)	4 (4.2%)	12 (6.9%)
[u, a]	43 (55.8%)	63 (65.6%)	106 (61.3%)
[u]	0 (0%)	1 (1.0%)	1 (0.6%)