**Supplementary Information S2**

**Further details for soil monitoring toolkits listed in Table 4**

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| --- | --- | --- | --- | --- | --- |
| **Toolkit name** | **Run By / Country located** | **Target audience** | **App/online platform** | **Open access** | **Other notes** |
| SoilMentor | SectorMentor Vidacycle; Chile/UK | Regenerative farmers | Y | N | - Subscription service for long term monitoring of soil health |
| MO DIRT Soil Health Survey | Missouri EPSCoR; USA | Not targeted specifically at farmers, but inclusive of agricultural land sampling | Y | Y | - Citizen science project funded by the US National Science Foundation.  - No longer active but manuals are still available  - >800 users 2015- 2017  - Included in person training sessions. |
| Soil Quality Test Kit | Natural Resources Conservation Service Soils, USDA; USA | Farmers | N | Y | - Manual includes all tests and instructions for steps to build much of the equipment needed from scratch. |
| Soil Health Test Bucket | Natural Resources Conservation Service Soils, USDA; USA | Educators | N | Y | - List of all equipment and costs available on website |
| Soils Cross-Cutting Project | Collaborative Crop Research Programme; South Africa / USA | Smallholding farmers in East/Southern Africa & organisations working in their communities | N | Y | - Focus on sustainable soil management alongside agricultural intensification |
| Soil Health Extension Toolkit | Sugar Research Australia; Australia | Agronomists | N | N | - Currently in testing phase  - Designed for use in  collaboration with farmers in measuring soil health.  - Intended to generate interest in sugarcane soil health and promote discussion amongst farmers. |
| Soil Navigator DSS | LANDMARK; the Netherlands | Farmers | Y | Y | - Uses soil health data to allow farmers to make sustainable management decisions.  - Does not offer guidance on how to undergo tests, only analyses data available from them to give an overall picture of soil health. |
| SQAPP | Wageningen University & ISRIC-World Soil Information; NL. | Farmers | Y | Y | - In development (beta-release October 2020)  - Provides location specific soil quality data across the metrics listed, without individual testing |
| Cool Farm Tool | CFA; UK | Farmers & Corporations | Y | Y | - Intended to encourage sustainable farm management  - Does not offer guidance on how to undergo tests, only analyses data available from them to give an overall picture of how to improve each metric. |
| Soil Health Scorecard | AHDB; UK | Farmers | N | N | - In development |
| Wisconsin Soil Health Scorecard | UW-Madison Centre for Integrated Agricultural Systems; USA | Farmers | N | Y | - Many different scorecards are available across the US. |
| Soil Structure Assessment Kit | VRO; Australia | Farmers | N | Y | - Specific to red duplex soils  - Intended to allow assessment and monitoring of soil structure while increasing knowledge of the soil and how management practices alter its quality.  - Manual available free online |
| Yara Farmers Toolbox | Yara; Norway | Farmers | N | N | - Lab analysis of soil sample |
| Earthworm Watch | Earthwatch Europe; UK | General public | ? | Y | - Citizen science project  - Part of a completed research project so no longer active |
| OPAL Explore | Imperial College London; UK | General public | Y | Y | - Citizen science project  - Part of a completed research project so no longer active |
| Atlas of Biological Work | Soil Carbon Coalition; US | General public | Y | Y | - Citizen science project focusing on the sharing of global soil health and watershed function data.  - Ongoing |
| The Soil Carbon Project | The Farm Carbon Cutting Toolkit Community; UK | Farmers | N | N | - Citizen science project  - Combination of ‘in field’ and laboratory testing  - Fully subscribed, no longer taking participants, but ongoing |