

**According to the descriptions, how would you classify the following: (pure seed, other crop, weed seed, or inert matter).**

- \_\_\_ A piece of weed seed more than one half of the original size, with the embryo missing.
- \_\_\_ Immature or shriveled seeds and seeds that are cracked or otherwise damaged.
- \_\_\_ Crop kinds of legumes, crucifers, and conifers with the seed coats entirely removed.
- \_\_\_ Pieces of broken or otherwise damaged crop seeds that are larger than one-half of the original size.
- \_\_\_ Pieces of broken or otherwise damaged weed seeds that are larger than one-half of the original size.
- \_\_\_ Seeds that have started to germinate.
- \_\_\_ Seeds of cucumber (Cucurbitaceae) or tomato (Solanaceae) whether or not they are filled.
- \_\_\_ Seed units with nematode galls or fungus bodies which are not entirely enclosed within the seed unit.
- \_\_\_ A piece of crop seed more than one-half the original size, with the embryo missing.
- \_\_\_ A piece of crop seed exactly one-half the original size, with half of the embryo missing.
- \_\_\_ A wild mustard seed with the seed coat (testa) missing.
- \_\_\_ A soybean seed with the seed coat (testa) missing.
- \_\_\_ Fruiting structures of a weed seed (capsules, pods or seed heads with attached seed).
- \_\_\_ Wild onion bulblets that are completely devoid of husk and pass through a 1/13-inch round hole sieve.
- \_\_\_ Wild onion bulblets which are completely devoid of husk and not damaged at the basal end which are retained through a 1/13-inch round hole sieve.
- \_\_\_ A wild radish with the seed coat (testa) missing.
- \_\_\_ A soybean split between cotyledons.
- \_\_\_ A wheat seed without the embryo.
- \_\_\_ A vetch seed with apparent weevil damage (a hole drilled into the seed)
- \_\_\_ A seed of Silverleaf nightshade devoid of embryo and endosperm.

## MULTIPLE UNIT PROCEDURE

Apply the multiple unit procedure to determine the component weights and percentages of the following purities.

1.

	<u>Weight in grams</u>
Red Fescue	①
Single Florets	<u>2.679</u>
Multiple florets	<u>0.313</u>
Other crop	<u>0.001</u>
Weed Seed	<u>0.001</u>
Inert Matter	<u>0.192</u>
Total	

2.

	<u>Weight in grams</u>
Creeping Red Fescue	
Single Florets	<u>2.786</u>
Multiple florets	<u>0.329</u>
Other Crop	-
Weed Seed	<u>0.001</u>
Inert Matter	<u>0.061</u>
Total	

3.

	<u>Weight in grams</u>
Kentucky bluegrass	<u>1.499</u>
Chewings Fescue	
Single Florets	<u>0.736</u>
Multiple florets	<u>0.114</u>
Ryegrass	<u>0.636</u>
Other Crop	-
Weed Seed	-
Inert Matter	<u>0.039</u>
Total	

## MIXTURES

1. Calculate the weight of the working sample for a mixture containing:

Kind	Percentage in sample as determined by estimate	Percentage of kinds of different size (Rounded to the nearest whole Percent)	Weight of purity working sample (table 1)	Results of percentage x weight of purity sample
<i>Poa pratensis</i>	38.42%			
<i>Festuca arundinacea</i>	22.08%			
<i>Festuca ovina</i>	19.31%			
<i>Festuca rubra</i> subsp. <i>rubra</i>	8.19%			
<i>Agrostis gigantea</i>	6.45%			
Total				

Weighted average =                      Working sample for the mixture =

2. Calculate the weight of the working sample for a mixture containing:

Kind	Percentage in sample as determined by seed label	Percentage of kinds of different size (Rounded to the nearest whole percent)	weight of purity working sample (Table 1)	Results of percentages X weight of purity sample
<i>Medicago sativa</i>	44.72%			
<i>Trifolium repens</i>	23.97%			
<i>Phleum pratense</i>	16.65%			
<i>Trifolium hybridum</i>	4.26%			
Total				

Weighted average =                      Working sample for the mixture =

3. Calculate the weight of the working sample for a mixture containing:

Kind	Percentage in sample As determined by Estimate	Percentage of kinds of Different size (Rounded to the nearest Whole percent)	Weight of purity Working sample (Table 1)	Results of percentage X weight of purity Sample
<i>Medicago sativa</i>	74.72%			
<i>Trifolium repens</i>	13.97%			
<i>Phleum pratense</i>	6.65%			
Total				

WEIGHTED AVERAGE =                      WORKING SAMPLE FOR THE MIXTURE =

## MIXTURES

Calculate the percentage of pure seed, other crop, weed seed, and inert matter in the following mixtures.

1.		Weight in grams
	Big Bluestem	2.191
	Little Bluestem	0.976
	Other Crop	0.270
	Weed Seed	0.143
	Inert matter	0.429
	Total	
2.		Weight in grams
	Indiangrass	1.535
	Big Bluestem	0.647
	Other Crop	0.027
	Weed Seed	0.658
	Inert Matter	1.073
	Total	
3.		Weight in grams
	Big Bluestem	2.184
	Indiangrass	0.448
	Little bluestem	0.286
	Other Crop	0.076
	Weed Seed	0.067
	Inert Matter	0.906
	Total	
4.		Weight in grams
	Little Bluestem	0.538
	Big Bluestem	0.316
	Leadplant	0.315
	Indiangrass	0.218
	Other Crop	0.019
	Weed Seed	0.135
	Inert Matter	2.592
	Total	

## MIXTURES

1. A sample is analysed, and the following percentages are obtained (suppose you do not have the label that states the components in this mixture).

Kentucky bluegrass	68.42 %	Which species are counted as <b>other crop seed</b> ?
Tall fescue	12.08 %	A) None
Meadow fescue	8.31 %	B) Redtop
Red Fescue	4.19 %	C) Red fescue and Redtop
Redtop	2.45 %	D) Meadow fescue, red fescue, and Redtop
Weeds	0.00 %	E) Tall fescue, meadow fewscue, red fescue, and redtop
Inert	4.55 %	

2. A sample is analysed, and the following percentages are obtained (suppose you do not have the label that states the components in this mixture).

Alfalfa	74.72 %	Which species are counted as <b>other crop seed</b> ?
Red clover	13.97 %	A) None
Timothy	6.65 %	B) Alsike clover
Alsike clover	4.26 %	C) Alsike clover and red clover
Weeds	0.01 %	D) Alfalfa, red clover, and timothy
Inert	0.46 %	E) Alsike clover and timothy

3. A sample is analysed, and the following percentages are obtained (Use analysis tag).

Alfalfa	74.72 %	Which species are counted as <b>other crop species</b> ?
Red clover	13.97 %	A) None
Timothy	6.65 %	B) Alsike clover
Alsike clover	4.26 %	C) Alsike clover and red clover
Weeds	0.01 %	D) Alfalfa, red clover, and timothy
Inert	0.48 %	E) Alsike clover, and timothy

### Analysis tag

Alfalfa	75.00 %
Red clover	14.00 %
Timothy	7.00 %
Alsike clover	4.00 %
Weeds	0.01 %
Other crop	0.01 %
Inert	0.48 %