apple_juice

Valentin Oliver Loftsson

6/29/2020

```
##        ph            nisin        temperature         brix       growth
##  Min.   :3.500   Min.   : 0.00   Min.   :25.00   Min.   :11.00   No :48
##  1st Qu.:4.000   1st Qu.: 0.00   1st Qu.:35.00   1st Qu.:11.00   Yes:26
##  Median :4.000   Median :30.00   Median :43.00   Median :13.00
##  Mean   :4.486   Mean   :35.14   Mean   :38.38   Mean   :14.24
##  3rd Qu.:5.000   3rd Qu.:50.00   3rd Qu.:43.00   3rd Qu.:15.00
##  Max.   :5.500   Max.   :70.00   Max.   :50.00   Max.   :19.00
```

The frequency table of the `growth` response reveals that we have an unbalanced dataset. Here, the response is categorical, so we are interested in proportions.

We are interested in finding true biologically meaningful differences between sample types.

```
## # A tibble: 4 x 4
## # Groups:   ph [4]
##      ph    No   Yes Total
##   <dbl> <int> <int> <int>
## 1   3.5    18     0    18
## 2   4      12     8    20
## 3   5       8    10    18
## 4   5.5    10     8    18
```

```
## # A tibble: 4 x 4
## # Groups:   nisin [4]
##   nisin    No   Yes Total
##   <int> <int> <int> <int>
## 1     0     8    14    22
## 2    30    12     6    18
## 3    50    10     6    16
## 4    70    18     0    18
```

```
## # A tibble: 4 x 4
## # Groups:   temperature [4]
##   temperature    No   Yes Total
##         <int> <int> <int> <int>
## 1          25    16     2    18
```

```
## 2          35    10     8    18
## 3          43    10    10    20
## 4          50    12     6    18
```

```
## # A tibble: 4 x 4
## # Groups:   brix [4]
##    brix    No   Yes Total
##   <int> <int> <int> <int>
## 1    11    16     8    24
## 2    13     8     8    16
## 3    15     6    10    16
## 4    19    18     0    18
```