

# [Photosynthesis pathway](https://assignbuster.com/photosynthesis-pathway/)

## C4 Photosynthesis Pathway

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| Species | Photosynthesis pathway | Mla citations |
| Abutilon fruticosum Guill. & Perr | 4C | (Hatch 82) |
| Abutilon muticum (Del.) Webb | 4C | (Hatch 82) |
| Abutilon pannosum (G. Forst.) Schltdl | 4C | (Hatch 82) |
| Acacia abyssinica Hochst. | 4C | (Hatch 82) |
| Acacia ehrenbergiana (Forssk.) Hayne | 3C | (Laetsch 156) |
| Acacia elatior Brenan | 3C | (Laetsch 156) |
| Acacia hamulosa Benth. | 3C | (Laetsch 156) |
| Acacia raddiana Savi | 3C | (Laetsch 156) |
| Acacia seyal Del | 3C | (Laetsch 156) |
| Achillea falcate L. | 4C | (Hatch 82) |
| Achyranthes aspera L | 4C | (Hatch 82) |
| Aeluropus massuensia L. | MAC | (Laetsch 156) |
| Amaranthus albus L. | 4C | (Hatch 82) |
| Amaranthus hybridus L | 4C | (Hatch 82) |
| Ammannia baccifera L | 4C | (Hatch 82) |
| Anabasis setifera Moq. | 3C | (Laetsch 156) |
| Anastatica hierochuntica L. | MAC | (Laetsch 156) |
| Anchusa milleris Spreng. | 4C | (Hatch 82) |
| Andrachne aspera Spreng. | 3C | (Laetsch 156) |
| Argemone ochroleuca Sweet | 3C | (Laetsch 156) |
| Aristida adscensionis L. | 3C | (Laetsch 156) |
| Aristolochia bracteolata Lam | 3C | (Laetsch 156) |
| Arnebia decumbens (Vent.) Coss.&Kralik | 3C | (Laetsch 156) |
| Arnebia hispidissima (Lehm.) DC | 3C | (Laetsch 156) |
| Asphodelus tenuifolius (Cav.) Baker | 3C | (Laetsch 156) |
| Asteriscus hierochunticus (Michon) Wiklund | 3C | (Laetsch 156) |
| Astragalus annularis Forssk. | 3C | (Laetsch 156) |
| Astragalus corrugates Bertol | 3C | (Laetsch 156) |
| Astragalus tribuloides Delile | 3C | (Laetsch 156) |
| Astragalus vogelii (Webb) Bornm. | 3C | (Laetsch 156) |
| Avena fatua | 3C | (Laetsch 156) |
| Blepharis attenuate Napper | MAC | (Laetsch 156) |
| Boerhavia diffusa L | 4C | (Hatch 82) |
| Boerhavia repens L. | 4C | (Hatch 82) |
| Brachiaria eruciformis (Sm.) Griseb. | 3C | (Hatch 82) |
| Brachiaria leersioides (Hochst.) stapf | 3C | (Hatch 82) |
| Brachypodium distachyum (L.) P. Beauv. | 3C | (Hatch 82) |
| Cadaba farinosa Frossk | 4C | (Hatch 82) |
| Cadaba glandulosa Frossk. | 3C | (Hatch 82) |
| Capparis cartilaginea Decne | 4C | (Hatch 82) |
| Capparis decidua (Forssk.) Edgew. | 3C | (Hatch 82) |
| Capparis spinosa L. | 3C | (Hatch 82) |
| Capsella pursa pastoris (L.) Medik | 3C | (Hatch 82) |
| Caralluma acutangula (Decne.) N. E. Br | MAC | (Laetsch 156) |
| Caralluma russeliana (Courb. ex Brongn.) Cufod. | 3C | (Laetsch 156) |
| Cenchrus ciliaris L. | 3C | (Laetsch 156) |
| Cenchrus pennisetiformis Hochst. & Steud. | 3C | (Laetsch 156) |
| Chrozophora brocchiana Vis | 3C | (Laetsch 156) |
| Chrozophora oblongifolia (Delile) Spreng. | 3C | (Laetsch 156) |
| Chrozophora plicata (Vahl.) Spreng | 3C | (Laetsch 156) |
| Cissus quadrangularis L | 3C | (Laetsch 156) |
| Cleome brachycarpa DC | 3C | (Laetsch 156) |
| Cleome chrysantha Decne. | 3C | (Laetsch 156) |
| Cleome droserifolia (Forssk.) Delile | 3C | (Laetsch 156) |
| Cleome paradoxa R. Br. | 3C | (Laetsch 156) |
|  |  | (Laetsch 156) |
| Cleome scaposa DC | 3C | (Laetsch 156) |
| Cocculus pendulus (J. R.&G. Forst.) Diels | 3C | (Laetsch 156) |
| Cometes surattensis L | 3C | (Laetsch 156) |
| Commicarpus boissieri (Heimerl) Cufod | 3C | (Laetsch 156) |
| Commicarpus helenae (J. A. Schultes) Meikle | 3C | (Laetsch 156) |
| Commicarpus plumbagineus (Car.) Standley | 3C | (Laetsch 156) |
| Commiphora kataf (Forssk.)Engl | 3C | (Laetsch 156) |
| Convolvulus asyrensis Kotchy | 4C | (Hatch 82) |
| Convolvulus cephalopodus Alfarhan | 4C | (Hatch 82) |
| Convolvulus deserti Hochst. & Steud | 3C | (Hatch 82) |
| Convolvulus Fatemensis Kunze | 4C | (Hatch 82) |
| Convolvulus glomeratus Choisy | 3C | (Hatch 82) |
| Convolvulus hystrix Vahl. | 4C | (Hatch 82) |
| Convolvulus spicatus Hallier f. | 4C | (Hatch 82) |
| Conyza bonariensis (L.) Cronquist | 3C | (Laetsch 156) |
| Corchorus antichorus (L.) Raeusch. | 3C | (Laetsch 156) |
| Corchorus depressus (L.) Stocks | MAC | (Laetsch 156) |
| Corchorus olitorius L. | 3C | (Laetsch 156) |
| Corchorus trilocularis L. | 3C | (Laetsch 156) |
| Cressa cretica L | 4C | (Hatch 82) |
| Crotalaria microphylla Vahl | 4C | (Hatch 82) |
| Crotalaria senegalense (Pers.) DC. | 4C | (Hatch 82) |
| Cucumis dipsaceus Ehrenb. ex Spach | 4C | (Hatch 82) |
| Cucumis prophetarum L | 4C | (Hatch 82) |
| Cuscuta hyalina Roth. | 3C | (Laetsch 156) |
| Cymbopogon schoenanthus (L.) Spreng | 3C | (Laetsch 156) |
| Cynanchum acutum L | 4C | (Hatch 82) |
| Cyperus conglomerates Rottb. | 3C | (Laetsch 156) |
| Cyperus rotundus L. | 4C | (Hatch 82) |
| Dactyloctenium aegyptium (L.) P. Beauv | 4C | (Hatch 82) |
| Dichanthium annulatum (Forssk.) Stapf | 3C | (Laetsch 156) |
| Dichanthium foveolatum (Delile) Roberty | 3C | (Laetsch 156) |
| Dicoma tomentosa Cass. | 4C | (Hatch 82) |
| Digera muricata (L.) Mast | MAC | (Laetsch 156) |
| Digitaria ciliaris (Retz.) Koeler | 3C | (Laetsch 156) |
| Dipcadi erythraeum Webb & Berth. | 4C | (Hatch 82) |
| Diptergium glaucum Decne | 4C | (Hatch 82) |
| Echinochloa colona (L.) Link | 4C | (Hatch 82) |
| Echinops hussonii Boiss. | 4C | (Hatch 82) |
| Echinops polyceras Boiss | 3C | (Laetsch 156) |
| Emex spinosus (L.) Campd | 3C | (Laetsch 156) |
| Eragrostis minor Host. | 3C | (Laetsch 156) |
| Erythrococca abyssinica Pax. | 4C | (Laetsch 156) |
| Euphorbia arabica T. Anderson | 3C | (Laetsch 156) |
| Euphorbia cuneata Vahl | 3C | (Laetsch 156) |
| Euphorbia granulata Frossk | 4C | (Laetsch 156) |
| Euphorbia inaequilatera Sond. | 3C | (Laetsch 156) |
| Euphorbia prostrata Ait. | 3C | (Laetsch 156) |
| Euphorbia retusa Frossk | 3C | (Laetsch 156) |
| Euphorbia scordifolia Jacq. | 3C | (Laetsch 156) |
| Euphorbia serpens Kunth | 3C | (Laetsch 156) |
| Fagonia mollis Delile. | 3C | (Laetsch 156) |
| Fagonia ovalifolia Hadidi | 3C | (Laetsch 156) |
| Fagonia paulayana Wagner & Vierh. | 3C | (Laetsch 156) |
| Farsetia longisiliqua Decne | 3C | (Laetsch 156) |
| Farsetia stylosa R. Br | 3C | (Laetsch 156) |
| Ficus salicifolia Vahl | 3C | (Laetsch 156) |
| Flaveria trinervia (Spreng.) Mohr | 3C | (Laetsch 156) |
| Frankenia revolute Frossk. | 3C | (Laetsch 156) |
| Gisekia phranaceoides L | 3C | (Laetsch 156) |
| Glinus lotoides L. | 3C | (Laetsch 156) |
| Glossonema boveanum subsp. nubicum (Decne.) bullock | 3C | (Laetsch 156) |
| Gynandropsis gynandra (L.)Briq., Ann | 3C | (Laetsch 156) |
| Gypsophila capillaries (Forssk.)C. Chr | 3C | (Laetsch 156) |
| Haloxylon scoparium Pomel | 3C | (Laetsch 156) |
| Heliotropium arbainense Fresen. | 3C | (Laetsch 156) |
| Heliotropium bacciferum Forssk | 3C | (Laetsch 156) |
| Heliotropium digynum(Forssk.) | 3C | (Laetsch 156) |
| Heliotropium kotschyi (Burnge) Gurke | 4C | (Hibberd and S 183) |
| Heliotropium pterocarpum Hochst. & Steud. | 4C | (Hibberd and S 183) |
| Heliotropium strigosum Willd. | 4C | (Hibberd and S 183) |
| Hyphaene thebaica (L.) Mart | 3C | (Laetsch 156) |
| Indigofera argenata L. | 3C | (Laetsch 156) |
| Indigofera carulea Roxb. | 3C | (Laetsch 156) |
| Indigofera hoschstettei Baker | 4C | (Hibberd and S 183) |
| Indigofera oblongifolia Forssk. | 4C | (Hibberd and S 183) |
| Indigofera spinosa Frossk | MAC | (Laetsch 156) |
| Iphiona scabra DC. k | 3C | (Laetsch 156) |
| Ipomea aquatica Forssk | 4C | (Hibberd and S 183) |
| Kichxia floribunda (Boiss.) Taeckh. & Boulos | 3C | (Laetsch 156) |
| Lasiurus hirsutus (Forssk.) | 4C | (Hibberd and S 183) |
| Latipes sengalensis Kunth | 3C | (Laetsch 156) |
| Launaea nudicaulis (L.) Hook. f. | 3C | (Laetsch 156) |
| Launea capitata (Spreng.) Dandy | 3C | (Laetsch 156) |
| Launea mucronata subsp. cassiniana (Jaub.&Spach) N. Kilian | 3C | (Laetsch 156) |
| Lavandula coronopifolia Poir. | 3C | (Laetsch 156) |
| Lavandula pubescens Decne | 3C | (Laetsch 156) |
| Leptadenia arborea (Forssk.) Schweinf | 3C | (Laetsch 156) |
| Leptothrium senegalense (Kunth) Clayton | 3C | (Laetsch 156) |
| Lindenbergia indica O. Kuntze | 3C | (Laetsch 156) |
| Mareua crassifolia Frossk. | 3C | (Laetsch 156) |
| Mareua oblongifolia (Frossk.) A. Rich. | 3C | (Laetsch 156) |
| Melilotus indica L | 3C | (Laetsch 156) |
| Mollugo cerviana (L.) Ser | 3C | (Laetsch 156) |
| Moltkiopsis ciliata (Forssk.) I. M. Johnst | 3C | (Laetsch 156) |
| Momordica balsamina L. | 3C | (Laetsch 156) |
| Monsonia heliotropioides (Cav.) Boiss. | 3C | (Laetsch 156) |
| Morettia canescens Boiss | 3C | (Laetsch 156) |
| Morettia parviflora Boiss. | 3C | (Laetsch 156) |
| Moringa peregrine (Forssk) F. | 3C | (Laetsch 156) |
| Nannorrhops ritchieana (Griff.) Aitch | 3C | (Laetsch 156) |
| Nepeta deflersiana Schweinf. ex Hedge | 3C | (Laetsch 156) |
| Neurada procumbens L | 3C | (Laetsch 156) |
| Ochradenus arabicus Chaudhary, Hillc. & A. G. Mill | 3C | (Laetsch 156) |
| Ochtochloa compressa (Forssk.) Hilu | 3C | (Laetsch 156) |
| Odontanthera radians (Forssk.) D. V. Field | 3C | (Laetsch 156) |
| Onobrychis ptolemaica (Delile) DC | 3C | (Laetsch 156) |
| Oxystelma esculentum (L. F.) R. Br | 3C | (Laetsch 156) |
| Pancratium sickenbergi Asch.&Schweinf | 3C | (Laetsch 156) |
|  | 3C | (Laetsch 156) |
| Panicum turgidum Forssk. | 4C | (Hibberd and S 183) |
| Parkinsonia aculeate L | 4C | (Hibberd and S 183) |
| Paronychia arabica (L.) DC | 4C | (Hibberd and S 183) |
| Phoenix dactylifera L. | 3C | (Laetsch 156) |
| Phragmites australis (Cav.)Trin ex Steud. | 3C | (Laetsch 156) |
| Phyllanthus maderaspatensis L. | 4C | (Hibberd and S 183) |
| Phyllanthus rotundifolius Willd | 3C | (Laetsch 156) |
| Pistacia khinjuk Stocks | 3C | (Laetsch 156) |
| Pithecellobium dulce (Roxb.) Benth. | 3C | (Laetsch 156) |
| Pluchea dioscoridis (L.) DC. | 3C | (Laetsch 156) |
| Poa bulbosa L. | 3C | (Laetsch 156) |
| Polycarpaea robbairea (Kuntze) Greuter & Burdet | 3C | (Laetsch 156) |
| Polygala erioptera DC | 3C | (Laetsch 156) |
| Polygonum argyrocoleum G. Kunze | 3C | (Laetsch 156) |
| Portulaca quadrifida L. | 3C | (Laetsch 156) |
| Prosopis Juliflora (Sw.) DC | 3C | (Laetsch 156) |
| Pulicaria crispa (Forssk.)Benth. & Hook | 3C | (Laetsch 156) |
| Pulicaria orientalis Jaub. & Spach | 3C | (Laetsch 156) |
| Pupalia lappacea (L.) Juss | 3C | (Laetsch 156) |
| Reseda luteola L. | 3C | (Laetsch 156) |
| Rhazya stricta Decne. | 3C | (Laetsch 156) |
| Rhynchosia minima (L.) DC | 3C | (Laetsch 156) |
| Ricinus communis L. | 3C | (Laetsch 156) |
| Rostraria cristata (L.) Tzvelev | 3C | (Laetsch 156) |
| Ruellia patula Jacq | 3C | (Laetsch 156) |
| Rumex vesicarius L. | 3C | (Laetsch 156) |
| Salsola imbricata Forssk. | 3C | (Laetsch 156) |
| Salsola spinescens Moq. | 3C | (Laetsch 156) |
| Salsola tetrandra Forssk. | 3C | (Laetsch 156) |
| Schouwia purpurea (Forssk.) Schweinf | 4C | (Hatch 82) |
| Scrophularia arguta Soland. ex Ait. | 4C | (Hatch 82) |
| Seddera virgata Hochst. & Steud. | 3C | (Laetsch 156) |
| Senna alexandrina Mill. | 4C | (Hatch 82) |
| Senna holosericea (Fresen.) Greuter | 3C | (Laetsch 156) |
| Senna italica Mill. | 4C | (Hatch 82) |
| Sesbania sesban (L.) Merr | 3C | (Laetsch 156) |
| Sesuvium sesuviodes(Fenzl) Verdc. | 3C | (Laetsch 156) |
| Setaria verticillata (L.) P. Beauv. | 4C | (Hatch 82) |
| Setaria viridis (L.) P. Beauv | 3C | (Laetsch 156) |
| Sida rhambifolia L. | 3C | (Laetsch 156) |
| Sisybrium erysimoides Desef. | 3C | (Laetsch 156) |
| Solanum nigrum L | 3C | (Laetsch 156) |
| Solanum sinaicum Boiss. | 3C | (Laetsch 156) |
| Sonchus oleraceus | 3C | (Laetsch 156) |
| Sorghum halepense (L.) Pers. | 3C | (Laetsch 156) |
| Stipa capensis Thunb. | 3C | (Laetsch 156) |
| Stipa parviflora Desf. | 3C | (Laetsch 156) |
| Stipagrostis plumosa (L.) Mun. ex T. And | 3C | (Laetsch 156) |
| Suaeda aegyptiaca (Hasselq.) Zohary | 3C | (Laetsch 156) |
| Suaeda monica Frossk. ex J. F. Gmel. | 3C | (Laetsch 156) |
| Sueda vermiculata Forssk. ex J. F. Gmel. | 3C | (Laetsch 156) |
| Tamarix aphylla (L.) Karst. | 3C | (Laetsch 156) |
| Tamarix nilotica (Ehrenb.) Bunge | 3C | (Laetsch 156) |
| Taverniera lappacea (Forssk.) DC | 4C | (Hatch 82) |
| Tephorosia apollineae (Delile) DC | 3C | (Laetsch 156) |
| Tephorosia nubica (Boiss.) Baker | 4C | (Hatch 82) |
| Tephrosia desertorum L. | 3C | (Laetsch 156) |
| Tephrosia nubica (Boiss.) Baker | 3C | (Laetsch 156) |
| Tragus racemosus (L.) All. | 3C | (Laetsch 156) |
| Trianthema portulacastrum L | 3C | (Laetsch 156) |
| Trianthema sedifolia Visiani | 3C | (Laetsch 156) |
| Tribulus pentandrus Forssk. | 3C | (Laetsch 156) |
| Tribulus pterocarpus Forssk. | 3C | (Laetsch 156) |
| Tribulus terrestris L | 3C | (Laetsch 156) |
| Trichodesma africanum (L.)R. Br. | 3C | (Laetsch 156) |
| Trichodesma ehrenbergiana Schweinf | 3C | (Laetsch 156) |
| Trisetaria macrochaeta (Boiss.) Maire | 3C | (Laetsch 156) |
| Withania somnifera (L). Dunal. | 3C | (Laetsch 156) |
| Zaleya pentandra (L.) C. Jeffrey | 3C | (Laetsch 156) |
| Ziziphus spina christi (L)Desf | 3C | (Laetsch 156) |
| Zygophyllum album L. F | 4C | (Hatch 82) |
| Zygophyllum coccienum L | 3C | (Laetsch 156) |
| Zygophyllum quatarense Hadidi | 3C | (Laetsch 156) |

## Works Cited

Hatch, Michael D. “ C4 photosynthesis: a unique blend of modified biochemistry, anatomy and ultrastructure.” Biochim Biophys Acta (2007): 81-106. print.

Hibberd, JM and Covshoff S. “ The regulation of gene expression required for C4 photosynthesis.” Annu Review Plant (2010): 181-207. Print.

P., Laetsch. ” Photosynthesis and Photorespiration,.” Hatch, Osmond and Slatyer (2000): 154-160. print.