



Can you find root to shoot ratio of:

Maize, rice, yam, sorghum, millet, groundnut, cowpea, soybean

Here are the approximate root-to-shoot ratios for the requested crops, based on recent studies and agronomic literature:

- **Maize:** Ranges from about 0.04 to 0.13 (often around 0.1) depending on growth stage and nitrogen availability. ^{[1] [2]}
- **Rice:** Root-to-shoot ratio varies by cultivar and growth stage, roughly around 0.2 to 0.3 in typical conditions. ^{[3] [4]}
- **Yam:** Specific root-to-shoot ratio data is limited, but yam has a relatively high root biomass; in vitro rooting studies show strong root growth indicators without a fixed ratio publicly available. ^[5]
- **Sorghum:** Reported root-to-shoot ratio close to 0.01 in some cases, varying with planting time and environmental conditions. ^[6]
- **Millet:** Root-to-shoot ratios vary; pearl millet can have values around 0.2 to 0.3, influenced by stress and genotype. ^{[7] [8]}
- **Groundnut:** Ratios reported around 0.1 to 0.34, generally higher under phosphorus deficiency stress and varying by genotype. ^[9]
- **Cowpea:** Roughly between 0.1 to 0.3, with intercropping and fertility levels influencing the ratio. ^{[10] [11]}
- **Soybean:** Root-to-shoot ratio typically ranges from about 0.09 to 0.26 depending on variety and growing conditions. ^{[12] [1]}

In general, root-to-shoot ratios reflect the allocation of biomass between roots and above-ground parts, and are influenced by environmental factors, nutrient availability, and crop type.

If a more precise or numeric table is desired, that can be compiled with these data.

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1. <https://www.sciencedirect.com/science/article/pii/S1161030120301374>
2. <https://www.scirp.org/journal/paperinformation?paperid=45094>
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4. <https://researchoutput.csu.edu.au/files/8734995/PrepubPID12314.pdf>
5. <https://core.ac.uk/download/pdf/234662712.pdf>
6. https://www.agronomyaustraliaproceedings.org/images/sampled/2022/DiversifyingCroppingSystems/ASAzhao_d_576s.pdf

7. <https://www.internationalscholarsjournals.com/articles/relationship-between-growth-and-ion-relation-in-pearl-millet-pennisetum-glaucum-l-r-br-at-different-growth-stages-under-.pdf>
8. <https://www.apsim.info/documentation/model-documentation/crop-module-documentation/millet/>
9. <https://www.phytojournal.com/archives/2019/vol8issue3/PartD/8-2-9-930.pdf>
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