

Summary Information

Table 1: Agricultural Technologies Released by the ATCC in end-July 2018

No.	Variety/technology	Description	Type of crop	Date of release	Institution
1.	HMR09-27	Moderate tolerant to root knot nematode (4.0) and granville wilt moderately resistant flue cured tobacco f1 hybrids	Tobacco	July 2018	ARET
2.	HMR09-29	Tolerant to root knot nematode and granville wilt moderately resistant flue cured tobacco f1 hybrids	Tobacco	July 2018	ARET
3.	Aryna as an insecticide for use in tobacco	insecticide for use in tobacco	Tobacco	July 2018	ARET
4.	SC303 (10C4234)	It is a three-way cross, ultra-early maturing, white maize hybrid responding to climate change issues. It is drought tolerant variety recommended for low rainfall areas. It has a plant height of 2 m, ear height of 0.9m, flowers in 48 days and matures in 112 days. It has a semi-flint grain texture of 3.2. It yields 5 t/ha in heat stressed conditions and potential of 10 t/ha in mid-altitude areas. SC303 is tolerant heat stress and high levels of tolerance to Maize streak virus (MSV), <i>Phaeospharia</i> Leaf Spot (PLS) and Grey Leaf Spot (GLS)	Maize	July 2018	SeedCo/DARS

5.	SC419 (10C2738)	It is a commercial three-way cross, medium maturing white maize hybrid. It is drought tolerant variety recommended for all maize growing areas from low to medium potential and as a late planted early maturing hybrid in high potential areas. It has a plant height of 1.75 m, flowers in 62 days and matures in 112days. It has an excellent grain texture of 2.5. It has a yields potential of 11.8 t/ha in mid-altitude areas. It has high levels of tolerance to <i>Helminthosporium turcicum</i> (HT) but moderate levels of tolerance to maize streak virus (MSV) and grey leaf spot (GLS)	Maize	July 2018	SeedCo/DARS
6.	SC529 (xxxx)	It is a commercial three-way cross, medim-late maturing white maize hybrid. It is drought tolerant variety recommended for all maize growing areas from low to medium potential and as a late planted early maturing hybrid in high potential areas. It has a plant height of 2.5 m, flowers in 80 days and matures in 130-135 days. It has an excellent grain texture of 2.5. It has a yields potential of 13 t/ha in mid-altitude areas. It has moderate levels of tolerance to <i>Helminthosporium turcicum</i> (HT) but moderate levels of tolerance to maize streak virus (MSV) and grey leaf spot (GLS)	Maize	July 2018	SeedCo/DARS
7.	SC649 (11C86)	It is a commercial three-way cross, late maturing white maize hybrid. It is drought tolerant variety recommended for all maize growing areas from low to	Maize	July 2018	SeedCo/DARS

		medium potential and as a late planted early maturing hybrid in high potential areas. It has a plant height of 2.3 m, flowers in 95 days and matures in 142 days. It has an excellent grain texture of 2.5. It has a yields potential of 13t/ha in mid-altitude areas. It has high levels of tolerance to <i>Helminthosporium turcicum</i> (HT) but moderate levels of tolerance to maize streak virus (MSV) and grey leaf spot (GLS)			
8.	SC653 (11C4443)	It is a commercial three-way cross, late maturing white maize hybrid. It is drought tolerant variety recommended for all maize growing areas from low to medium potential and as a late planted early maturing hybrid in high potential areas. It has a plant height of 2.35 m, flowers in 90 days and matures in 140 days. It has an excellent grain texture of 2.5. It has a yields potential of 12.2 t/ha in mid-altitude areas. It has high levels of tolerance to <i>Helminthosporium turcicum</i> (HT) but moderate levels of tolerance to maize streak virus (MSV) and grey leaf spot (GLS)	Maize	July 2018	SeedCo/DARS

Table 2: Agricultural Technologies Released by the ATCC in end-December 2018

No.	Variety/technology	Description	Type of crop	Date of release	Institution
9.	Solaris Crop and best management options	Solaris is newly introduced GMO-free and non-nicotine bearing oilseed suitable for production of bio-diesel and jet fuel. It is an annual non-food crop and has the potential to grow on marginal lands meant for crop diversification. The mean yield score was at 2.4 tons/ha but has potential to reach 5.7 tons/ha with extractable seed oil of 1930-2038 Litter/ha. It's byproducts i.e. seed cake and stems can be use as animal feeds, biogas production as well as paper pulp. The Recommended management option were 1 plant spaced at 20 cm on 1 m ridges apart to attain 50000 plants/ha and application of inorganic fertilizers at 160 kg N/ha. Farmers can economical gain K1,200/kg as compared with tobacco.	Solaris	December 2018	ARET/ Sunchem Holding Company
10.	Aflasafe MWMZ01	A biocontrol technology contains a mixture of four atoxigenic strains of <i>A. flavus</i> of native origin to control Aflatoxins in maize and groundnuts. The product showed more than 80% reduction in aflatoxin. Aflasafe is broadcast on fields at 10kg/ha 2-3 weeks before flowering and within 2-3 days, the atoxigenic strains sporulate and carried from the soil surface to maize cobs displacing the toxin producing strains. The beneficial effect of afla is carried over from one season	Maize/ Groundnut	December 2018	DARS/IITA

		to the next. The product will assist in reducing the rejection rates of infected maize and groundnuts on the market and also their value.			
11.	Aflasafe MW02	A biocontrol technology contains a mixture of four atoxigenic strains of <i>A. flavus</i> of native origin to control Aflatoxins in maize and groundnuts. The product showed more than 80% reduction in aflatoxin. Aflasafe is broadcast on fields at 10kg/ha 2-3 weeks before flowering and within 2-3 days, the atoxigenic strains sporulate and carried from the soil surface to maize cobs displacing the toxin producing strains. The beneficial effect of afla is carried over from one season to the next. The product will assist in reducing the rejection rates of infected maize and groundnuts on the market and also their value.	Maize/ Groundnut	December 2018	DARS/IITA
12.	MH53 (MACT APPSA 15)	It is a 3-way cross hybrid and is relatively easy to produce and tolerant to major fungal diseases in Malawi. It has a semi-flint kernel texture (2.6) and matures in 140 days. It has an average plant height of 172 cm and ear height of 65cm. It has a grain yield potential of 8.3 tons /ha and under good management yields can go up to 9 tons /ha. It is tolerant to Grey leaf spot <i>Cecospora zea-maydis</i> (1.2), Rust <i>Puccinia spp</i> (1.2) and Leaf blight <i>Exserohilum turcicum</i> (1.8).	Maize	December 2018	DARS/APPSA

13.	MH54 (MACT APPSA 31)	It is a 3-way cross hybrid and is relatively easy to produce and tolerant to major fungal diseases in Malawi. It has a semi-flint kernel texture (2.4) and matures in 140 days. It has an average plant height of 177 cm and ear height of 75cm. It has a grain yield potential of 8.7 tons /ha and under good management yields can go up to 10 tons /ha. It is highly resistant to Grey leaf spot <i>Cecospora zea-maydis</i> (1.2), Rust <i>Puccinia spp</i> (1.4) and Leaf blight <i>Exserohilum turcicum</i> (1.8)	Maize	December 2018	DARS/APPSA
14.	MH55 (MACT APPSA 32)	It is a 3-way cross hybrid and is relatively easy to produce and tolerant to major fungal diseases in Malawi. It has a semi-flint kernel texture (2.3) and matures in 140 days. It has an average plant height of 200 cm and ear height of 72cm. It has a grain yield potential of 9.2 tons /ha and under good management yields can go up to 9 tons /ha. It is tolerant to Grey leaf spot <i>Cecospora zea-maydis</i> (1.2), Rust <i>Puccinia spp</i> (1.2) and Leaf blight <i>Exserohilum turcicum</i> (1.8).	Maize	December 2018	DARS/APPSA
15.	MH56MLN (APPSA 16ML14)	It is a 3-way cross hybrid and is relatively easy to produce and tolerant to Maize Leathal Necrosis Disease (MLND). It has a semi-flint kernel texture (2.5) and matures in 129 days. It has an average plant height of 183.5 cm and ear height of 85cm. It has a grain yield potential of 7 tons /ha and under good management	Maize	December 2018	DARS/APPSA

		yields can go up to 8 tons /ha. It is tolerant to maize lethal necrosis (4.0), Grey leaf spot <i>cecospora zea-maydis</i> (1.1), Rust <i>Puccinia spp</i> (1.3) and moderately susceptible to Leaf blight <i>Exserohilum turcicum</i> (3.1)			
16.	MH57MLN (APPSA 16ML20)	It is a 3-way cross hybrid and is relatively easy to produce and tolerant to Maize Leathal Necrosis Disease (MLND). It has a semi-flint kernel texture (2.4) and matures in 127 days. It has an average plant height of 179 cm and ear height of 79.5cm. It has a grain yield potential of 7 tons /ha and under good management yields can go up to 8 tons /ha. It is tolerant to maize lethal necrosis (4.0), Grey leaf spot <i>Cecospora zea-maydis</i> (1.2), Rust <i>Puccinia spp</i> (1.5) and Leaf blight <i>Exserohilum turcicum</i> (2.7)	Maize	December 2018	DARS/APPSA
17.	Pirira 3	Early maturing Sugar Bean variety. Widely adapted to bean growing areas of Malawi. It matures in 61-70 days and has a high yield potential of 3 T/ha. It produces large sized and dense grains. High tolerance to leaf diseases such as bean common mosaic virus, bean rust and angular leaf spot. It is very good for both small scale and commercial production for markets.	Sorghum	December 2018	DARS/ICRISAT
18.	Pilira 4	Early maturing Sugar Bean variety. Widely adapted to bean growing areas of Malawi. It matures in 57-60 days and has a high yield potential of 2.5 T/ha. It produces	Sorghum	December 2018	DARS/ICRISAT

		large sized and dense grains. High tolerance to leaf diseases such as bean common mosaic virus, bean rust and angular leaf spot. It is very good for both small scale and commercial production for markets.			
19.	Pilira 5	Quinoa varieties released for mildly cool and warm areas. Highly nutritious variety. It has the potential yield of 4.3 T/Ha. Matures in 88 to 120 days. Heat tolerant variety.	Sorghum	December 2018	DARS/ICRISAT
20.	CBAM1-16 (Chikope Chanyani)	It is a Bambara nut variety adaptable for low rainfall areas and tested for nutritional aspects. The average plant height is 23 cm. It flowers in 45-50 days and matures in 95-110 days. It has the large seeds with dark cream in with red eye and round shaped. t has the potential yield of 0.8-1 ton/ha, seed weight of 62-70 gm/100 seeds and a shelling percentage of 75%. Cookable in about 110 minutes. It is moderately tolerant to major diseases.	Bambara nuts	December 2018	DARS/LUANAR
21.	CBAM2-16 (Khaki)	It is a Bambara nut variety adaptable for low rainfall areas and tested for nutritional aspects. The average	Bambara nuts	December 2018	DARS/LUANAR

		<p>plant height is 26 cm. It flowers in 45-50 days and matures in 95-105 days. It has the medium seeds with deep cream in with dark brown eye and round shaped. It has the potential yield of 0.8-1 ton/ha, seed weight of 62-69 gm/100 seeds and a shelling percentage of 80%. Cookable in about 130 minutes. It is moderately tolerant to major diseases.</p>			
22.	CBAM3-16 (Nalbam 4)	<p>It is a Bambara nut variety adaptable for low rainfall areas and tested for nutritional aspects. The average plant height is 28 cm. It flowers in 45-47 days and matures in 95 -105 days. It has the large seeds with light cream in with red eye and round shaped. t has the potential yield of 0.8-1 ton/ha, seed weight of 62-70 gm/100 seeds and a shelling percentage of 75%. Cookable in about 120 minutes. It is moderately tolerant to major diseases.</p>	Bambara nuts	December 2018	DARS/LUANAR
23.	CBAM4-16 (Nalbam 3)	<p>It is a Bambara nut variety adaptable for low rainfall areas and tested for nutritional aspects. The average plant height is 26 cm. It flowers in 46-55 days and</p>	Bambara nuts	December 2018	DARS/LUANAR

		<p>matures in 90-105 days. It has the medium seeds with deep cream in with dark brown eye and round shaped. It has the potential yield of 0.8-1 ton/ha, seed weight of 53-72 gm/100 seeds and a shelling percentage of 78%. Cookable in about 125 minutes. It is moderately tolerant to major diseases.</p>			
24.	MAHYCO C570 BGII (MRC 7017 BGII)	<p>It is a newly released BT cotton hybrid variety with a high seed cotton yield potential of about 4 tons/ha. It matures in 170- 180 days. It is suitable for cultivation in all cotton growing areas of Malawi. The main features include slightly hairy leaves and semi erect growth habit. Its average height is about 116 cm and flowers about 51 days after emergence. It is medium maturing. Under Malawi conditions, it produces bolls which mature and start opening at about 100 days after crop emergence. The average boll size is 5.7 g. It's ginning out turn is around 39.00 %. It's ginning out turn is 32.00 %. It is tolerant to sucking pests such as jassids and aphids. It is also tolerant major diseases under field conditions such as</p>	Bt Cotton	December 2018	Quton Malawi/ DARS

		bacterial blight. It has fibre length of 31.5 mm; fibre strength of 28.0 g/ tex and fibre fineness (micronaire) of 4.0.			
25.	MAHYCO C569 BGII (MRC 7031 BG II)	It is a newly released BT cotton hybrid variety with a high seed cotton yield potential of about 4 tons/ha. It matures in 170- 180 days. It is suitable for cultivation in all cotton growing areas of Malawi. The main features include slightly hairy leaves and semi erect growth habit. Its average height is about 126 cm and flowers about 56 days after emergence. It is medium maturing. Under Malawi conditions, it produces bolls which mature and start opening at about 108 days after crop emergence. The average boll size is 5.7 g. It's ginning out turn is around 39.00 %. It is also tolerant major diseases under field conditions such as bacterial blight. It has fibre length of 31.0 – 31.5 mm; fibre strength of 30.5 – 31.0g/ tex and fibre fineness (micronaire) of 4.3 – 4.5.	Bt Cotton	December 2018	Quton Malawi/ DARS
26.	MAHYCO C571 BGII (MRC 7361 BG II)	It is a newly released BT cotton hybrid variety with a high seed cotton yield potential of about 4 tons/ha. It matures in 170- 180 days. It is suitable for cultivation in all cotton	Bt Cotton	December 2018	Quton Malawi/ DARS

		growing areas of Malawi. The main features include slightly hairy leaves and semi erect growth habit. Its average height is about 118 cm and flowers about 51 days after emergence. It is medium maturing. Under Malawi conditions, it produces bolls which mature and start opening at about 100 days after crop emergence. The average boll size is 5.4 g. It's ginning out turn is around 33.83 %. It is tolerant to sucking pests such as jassids and aphids. It is also tolerant major diseases under field conditions such as bacterial blight. It has fibre length of 31.0 mm; fibre strength of 27.6 g/ tex and fibre fineness (micronaire) of 4.0.			
27.	MAHYCO C567 BGII (MRC 7377 BGII)	It is a newly released BT cotton hybrid variety with a high seed cotton yield potential of about 4 tons/ha. It matures in 170- 180 days. It is suitable for cultivation in all cotton growing areas of Malawi. The main features include slightly hairy leaves and semi erect growth habit. Its average height is about 123 cm and flowers about 52 days after emergence. It is medium maturing. Under Malawi conditions, it produces bolls which mature and start opening at about 100 days after crop emergence. The average boll size is 5.4 g. It's ginning out turn is around 35.88 %. It is tolerant to sucking pests such as jassids and aphids. It is also tolerant major diseases under field conditions such as bacterial blight. It has fibre	Bt Cotton	December 2018	Quton Malawi/ DARS

		length of 31.8 mm; fibre strength of 26.9 g/ tex and fibre fineness (micronaire) of 4.3.			
28.	Dettamax 2.5 EC	Dettamax 2.5EC is an effective pyrethroids pesticide in controlling bollworms at the rate of 20ml/15 litres of water. It is safer to use as since it has low Leathal Dose mark. The use of liquid formulation is safer than that of powder formulation than WP as it has low toxicity levels.	Cotton	December 2018	AHL / DARS
29.	Cypersupper 20EC	Cypersupper 20EC is an effective pyrethroids pesticide in controlling <i>cotton bollworms and leaf sucking pests</i> . It is economically viable at 10ml/15 litres of water. The use of liquid formulation is safer than that of powder formulation than WP as it has low toxicity levels. Cypersupper 20EC at the rate 10ml/15.	Cotton	December 2018	AHL/DARS

30.	K-Obil	K Obiol [®] DP2 (0.2% <i>Deltamethrin</i>) is an insecticide for grain storage pest in cereals. It may be used for direct application to cereal grains and legumes, treating sacks, rural stores, bins, silos and other containers of grain. Warehouses and other buildings used for the storage and handling of stored products can also be treated with this product. K Obiol dust provides protection for 8 to 12 months when applied directly to the stored grain at the rate of application rate of 25 g per 50 kg of grain.	Cereal grains	December 2018	Bayer / DARS
31.	Chameleon Field Reader & Soil Moisture Sensor Array	Chameleon field reader and soil moisture sensor are parts of the farmer-friendly monitoring tools that measure soil water and depth to water table at different crop types in irrigation schemes. The tools are connected with an on-line communication and learning system through Wi-fi to improve water management at scheme level. The tools create a new language of colours and patterns that allows a conversation among researchers, extension workers and farmers with variable literacy. They are gender sensitive tools that can reduced	Irrigated crops	December 2018	DARS

		workloads for women and encourage the youth to enter farming.			
32.	Chameleon Wetting Front Detector (WFD)	Wetting Front Detectors (WFD) are multilayered tools is mostly used for monitoring nutrients at different crop types in irrigation schemes. The tool is also connected to an on-line communication and learning system through Wi-fi to improve water management at scheme level. The tools create a new language of colours and patterns that allows a conversation among researchers, extension workers and farmers with variable literacy. They are gender sensitive tools that can reduced workloads for women and encourage the youth to enter farming.	Irrigated Crops	December 2018	DARS
33.	Supplementing Irrigation Water Supply with Drainage Water for Improved Rice Production in Malawi	Supplying drainage water in rice field was considered not a good practice by most farmers. The new recommendation was drawn from the research results to use 50:50 drainage and new water supply to improve the quaily and achieve the purpose of saving or supplementing irrigation water. This enhance their	Rice	December 2018	DOI/DARS