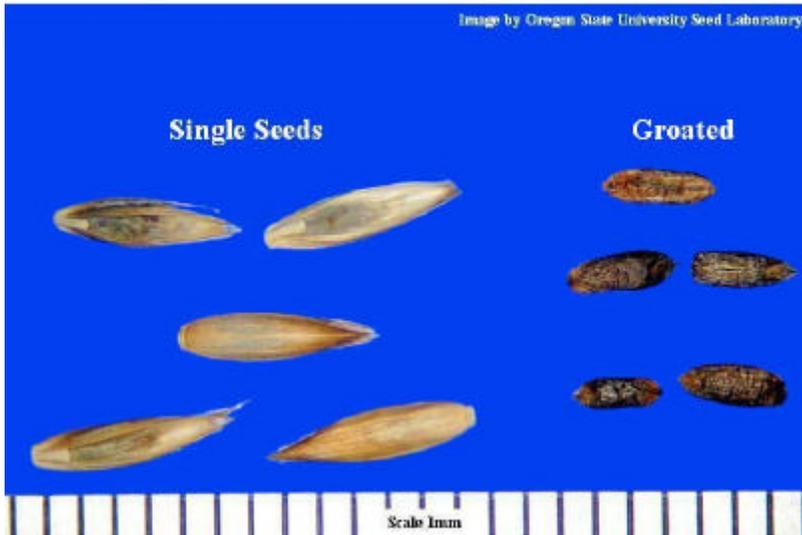


Major Types of Inert in Grass Seed

Example of Pure Seed in Tall fescue



Florets have to contain caryopses to be considered pure seed. Some species indicate that the length of the caryopsis has to be at least 1/3 the length of the palea (seed coat).

When pure seeds lose their coverings all you see is the caryopsis (sometimes called groats).

Groats are considered pure seed.

In some species, the more the seed is re-cleaned, the more groats are created.

In Bentgrass, if more than 75% of the seeds are groated, it can not be certified.

Example of Multiple Florets in Perennial ryegrass



Multiple florets (doubles) may or may not contain pure seeds and/or sterile (empty) florets.

In Orchardgrass and Fine fescues, laboratories separate multiples, and weigh and factor them to estimate inert, which adds up to total inert.

In the case of Tall fescue and Ryegrass, multiples are split apart to determine the amount of pure seeds and inert.

If a sample contains a lot of multiple florets, it can add up to total inert rapidly.

Example of Stems



Stems are considered inert.

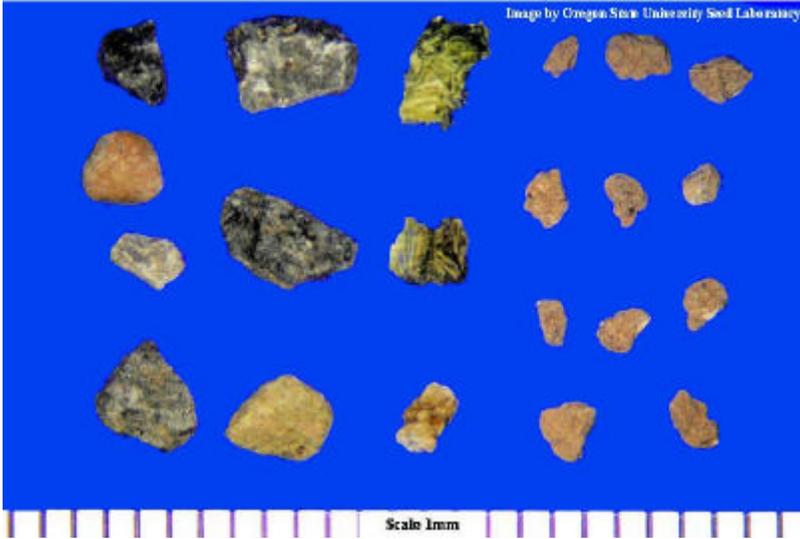
They can be recognized easily.

Typically, the stems that are present in a sample have similar size, shape and weight as the pure seeds. Probably that is why they could not be separated in the cleaning process.

If the sample has many stems and these have similar weight as pure seeds, they can add up to total inert rapidly.

Major Types of Inert in Grass Seed

Example of Stones, Soil, & Other Debris



Soil particles are considered inert.

They can be recognized easily.

Most soil pieces present in the sample are of similar size as the seeds but are heavier than most grass seeds.

Because of its weight, a few pieces of soil can add to the total inert faster than other types of inert.

Example of Ergot in Tall fescue & Ryegrass



Ergot is a fungus that develops inside the floret and ends up replacing the seed.

Because it develops inside the floret, it takes the same shape as a seed. Its resemblance to groats can mislead.

Any ergot that is naked or not enclosed in the seed coat is considered inert.

Some species show more ergot than others.

Example of Tall fescue Seeds with Different Levels of Endosperm Development



Empty florets are considered inert. Growers and cleaners call it chaff, blanks, lights, vanes, etc.

When a sample is placed on a glass surface with light underneath (flashlight can be used too), empty florets do not block the light (see picture). This technique can be used to assess a sample from the field, cleaning or labs. Empty florets are very light. You need several to make up the weight of a full seed. That is why it can be separated from pure seeds by blowing or aspiration.

Laboratories use a standard blowing procedure on Orchardgrass and Kentucky bluegrass. What is blown out is considered inert.

In grasses that don't have standard blowing procedure yet, empty florets have to be recognized visually and separated manually.

If large amount of blanks are present, it can add to the total inert.