Farm Vision Apples Analysis

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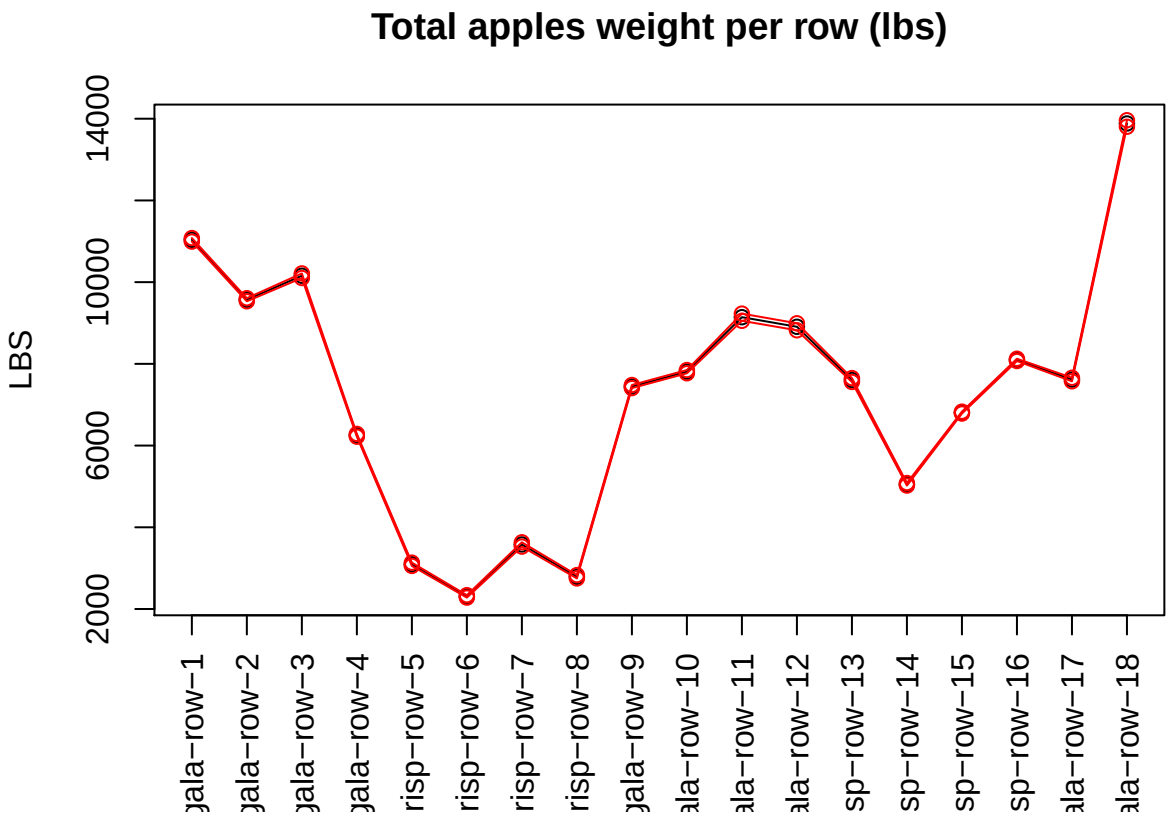
1/22/2021

Summary

The following code loads all data (calibration and actual scan data), bootstraps the calibration data's H/W and HW ratios, then uses the sample mean distributions per row to estimate HW ratios for all scan observations (even rows use nearest odd row's calibration sample distribution). Using this sampled HW ratio, we then calculate a volume of an oblate ellipsoid, using the radius the major axis (width), an estimating height. We then use literature an estimated density calculation (0.8 g/cm3) to estimate yields per row, per cultivar, and total overall.

```
## Loading required package: mvtnorm
```

```
## Loading required package: triangle
```



name	weight_lbs	weight_top_lbs	weight_bottom_lbs
b-gala-row-1	11036.026	10992.178	11079.378
b-gala-row-2	9569.501	9531.474	9607.087
b-gala-row-3	10156.796	10101.068	10213.850
b-gala-row-4	6251.468	6217.069	6286.485
b-honeycrisp-row-5	3094.687	3054.090	3135.122
b-honeycrisp-row-6	2308.927	2278.406	2338.857
b-honeycrisp-row-7	3579.705	3527.542	3632.715
b-honeycrisp-row-8	2789.002	2748.060	2829.993
b-gala-row-9	7444.081	7406.211	7482.344
b-gala-row-10	7809.430	7769.701	7849.571
b-gala-row-11	9142.234	9053.752	9229.736
b-gala-row-12	8908.261	8822.123	8993.604
b-honeycrisp-row-13	7604.464	7556.624	7652.128
b-honeycrisp-row-14	5052.071	5020.292	5083.741
b-honeycrisp-row-15	6807.087	6783.514	6830.313
b-honeycrisp-row-16	8097.480	8069.478	8125.149
b-gala-row-17	7616.446	7572.883	7660.046
b-gala-row-18	13883.203	13803.897	13962.780

	gala and honeycrisp
weight_lbs	131150.9
weight_top_lbs	130308.4
weight_bottom_lbs	131992.9

	honeycrisp
weight_lbs	51122.83
weight_top_lbs	50663.88
weight_bottom_lbs	51580.98

	gala
weight_lbs	91817.45
weight_top_lbs	91270.36
weight_bottom_lbs	92364.88