

Herbicides Calculator

Reduce pesticide and herbicide losses with IITA's herbicide calculator

The IITA Herbicide Calculator is a digital tool that helps farmers figure out the right amount for backpack sprayers. This tool was developed using Java language, the Ionic framework, and Android Studio, ensuring its robustness and usability.



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✓ This technology is **TAAT1 validated**.

7-7



Scaling readiness: idea maturity 7/9; level of use 7/9

Inclusion assessment



Climate impact



Problem

- The widespread misuse of pesticides (including herbicides) due to poor calibration of spray tanks.
- Loss of inputs (pesticides or herbicides) during applications.
- Residue of chemical products in crops due to overdosing of pesticides or herbicides.

Solution

- The "IITA Herbicides Calculator" technology ensures the precise application of pesticides, mitigating issues related to over or under-dosing.
- Its promotes the effectiveness of herbicides, facilitating their optimal application.

Key points to design your program

The Herbicide Calculator improves weed management by helping farmers and spray service providers accurately calibrate sprayers and determine the correct herbicide dosage before application. Suitable for climate-smart agriculture, sustainable intensification, digital extension, and crop productivity programmes, the technology contributes to **SDGs 3 (Good Health and Well-being), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation and Infrastructure)** while promoting safer agrochemical use and strengthening digital advisory services. To successfully integrate this technology, consider the following key actions:

- Target crop value chains where poor spray calibration and inaccurate herbicide application limit productivity and increase production costs.
- Establish partnerships with IITA, extension services, agro-input suppliers, farmer organizations, and digital agriculture partners to support deployment and farmer outreach.
- Strengthen technical capacity for extension agents, farmers, and certified spray service providers while integrating the Herbicide Calculator into digital advisory and extension services.
- Promote responsible herbicide use and monitor technology adoption, calibration accuracy, herbicide-use efficiency, production cost savings, and programme outcomes.



Open source / open access

Technology from

ProPAS

Commodities

Maize, Rice, Sorghum/Millet, Cowpea, Soybean, Cassava, Yam

+ 1 more

Sustainable Development Goals



Categories

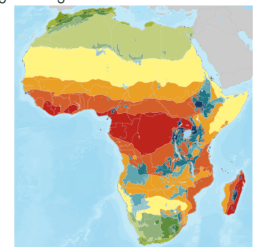
Production, Digital applications, Pest control

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers



Herbicides Calculator

<https://taat.africa/agz>

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