Breeding, Variety Release and Maintenance

Country: Malawi

	Profile Element	Response
1	**Focus crops for assessment**	Maize, Rice, Beans, Groundnuts, Soya
2	**National public institutions (stations) in charge of breeding work for focus crops**	Department of Agricultural Research Services
3	**Number of qualified and active public breeders for each focus crop**	Maize = 2; Rice = 1; Beans = 1; Groundnuts = 2 Soya = 1
4	**Number and focus of scientists from support disciplines (such as agronomy, entomology, etc.) that support breeding for each focus crop**	Agronomists (5); Entomologists (2); Soil Scientists (2); Pathologists (2) cut across different breeding programs in DARS
5	**Private entities with breeding programs for focus crops in the country**	Not Multinational Seed Companies have breeding programs outside Malawi
6	**Institutions/agencies in charge of variety testing and release**	Agriculture Technology and Clearing Committee under DARS in the Ministry of Agriculture
7	**Average time to release a variety (note TASAI or other source)**	TASAI describes the length of the variety release process is calculated from the date the variety is submitted to the ATCC to the date when it is approved for release. For public breeders the period is: Maize- 1.8 months, Beans- 2.2, Groundnuts - 2.2, Soya- 2.2
8	**Availability of documented variety release data, including DUS and NPT/VCU**	Technology Transfer Unit under DARS is the custodian of VCU and DUS data
9	**Extent of on-farm testing program (indicate #farms x #varieties x #reps)**	Minimum of 6 sites and 3 replicates for on-farm trials for variety release decisions.
10	**Focus crop varieties released in the last 10 years and commercialization status of each (none, emerging, expanding, stalled, full)**	56 Maize varieties (30% Commercialized), 24 Bean (13% commercialized) varieties; 7 Groundnut Varieties (29% commercialized); 5 Soya (80% commercialized)
11	**List and year of release of varieties accounting for 80% of crop volume, by focus crop**	Compiled List of Selected Agricultural Technologies Released through the ATCC from 2012 to 2018 available at DARS
12	**Average life of a variety in the market**	12 years
13	**Status of Plant Variety Protection (PVP) Act**	2018 Plant Breeder's Rights
14	**Functionality of variety licensing program(s)**	DARS license to some seed companies
15	**Functionality of royalty collection programs**	Not functional
16	**Allocation of royalties collected back to breeding program(s)**	None

17	**Infrastructure in place to support public breeding work --cold rooms, irrigation, land (resilience screening, green houses), modern labs, etc.**	Maize Commodity cold rooms (2) at Chitedze; Kandiyani, Chitala and Kasinthula Irrigation sites; 4 Greenhouses; 2 Tissue Culture Labs; Internationally Accredited Seed Lab; 10 plant protection labs; 3 insectaries
18	**Status/condition of national gene bank**	Functional Malawi Plant Genebank with over 3,000 accessions
19	**Major innovations that have impacted the program in the last 5 years**	More than 10 scientists trained in plant breeding. Limited equipment like Genemarker/ plant molecular available
20	**Key variety access and licensing information available on government website(s)**	https://dars.mw is the DARS website with some variety access information
21	**Learning events or joint activities between breeders and private sector in the last two years**	Field Days organized with seed companies and Annual Research Commodity Review Meetings
22	**Program's total budget for each of the last 5 years**	Average annual budget US$20,000 and US$100,000 for 5 years. To undertake breeding programs, breeders rely more on donor support.
23	**Proportion of the budget spent on the following: salaries/breeding/testing/other (total should add up to 100%)**	70% Salaries; 5% breeding; 10% testing and 15% other