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Quantity of collected seed - How much seed and fruit should we collect

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Quantity of collected seed – How much seed and fruit should we collect

Plant need and field need.

The target seed collection is to get plantable and surviving plants in the field. Experience shows that plants die in the field after planting and in the nursery for different reasons. Plant mortality in the field and in the nursery is usually at least 20% of those planted or germinated in the seed bed. Germination percentage may be 80% of the seed sown. We cannot predict the germination rate and the nursery and field mortality when we collect seed. It is therefore generally advised to collect at least 50% more seed that the planting target indicates. Hence, every time we have 1000 plants in the field, we should collect at least 1500 seeds.

Fruit and seed conversion

Normally fruits are collected and seed extracted. There are usually several seeds in each fruit. Use a conversion factor from seed to fruits (weight and volume). If there are on average 10 seeds in each fruit of for example an *Acacia abyssinica*, 1500 seeds is equivalent to 150 pods. Usually it is more practical to use to weight, because seed orders and seed sales is in weight units. If 10 seeds of *A. abyssinica* weighs 25 grams, and the pod including the seed weighs 100 grams, the conversion factor is 4. 1000 seed weighs 2500 and there are 400 seeds per kg. Every time we want to collect 1 kg of extracted seed we must collect 10 kg of fruits.

The figures for *A abyssinica* is filled into the table below. Conversion figures can be filled in based on concrete measurement for other species

Species	Number of seeds per fruit	Weight of fruits	1000 seed weight	Number of seed per kg	Weight of fruits per kg seed
Acacia abyssinica	10	100	2500	400	10 kg
Cordia africana					
Prunus africana					
Croton macrostachyus					

Collection from each tree

A seed lot for large plantings should ideally contain seed from not less than 25 seed trees. These should be approximated balanced, so that an equal amount of seed is collected from each tree. With 25 seed trees, each should be represented by approximately 4% of the seeds and fruits. Small collections may be from only 10 tree and thus each seed tree should contribute approximately 10% of the fruits.

Summary, do's and don'ts

Do:

- Adjust the seed quantity from each tree according to the seed weight.
- Collect approximately equal amount of seeds from each tree, i.e. 10% if collected from 10 trees, 5% if collected from 20 etc.

Don't:

- Don't collect all seeds from few trees.

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Note: This DB was prepared as extension note for PATSPO project Ethiopia 2019

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