BAMB

BOTSWANA AGRICULTURAL
MARKETING BOARD

OPEN
FOR BUYING
OF GRAINS

GRADING OF GRAINS

Introduction

Grain Grading Standards were developed to facilitate grain merchandising through the use of uniform tests and terms. Grades relate to a grain's end-use quality, meaning grades relate to how grain characteristics affect performance during processing (e.g. how much flour/meal is produced during milling) or the quality of the end product.

Grading factors

Grades are assigned based on a sample's ability to meet tolerances or specifications for various grading factors. A grading factor represents the physical condition of grain. This condition can be a result of growing conditions, time of harvesting, handling procedures or storage practices. The following factors are assessed when grading grains:

1. Moisture Content

This shows how dry the grains are. Moisture in grains affects grain storability as high moisture content may result in mould development, insect infestation and deterioration in quality. Therefore grains must be dry when stored to prolong its shelf life.

2. Presence of storage insect pests

Pests damage grains by reducing its physical and nutritional value. The presence of live insect pests in a sample results in rejection of the grain.

3. Presence of poisonous weed seeds

Poisonous weed seeds such as Datura sp. render the grain unsuitable for human consumption; as such grain with poisonous weed seeds shall be rejected.

4. Foreign matter

Any matter in grain such as twigs, soil, dead insects and seeds of a different crop constitute foreign matter.

NOTE: Stones, coal, metals, glass are not foreign matter as these materials are not allowed in grain and a sample containing such is regarded as reject grade.

5. Defective grains

Defective grains are those that are insect damaged, immature and shrivelled, discoloured and broken.

6. Grains of another colour

This refers to grains of the same variety but with a different colour. An example when grading a sample of white maize, any yellow maize in that sample is referred to as grains of another colour. There is a specification for each crop for the amount of grains of another colour in a sample, above which the sample is rejected. *Example:* the acceptance level for grains of another colour for beans to be classified as Grade 1 is 10%.

7. Preparing grains for sale

a) Practise good management such as pest control and weeding during active growth of crops.

b) Harvest grain when it is dry.

c) When threshing, ensure grains are not broken.

d) Ensure complete winnowing of grains to remove foreign matter.

e) Store grain in a clean, dry and well ventilated store.

f) Inspect the store for insect infestation periodically.