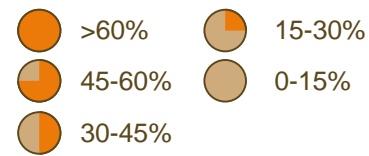


Priority targets for crop improvement: Sub-Saharan Africa



Crops	Area harvested (Million ha)	2005 yield (t/ha)	Yield gap (percent)	2008 yield (t/ha)	Yield gain potential by countering biotic stresses (Percent)					Yield gain potential by countering abiotic stresses (Percent)			Total calories, 2007 (Billion kcal per year)	2005 Value of production, (Billion \$USD)	Projected growth, 2005-2030 (Percent)
					Insects	Viruses	Fungi	Bacteria	Weeds	Post-harvest pests	Drought	Soil nutrients			
<i>Cereals</i>															
Maize	24.9	1.3	216%	1.4									85,147	\$3.7	126.9%
Rice	8.5	1.7	197%	1.7						N/A**			50,669	\$2.8	102.6%
Sorghum	27.1	0.8	326%	0.9		N/A**		N/A**		N/A**			49,052	\$2.6	157.7%
Millet	21.2	0.8	335%	0.8		N/A**		N/A**					35,600	\$2.6	128.5%
Wheat	2.1	1.7	230%	1.9									41,121	\$0.6	194.0%
<i>Roots & Tubers</i>															
Cassava	12.0	9.5	64%	9.8	N/A**		N/A**	N/A**		N/A**	N/A**		67,285	\$7.7	67.4%
Sweet potatoes	3.3	4.3	-----	4.3			N/A**			N/A**			10,917	\$1.3	82.3%
Yams	4.6	10.8	40%	10.6			N/A**			N/A**			19,853	\$9.0	82.3%
<i>Legumes</i>															
Groundnuts	9.3	1.0	192%	1.0			N/A**	N/A**	N/A**	N/A**			9,831	\$4.0	62.2%
Beans	5.6	0.6	267%	0.6					N/A**				8,792	\$1.3	47.1%
Cow peas	10.8	-----	220%	0.4		N/A**	N/A**						15,574	\$1.2	47.1%
Chick peas	0.4	0.8			N/A**			N/A**			N/A**				
Pigeon peas	0.5	0.6			N/A**	N/A**									
Lentils	0.1	0.7			N/A**	N/A**									
<i>Other crops</i>															
Plantain/banana	5.7	5.5 / 6.7	28%	5.6 / 7.0		N/A**				N/A**			13,964 / 4,104	\$5.1 / \$1.2	96.7%

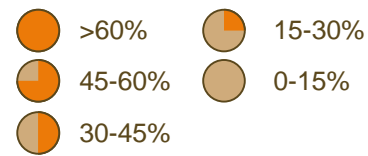
Data Sources:

Harvested area (thousands of hectares) and yield (metric tonnes per hectare) from FAOSTAT data, 2005 and average 2006-2008.
 Yield gap (percent of 2005 yield) given by 2005 GAEZ yield estimates (average 2004-2006).
 Yield gains from addressing biotic and abiotic stressors from a series of papers by Waddington & Dixon. Data for millet, sweet potato, groundnut and banana from a small N expert panel.
 Total calories (billion kilocalories per year) from FAOSTAT data on food supply (kcal/capita/day) and population, average 2005-2007.
 Value of Production and projected increases in market demand from IMPACT model estimates projecting market growth from 2005-2030.

Countries:

Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Swaziland, Togo, Uganda, United Republic of Tanzania, Zambia, Zimbabwe

Priority targets for crop improvement: South Asia (Bangladesh & India)



Crops	Area harvested (Million ha)	2005 yield (t/ha)	Yield gap (percent)	2008 yield (t/ha)	Yield gain potential by countering biotic stresses (Percent)					Yield gain potential by countering abiotic stresses (Percent)			Total calories, 2007 (Billion kcal per year)	2005 Value of production, (Billion \$USD)	Projected growth, 2005-2030 (Percent)	
					Insects	Viruses	Fungi	Bacteria	Weeds	Post-harvest pests	Drought	Soil nutrients				
<i>Cereals</i>																
Maize	8.1	2.0	193%	2.2	0-15%	0-15%	0-15%	15-30%	0-15%	0-15%	0-15%	15-30%	20,568	\$1.7	162.7%	
Rice	54.7	3.3	152%	3.4	0-15%	0-15%	0-15%	0-15%	0-15%	N/A**	15-30%	15-30%	383,359	\$34.5	42.6%	
Sorghum	8.5	0.8	233%	0.9	15-30%	15-30%	0-15%	N/A**	15-30%	0-15%	30-45%	0-15%	21,035	\$0.8	132.1	
Millet	11.9	0.9	106%	0.9	0-15%	N/A**	0-15%	N/A**	30-45%	0-15%	30-45%	15-30%	31,031	\$1.7	46.1%	
Wheat	27.6	2.6	211%	2.7	N/A**	N/A**	0-15%	N/A**	0-15%	0-15%	0-15%	0-15%	221,439	\$10.8	59.3%	
<i>Roots & Tubers</i>																
Cassava	0.3	30.5	50%	32.1	N/A**	N/A**	N/A**	N/A**	0-15%	N/A**	0-15%	0-15%	6,192	\$0.5	54.1%	
Sweet potatoes	0.2	8.9	179%	8.9	>60%	>60%	N/A**	0-15%	>60%	N/A**	>60%	15-30%	1,260	\$0.1	58.0%	
Yams	----	----	----	----									-0	----	----	
<i>Legumes</i>																
Groundnuts	6.2	1,2	147%	1.2	15-30%	>60%	N/A**	N/A**	N/A**	N/A**	>60%	0-15%	2,470	\$3.0	19.7%	
Beans	8.7	0.3	290%	0.4	0-15%	0-15%	15-30%	0-15%	N/A**	0-15%	45-60%	15-30%	10,705	\$1.3	10.9%	
Cow peas	----	----	----	----										----	----	
Chick peas	7.2	0.8	109%	0.8	15-30%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%	31,190	other legumes	\$2.1	53.3%
Pigeon peas	3.6	0.7		0.7	15-30%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%			\$1.0	36.9%
Lentils	1.6	0.7		0.7	15-30%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%	0-15%			\$0.3	10.9%
Banana/Plantain	0.7	31.7		202%	33.9	>60%	N/A**	30-45%	45-60%	30-45%	N/A**	45-60%			>60%	11,114

Data Sources:
 Harvested area (thousands of hectares) and yield (metric tonnes per hectare) from FAOSTAT data, 2005 and average 2006-2008.
 Yield gap (percent of 2005 yield) given by 2005 GAEZ yield estimates (based on average 2004-2006 baseline yield).
 Yield gains from addressing biotic and abiotic stressors from a series of papers by Waddington, Dixon et al. and are rough approximations.
 Total calories (billion kilocalories per year) from FAOSTAT data on food supply (kcal/capita/day) and population, average 2005-2007.
 Value of Production and projected increases in market demand from IMPACT model estimates projecting market growth from 2005-2030.

Countries:
 Bangladesh, India.

Note: Some of the baseline 2005 yield estimates used in calculating the yield gap appear inconsistent with published FAO yield data for 2005. This is especially the case for bananas and cassava. Hence the yield gap estimates for these crops should be treated with caution. Data on biotic and abiotic stressors for millet, sweet potato, groundnut and banana were not found for South Asia; SSA estimates are above,