**Supplemental Table 1: Crop Plant Preferences**

Growth conditions and cultivation preferences of the 18 crops investigated. Organized first by family. Blanks values indicate that the literature investigated did not provide information on the tolerance of a crop to a particular environmental condition, or the cultivation practice. Column headings with ⸹denote that the data in that column is not used in the suitability model. Note all crops in this study are considered to prefer flat land, see Supplemental Text 1 for details on how slope was assessed.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Family** | **Genus, species, authority** | **English Name** | **Soil moisture** | **Loam soil** | **Clayey soil** | **Sandy soil** | **Silty soil** | **Chalky/**  **Limestone soil ⸹** | **Drought tolerance ⸹** | **Flood/**  **Waterlogging tolerance ⸹** | **Temperature ⸹**  **(°C)** | **Annual**  **Precipitation ⸹(mm)** | **Spacing requirements at planting ⸹**  **(m)** | **Time of year of harvest ⸹** | **Time from sowing to harvest ⸹** | **Number of harvests/years at maturity ⸹** | **Slope** |
| Araceae | *Xanthosoma sagittifolium*  L. Schott | Malanga | 2 8, 29, 54, 56 | Y 39, 54, [56] | Y 39, 52 | N 39 |  | N 21 | 2-3 20, 33, 54 | 2-3 29, 54 | 20-27 29, 54 | 1000-1500 56 | 0.75-0.9 x 0.9-1.5 21, 29, 54, 56 | May-Jun. 19 | 91-420 days 19, 21, 29, 50, 56 |  | 0 |
| Arecaceae | *Acrocomia aculeata* (Jacq.) Lodd. ex Mart. | Coyol | 2 21 | Y ǂ |  | Y 18 |  |  | 4 18, 20 | 2 34 | 25-35 18 | 1000-2000 18 | 3.5 27 | Sept.-May 52, Year -round 15 | 4 years 18, 34 |  | 0 |
| Arecaceae | *Attalea cohune* Mart. | Cohune | 2 22, 43 | Y 42 | 17 | Y 22, 43 |  |  | 4 20 | 2 ǂ | 23-26 ǂ | 640-4030 ǂ | 10-18 10, 21, 46 | Year-round 10 | 15 years 43 |  | 0 |
| Bixaceae | *Bixa orellana* L. | Annatto | 2 30 |  |  |  |  |  | 2-4 20, 21 | 2 ǂ | 20-26 30 | 1250-2000 30 | 0.25 x 0.1 30 | Dec.-Mar. 15 | 1-2 years 30, 57 | 2 30 | 0 |
| Burseraceae | *Protium copal* Schltdl. & Cham. | Copal | 2 ǂ |  | Y ǂ |  |  | Y 37 | 4 20 | 2 ǂ |  |  | 5-6 ǂ | Jul.-Oct. 13 | 10 years 1, 32 | 2 46 | 0 |
| Convolvulaceae | *Ipomoea batatas* L. Lam. | Sweet potato | 2 33, 54, 63 | Y 11, 33, 54, 56 | N 21, 33 | Y 11, 33, 54, 56 |  |  | 2 20 | 2 21, 54, 56 | 24+ 33 | 750-2000 33, 50, 56 | 0.2 - 0.3 x 0.5-0.75 5, 56 | Dec. 63,Mar.-May 15 | 80-240 days 8, 11, 33, 39, 48, 50, 54, 56 |  | 0 |
| Cucurbitaceae | *Cucurbita pepo* L. | Squash | 1-2 29, 54, 56, 61 | Y 51, 54 | Y 51 | Y 51, 54 |  |  | 2-4 20, 54, 61 | 2 61 | 18-30 54 | 500-900 54\* | 0.5-2.5 x 2-3 54, 56 | Aug.-Nov. 15, 29, 63 | 40-150 days 54, 56, 57 |  | 0 |
| Euphorbiaceae | *Manihot esculenta* Crantz | Manioc | 2 11, 15, 63 | Y 54, 56 |  | Y 54, 56 |  |  | 4 15, 20, 33, 54, 56 | 1-2 33, 48, 54, 56 | 16-35 16, 33, 54 | 500-5000 16, 33, 54, 55, 56 | 0.3-1 x 0.7-1 33, 54, 56 | Year-round 15 | 180-720 days 5, 8, 11, 16, 21, 33, 48, 54 | 2 35 | 0 |
| Fabaceae | *Phaseolus vulgaris* L. | Common bean | 2 23, 54 | Y 54, 56 | Y 54 |  |  |  | 2 20, 54 | 2 21, 54, 56 | 14-27 29, 56 | 400-1850 5, 23, 29 | 0.15-0.7 x 0.4-5 8, 41, 56 | Sept.-Jan. 8, 15, 41, 63 | 40-330 days 5, 8, 21, 29, 41, 54, 56 | 1-3 8 | 0 |
| Malvaceae | *Gossypium hirsutum* L. | Cotton | 2 14, 62 | Y 51 | Y 51 | Y 51 |  | Y ǂ | 4 5, 8, 26, 31 | 2 26, 31, 62 | 24-28 5 | 500-1300 5, 8 | 0.75 x 0.8 ǂ | Nov.-Dec. 5 | 120-240 days 5, 8 | 1-2 ǂ | 0 |
| Malvaceae | *Theobroma cacao* L. | Cacao | 2 21, 24, 36, 63 | Y 36, 45 | Y 36 | Y 36 | Y 45 |  | 2-4 20, 57 | 2 57 | 20-28 36 | 1200-3000 24, 36 | 3 21, 36, 45 | Sept.-Mar. 36 | 3-9 years 21, 41 |  | 0 |
| Marantaceae | *Maranta arundinacea* L. | Arrowroot | 2 7, 54 | Y 50 |  | Y 28, 50, 54 |  |  | 2 20 | 2 ǂ | 20-30 7 | 1000-2000 7, 50 | 0.15-0.5 x 0.3-1 7, 21, 54 | Jan.-May 15 | 240-395 days 7, 21, 28, 54 | 1 28 | 0 |
| Myrtaceae | *Pimenta dioica* L. Merr. | Allspice | 2 3, 21 | Y 53 | Y 40 | Y 53 |  | Y 21, 40 | 4 20, 21 | 2 ǂ | 22-29 38, 40 | 1000-2500 38, 40 | 5-6 40, 44 | Jun.-Aug. 46, Aug.-Oct. 3, 40, 44 | 3 years 3, 40 |  | 0 |
| Poaceae | *Zea mays* L. | Maize (Nal-tel, Nal t’eel) 59, 60 | 2 54, 56 | Y 54, 56 | Y 47, 54 | Y 47 |  | Y 47 | 2-3 20, 54 | 1-2 54 | 20-30 54, 56 | 450-1200 6, 54, 56 | 0.2-0.25 x 0.75-0.9 21, 54 | Aug.-Feb. 15, 25 | 50 days 9, 25, 58, 100 days 6 | 1-3 8, 35 |  |
| Poaceae | *Zea mays* L. | Maize (Tuxpeño, Xnuk nal) 59, 60 | 2 54, 56 | Y 54, 56 | Y 47, 54 | Y 47 |  |  | 2-3 4, 20, 54, 58 | 1-2 54 | 20-30  54, 56 | 450-1200 6, 54, 56 | 0.2 x 0.7-0.9 54, 62 | Aug.-Feb. 15, 25 | 120-150 days 9, 25, 58 | 1-3 8, 35 | 0 |
| Poaceae | *Zea mays* L. | Maize (Zapalote Grande) 60 | 2 54, 56 | Y 54, 56 | Y 47, 54 | Y 47 |  |  | 3 20, 54 | 1-2 54 | 20-30 54, 56 | 450-1200 6, 54, 56 | 0.2 x 0.7-0.9  54, 62 | Aug.-Feb. 15, 25 | 90 days 6 | 1-3 8, 35 | 0 |
| Sapotaceae | *Pouteria sapota* (Jacq.) H.E. Moore & Stearn | Mamey/mamee sapote | 2 2 |  | Y 2, 29 | Y 2, 29 |  | Y 2 | 1-2 12, 21, 57, 4 20 | 2 12 | 25-28 29 | 500-2500 2 | 4.5-6 x 7-9 2, 30 | Sept.-Nov., Dec.-Mar. 2, 49 | 7-10 years 2, 21, 30, 57 |  | 0 |
| Solanaceae | *Capsicum annuum* L. | Chili pepper | 2 50 | Y 54, 56 |  |  |  |  | 2-4 20, 54 | 2 50, 54, 56 | 20-25 54 | 400-1200 54, 56 | 0.35-50 x 0.75 54, 56 | Jun. 63 | 90-120 days 21, 54 |  | 0 |

\* During growing season

ǂ Original source used no longer accessible and verifiable.

Notes: References in square brackets present contradictory information.

Reference 17 presents evidence of cohune forest on primarily clay soils, though this source was not used at the time this table was populated.

No explicit soil type preference for *B. orellana* was listed in the literature, though reference 30. noted that this plant grows well of a variety of soils, thus placing *B. orellana* with Group D in our analysis.

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