**Laboratory Sample**

- Check for odour and presence of insect pests
- Mix and reduce using a divider or the quartering method

**Test sample** 1000 g

- **Test Portion** $M_w = 500$ g
  - Use a 1.6 mm slotted sieve to remove foreign matter ($M_1$) and broken grains ($M_2$)
  - Weigh the Foreign matter and the broken grains and express as %
  - Measure moisture content
  - Determine test weight (Bulk density)
  - Determine protein content
  - Determine falling numbers

- **Test Portion** $= 500$ g

**Working Sample** $M_y = 25$ g

- **Test Portion** $= 250$ g
  - Sieve using a 2.0 mm slotted sieve
  - Wheat passing through 2.0 mm slotted sieve and is retained on a 1.6 mm is weighed as screenings ($M_3$)

1. Spread it out and separate and weigh all defective grains together ($M_4$):
   - Heat-damaged kernels,
   - Immature kernels
   - Pest damaged kernels
   - Germinated kernels
   - Discoloured kernels
   - Weather damaged kernels
2. Select and weigh all Un-millable material ($M_5$),
3. Select and weigh all “edible grains other than wheat” ($M_6$)
4. Separate all wheat kernels of “Contrasting varieties” ($M_7$)
5. Count the number of toxic seeds

Calculate the % using the formula:

\[
\text{E.g. } \% \text{ Total defective} = \frac{M_4}{M_y} \times 100
\]