

# Robert Ford Denison

## List of Publications by Year in descending order

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Version: 2024-02-01

65  
papers

4,926  
citations

136950

32  
h-index

133252

59  
g-index

66  
all docs

66  
docs citations

66  
times ranked

4569  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Host sanctions and the legume-rhizobium mutualism. <i>Nature</i> , 2003, 425, 78-81.  | 27.8 | 838       |
| 2  | Legume Sanctions and the Evolution of Symbiotic Cooperation by Rhizobia. <i>American Naturalist</i> , 2000, 156, 567-576.   | 2.1  | 325       |
| 3  | Sanctions and mutualism stability: why do rhizobia fix nitrogen?. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2002, 269, 685-694.  | 2.6  | 292       |
| 4  | Sanctions, Cooperation, and the Stability of Plant-Rhizosphere Mutualisms. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2008, 39, 215-236.   | 8.3  | 274       |
| 5  | Applying evolutionary biology to address global challenges. <i>Science</i> , 2014, 346, 1245993.  | 12.6 | 228       |
| 6  | Human selection and the relaxation of legume defences against ineffective rhizobia. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2007, 274, 3119-3126.  | 2.6  | 179       |
| 7  | Evolution in agriculture: the application of evolutionary approaches to the management of biotic interactions in agroecosystems. <i>Evolutionary Applications</i> , 2011, 4, 200-215.   | 3.1  | 177       |
| 8  | Lifestyle alternatives for rhizobia: mutualism, parasitism, and forgoing symbiosis. <i>FEMS Microbiology Letters</i> , 2004, 237, 187-193.  | 1.8  | 168       |
| 9  | Life Histories of Symbiotic Rhizobia and Mycorrhizal Fungi. <i>Current Biology</i> , 2011, 21, R775-R785.   | 3.9  | 162       |
| 10 | Darwinian Agriculture: When Can Humans Find Solutions Beyond The Reach of Natural Selection?. <i>Quarterly Review of Biology</i> , 2003, 78, 145-168.   | 0.1  | 161       |
| 11 | Failure to fix nitrogen by non-reproductive symbiotic rhizobia triggers host sanctions that reduce fitness of their reproductive clonemates. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2011, 278, 2698-2703. | 2.6  | 128       |
| 12 | Poly-3-hydroxybutyrate (PHB) supports survival and reproduction in starving rhizobia. <i>FEMS Microbiology Ecology</i> , 2008, 65, 391-399.   | 2.7  | 123       |
| 13 | Involvement of Ureides in Nitrogen Fixation Inhibition in Soybean <sup>1</sup> . <i>Plant Physiology</i> , 1999, 119, 289-296.  | 4.8  | 117       |
| 14 | Controlling the reproductive fate of rhizobia: how universal are legume sanctions?. <i>New Phytologist</i> , 2009, 183, 967-979.  | 7.3  | 108       |
| 15 | Comparing Symbiotic Efficiency between Swollen versus Nonswollen Rhizobial Bacteroids. <i>Plant Physiology</i> , 2010, 154, 1541-1548.  | 4.8  | 108       |
| 16 | Do plant parts compete for resources? An evolutionary viewpoint. <i>New Phytologist</i> , 2009, 183, 565-574.   | 7.3  | 102       |
| 17 | Multiple evolutionary origins of legume traits leading to extreme rhizobial differentiation. <i>New Phytologist</i> , 2010, 187, 508-520.   | 7.3  | 92        |
| 18 | Mediating mutualisms: farm management practices and evolutionary changes in symbiont co-operation. <i>Journal of Applied Ecology</i> , 2002, 39, 745-754.   | 4.0  | 89        |

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|----|---|------|-----------|
| 19 | Individual-Level Bet Hedging in the Bacterium <i>Sinorhizobium meliloti</i> . <i>Current Biology</i> , 2010, 20, 1740-1744.   | 3.9  | 77        |
| 20 | Lifestyle alternatives for rhizobia: mutualism, parasitism, and forgoing symbiosis. <i>FEMS Microbiology Letters</i> , 2004, 237, 187-193.  | 1.8  | 76        |
| 21 | Why are most rhizobia beneficial to their plant hosts, rather than parasitic?. <i>Microbes and Infection</i> , 2004, 6, 1235-1239.  | 1.9  | 75        |
| 22 | Nitrogenase Activity, Nodule Respiration, and O <sub>2</sub> Permeability Following Detopping of Alfalfa and Birdsfoot Trefoil. <i>Plant Physiology</i> , 1992, 98, 894-900.            | 4.8  | 71        |
| 23 | COOPERATION IN THE RHIZOSPHERE AND THE "FREE RIDER" PROBLEM. <i>Ecology</i> , 2003, 84, 838-845.  | 3.2  | 71        |
| 24 | Wheat Yields, Nitrogen Uptake, and Soil Moisture Following Winter Legume Cover Crop vs. Fallow. <i>Agronomy Journal</i> , 1998, 90, 404-410.  | 1.8  | 57        |
| 25 | Measurement of Legume Nodule Respiration and O <sub>2</sub> Permeability by Noninvasive Spectrophotometry of Leghemoglobin. <i>Plant Physiology</i> , 1991, 96, 137-143.                | 4.8  | 54        |
| 26 | Alternative Actions for Antibiotics. <i>Science</i> , 2011, 332, 547-548.   | 12.6 | 54        |
| 27 | Truncated Hemoglobins in Actinorhizal Nodules of <i>Datisca glomerata</i> . <i>Plant Biology</i> , 2007, 9, 776-785.  | 3.8  | 49        |
| 28 | Mathematical Modeling of Oxygen Diffusion and Respiration in Legume Root Nodules. <i>Plant Physiology</i> , 1992, 98, 901-907.  | 4.8  | 43        |
| 29 | Rhizobitoxine producers gain more poly-3-hydroxybutyrate in symbiosis than do competing rhizobia, but reduce plant growth. <i>ISME Journal</i> , 2009, 3, 870-872.                      | 9.8  | 40        |
| 30 | Single-strain inoculation may create spurious correlations between legume fitness and rhizobial fitness. <i>New Phytologist</i> , 2013, 198, 4-6.                                       | 7.3  | 40        |
| 31 | Neither crop genetics nor crop management can be optimised. <i>Field Crops Research</i> , 2016, 189, 75-83.   | 5.1  | 40        |
| 32 | Evolutionary tradeoffs as opportunities to improve yield potential. <i>Field Crops Research</i> , 2015, 182, 3-8.   | 5.1  | 36        |
| 33 | Making science more effective for agriculture. <i>Advances in Agronomy</i> , 2020, , 153-177.   | 5.2  | 34        |
| 34 | Measuring the fitness of symbiotic rhizobia. <i>Symbiosis</i> , 2011, 55, 85-90.  | 2.3  | 33        |
| 35 | The biological reality of host sanctions and partner fidelity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, E7; author reply E8. | 7.1  | 28        |
| 36 | The century experiment: the first twenty years of UC Davis' Mediterranean agroecological experiment. <i>Ecology</i> , 2018, 99, 503-503.  | 3.2  | 28        |

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|----|---|-----|-----------|
| 37 | DO TRADE-OFFS HAVE EXPLANATORY POWER FOR THE EVOLUTION OF ORGANISMAL INTERACTIONS?. Evolution; International Journal of Organic Evolution, 2012, 66, 1297-1307.           | 2.3 | 27        |
| 38 | Reversible O <sub>2</sub> Inhibition of Nitrogenase Activity in Attached Soybean Nodules. Plant Physiology, 1992, 100, 1863-1868.   | 4.8 | 25        |
| 39 | Bacterial persistence and bet hedging in <i>Sinorhizobium meliloti</i> . Communicative and Integrative Biology, 2011, 4, 98-100.  | 1.4 | 20        |
| 40 | Past evolutionary tradeoffs represent opportunities for crop genetic improvement and increased human lifespan. Evolutionary Applications, 2011, 4, 216-224.               | 3.1 | 19        |
| 41 | Model predictions of winter rainfall effects on N dynamics of winter wheat rotation following legume cover crop or fallow. Field Crops Research, 2005, 91, 251-261.       | 5.1 | 17        |
| 42 | Inclusive fitness in agriculture. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130367.  | 4.0 | 17        |
| 43 | What should agriculture copy from natural ecosystems?. Global Food Security, 2015, 4, 30-36.  | 8.1 | 17        |
| 44 | How do less expensive nitrogen alternatives affect legume sanctions on rhizobia?. Ecology and Evolution, 2020, 10, 10645-10656.   | 1.9 | 16        |
| 45 | Strong Inference: The Way of Science. American Biology Teacher, 2003, 65, 419-424.  | 0.2 | 14        |
| 46 | Individual fitness versus whole-crop photosynthesis: solar tracking tradeoffs in alfalfa. Evolutionary Applications, 2010, 3, 466-472.                                    | 3.1 | 14        |
| 47 | Disentangling Direct and Indirect Fitness Effects of Microbial Dormancy. American Naturalist, 2013, 182, 147-156.   | 2.1 | 14        |
| 48 | Leghaemoglobin oxygenation gradients in alfalfa and yellow sweetclover nodules. Journal of Experimental Botany, 2003, 54, 1085-1091.                                      | 4.8 | 12        |
| 49 | When Stress Predicts a Shrinking Gene Pool, Trading Early Reproduction for Longevity Can Increase Fitness, Even with Lower Fecundity. PLoS ONE, 2009, 4, e6055.           | 2.5 | 12        |
| 50 | Darwinian Agriculture. , 2009, , 214-234.   |     | 11        |
| 51 | Resource acquisition and allocation traits in symbiotic rhizobia with implications for life-history outside of legume hosts. Royal Society Open Science, 2018, 5, 181124. | 2.4 | 11        |
| 52 | Legume-imposed selection for more-efficient symbiotic rhizobia. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .             | 7.1 | 9         |
| 53 | Wavelength options for monitoring leghaemoglobin oxygenation gradients in intact legume root nodules. Journal of Experimental Botany, 1997, 48, 1251-1258.                | 4.8 | 7         |
| 54 | Site-Specific Relationships between Flag Leaf Nitrogen, SPAD Meter Values and Grain Protein in Irrigated Wheat. Assa, Cssa and Sssa, 2015, , 113-122.                     | 0.6 | 5         |

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|----|---|-----|-----------|
| 55 | Evolutionary trade-offs are key to beneficial manipulation of crops by microbes. American Journal of Botany, 2019, 106, 1529-1531.                                      | 1.7 | 5         |
| 56 | Relationships and influence of yield components on spaced plant and sward seed yield in perennial ryegrass. Grass and Forage Science, 2020, 75, 424-437.                | 2.9 | 5         |
| 57 | A Darwinian perspective on improving nitrogen-fixation efficiency of legume crops and forages. , 2015, , 207-222.   |     | 4         |
| 58 | Bacterial persistence and bet hedging in Sinorhizobium meliloti. Communicative and Integrative Biology, 2011, 4, 98-100.  | 1.4 | 4         |
| 59 | Increasing cooperation among plants, symbionts, and farmers is key to past and future progress in agriculture. Journal of Bioeconomics, 2014, 16, 223-238.              | 3.3 | 3         |
| 60 | An evolutionary perspective on increasing net benefits to crops from symbiotic microbes. Evolutionary Applications, 2022, 15, 1490-1504.                                | 3.1 | 3         |
| 61 | Drowning out the protection racket: partner manipulation or drought can strengthen ant plant mutualism. Trends in Plant Science, 2014, 19, 411-413.                     | 8.8 | 1         |
| 62 | Evolutionary Stability of Rhizobium Mutualism Depends on Legume Host Sanctions. , 2005, , 221-224.  |     | 1         |
| 63 | Tomato Yield - Color Infrared Photograph Relationships. Assa, Cssa and Sssa, 0, , 1483-1491.  | 0.6 | 0         |
| 64 | Copy competitively-tested adaptations of wild species, maybe, but not natural ecosystems tested only by persistence. Outlook on Agriculture, 2022, 51, 46-54.           | 3.4 | 0         |
| 65 | Clade-dependent effects of drought on nitrogen fixation and its components – Number, size, and activity of nodules in legumes. Field Crops Research, 2022, 284, 108586. | 5.1 | 0         |