

Seed Sampling for Vigor Potential Estimates (Whole Seed Only)

1. Check seed in stored cellar and evaluate
2. Collect 50 whole tubers and place in bag
3. Wash 50 tubers and evaluate outside appearance
4. If desired, keep 25 whole tubers in bag and cut in half the other 25 tubers so that you have 25 stem-end cuts and 25 flower-end cuts and 25 whole tubers. If not, then just put the 50 whole tubers back into the original bag.
5. Place all collected lots that have 50 tubers in each bag under a tarp. Leave bag(s) in the tarp for 35-40 days.
6. After 35-40 days, evaluate all lots collected for 'stemming' on each whole tuber. If just one or two stems are flower end, then that tuber has apical dominance, or high vigor (H). If 3-8 stems, then medium vigor (M). And, if 8 stems or more then low vigor (L).
7. After all 50 are done, calculate a percentage for each category of L, M, or H. Obviously, you want mostly M and H for stem vigor on russet burbanks, norkotahs, and ranger russets.
8. When done, then a person can cut open each tuber to check for any other defects such as dry rot.

For Russet Burbanks, Russet Norkotahs, and Ranger Russets, an in-field profile below would be ideal:

1-stems—5%, 2-stems—20%, 3-stems—45%, 4-stems—25%, 5-stems—5%.

My opinion, the 2-3 stems are for tuber size and yield and the 4 stems are for a higher yield of number ones. Those together should make a good 'pack-out' blend.

Disclaimer—the seed vigor estimate is only a relative estimate for stem potential. Certification and the winter 'grow-out' test are important for virus infections. Your results and evaluations should be kept confidential realizing that they are only an estimate. The real challenge is what to do with your evaluations at seed cutting and planting.