4 partners

- Max Havelaar Fairtrade
- Eneco Energy
- ICCO
- KCU Kagera Co-operative Union

Feasibility study on 3 locations

Bukoba

(Ruhanga)

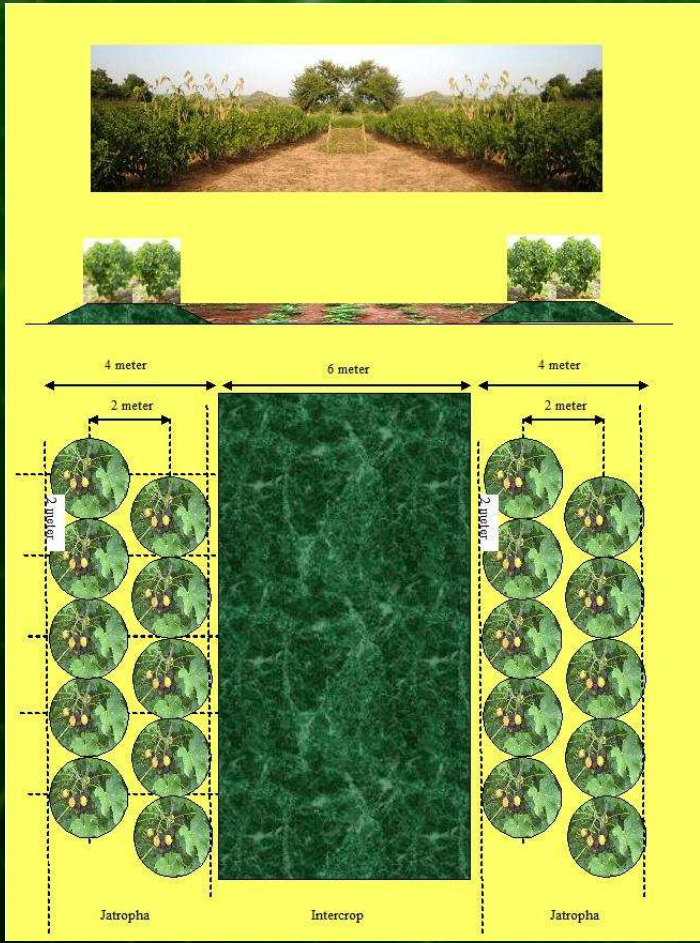
Kilimanjaro

(*Mbosho)*

Mbinga

(Muhekela)

Introduction of Jatropha in subsistence farming in Tanzania



Existing food area divided in 40% Jatropha curcas and 60% food crop

- maize
- sweet potato
- ground nut
- beans
- sesame seed
- wheat
- pigeon peas

66% of yield increase in food crop

Benefits of Jatropha in subsistence farming in Tanzania

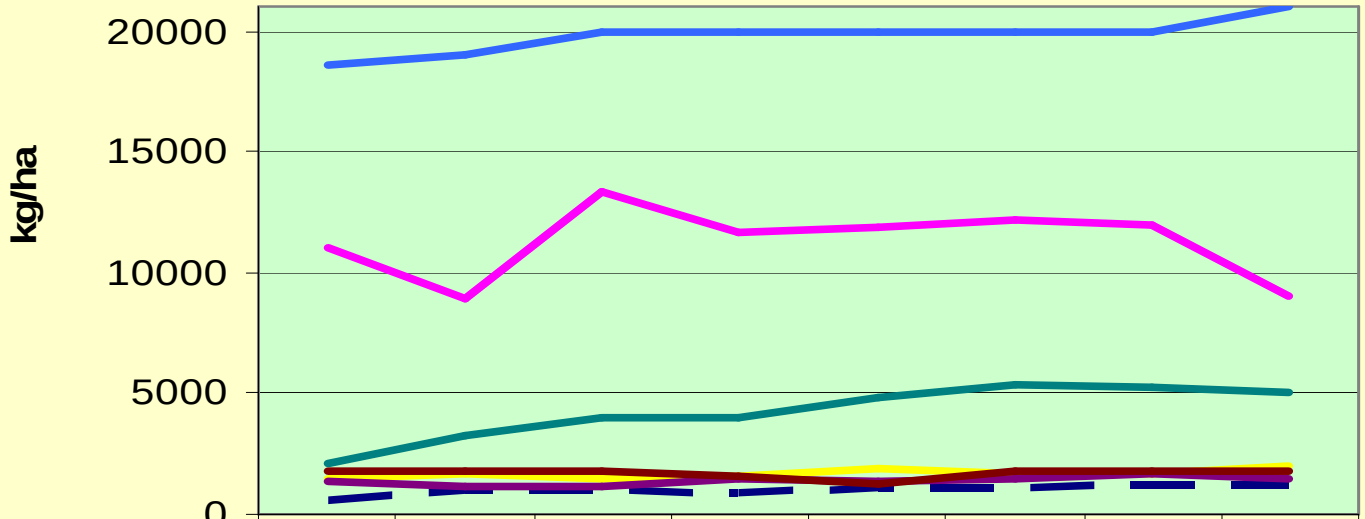
- 40% Jatropha curcas
  - Local oil/energy
  - Cash
  - Erosion control
  - Seed cake as by product
- 60% Food crop

  Higher yield trough:
  - Better Agr.methods
  - Better seeds
  - Fertilizer/seedcake

More efficient use of nutrients
Disease reduction trough intercropping
General soil improvement in time

Maize yield (grain) in various countries

source :www.gapminder.org (from FAO data)



	2000	2001	2002	2003	2004	2005	2006	2007
Tanzania	542.8	983.6	988.3	865.4	1077	1096	1124	1133
Netherlands	11000	8897	13303	11667	11816	12200	11972	9042
Kenya	1440	1701	1513	1622	1929	1641	1720	2025
Kuwait	18619	18957	20000	20000	20000	20000	20000	21000
Mali	1332	1158	1146	1424	1313	1493	1730	1446
Burkina Faso	1754	1812	1738	1528	1267	1806	1787	1794
Bangladesh	2060	3222	4035	4033	4824	5331	5298	5000

Purpose of the pilot plot

- A. Introduction of a mixed cropping system for Jatropha and food crops (Maize)
- B. Prove that Maize can be grown together with Jatropha. (*Due to rumours and failed plantings there is a perception among the farmers that Jatropha affects other crops negatively)*
- C. Prove that Jatropha seedcake is as good as organic manure as a fertilizer.
- D. Prove that by introducing good food seed varieties, healthy fertilizer systems and good agricultural practices, farmers can use 40% of their land for Jatropha without loosing food production. (This requires a 66% increase in food production)

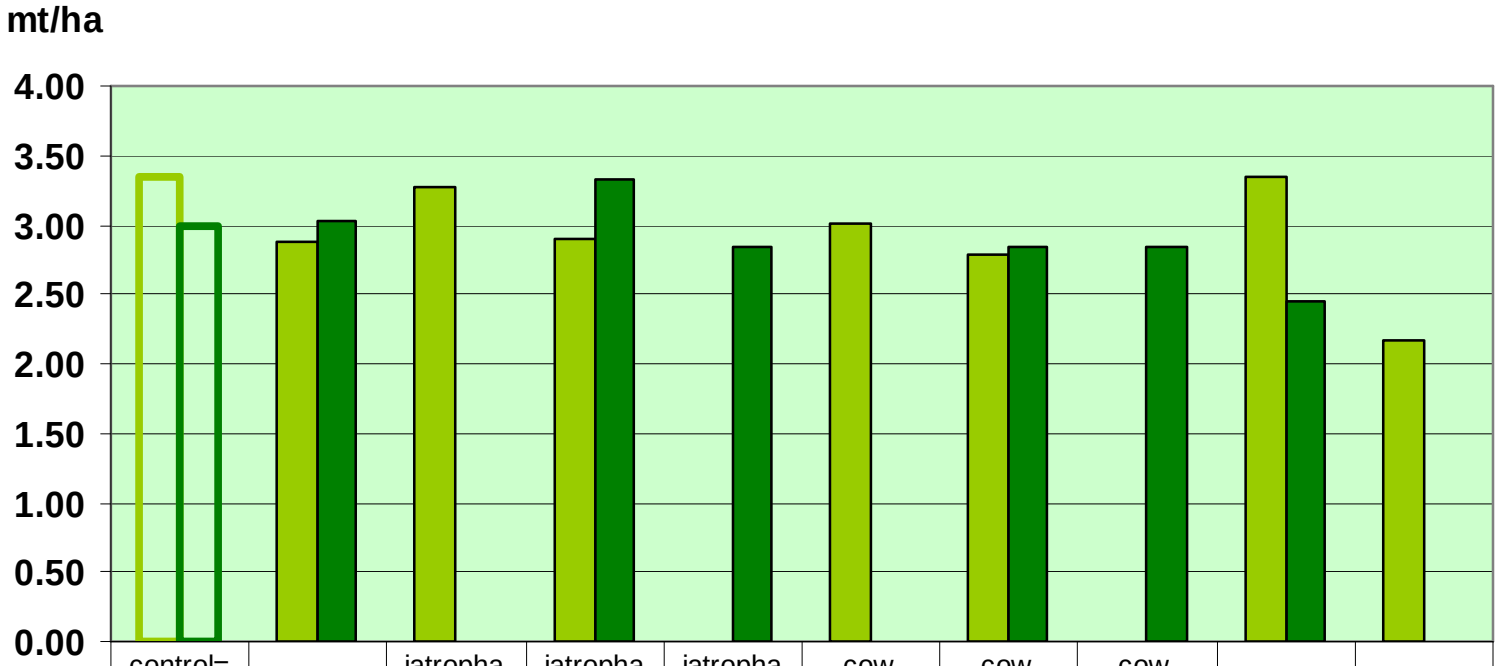
2010 Q1	training manual	
	training agronomists	
Q2		
Q3	Bukoba	Jatropha seeding
	Moshi	Jatropha seeding
Q4	Mbinga	Jatropha seeding
	Bukoba	Jatropha and Maize planting
2011 Q1	Mbinga	Jatropha and Maize planting
	Bukoba	Harvesting Maize
Q2	Moshi	Jatropha and Maize planting
	Moshi	Harvesting Maize
Q3	Mbinga	Harvesting Maize
	Moshi	Maize planting
Q4	Bukoba	Maize planting
	Mbinga	Maize planting
2012 Q1	Moshi	Harvesting Maize
	Moshi	Maize planting
Q2	Bukoba	Harvesting Maize
	Moshi	Maize planting
Q3	Mbinga	Harvesting Maize
	Moshi	Harvesting Maize
Q4		

Fieldwork starts with Jatropha seeding in Bukoba on August 1, 2010

Fieldwork ends with Maize harvesting in Moshi on August 20, 2012

Results of 2 rounds in Bukoba

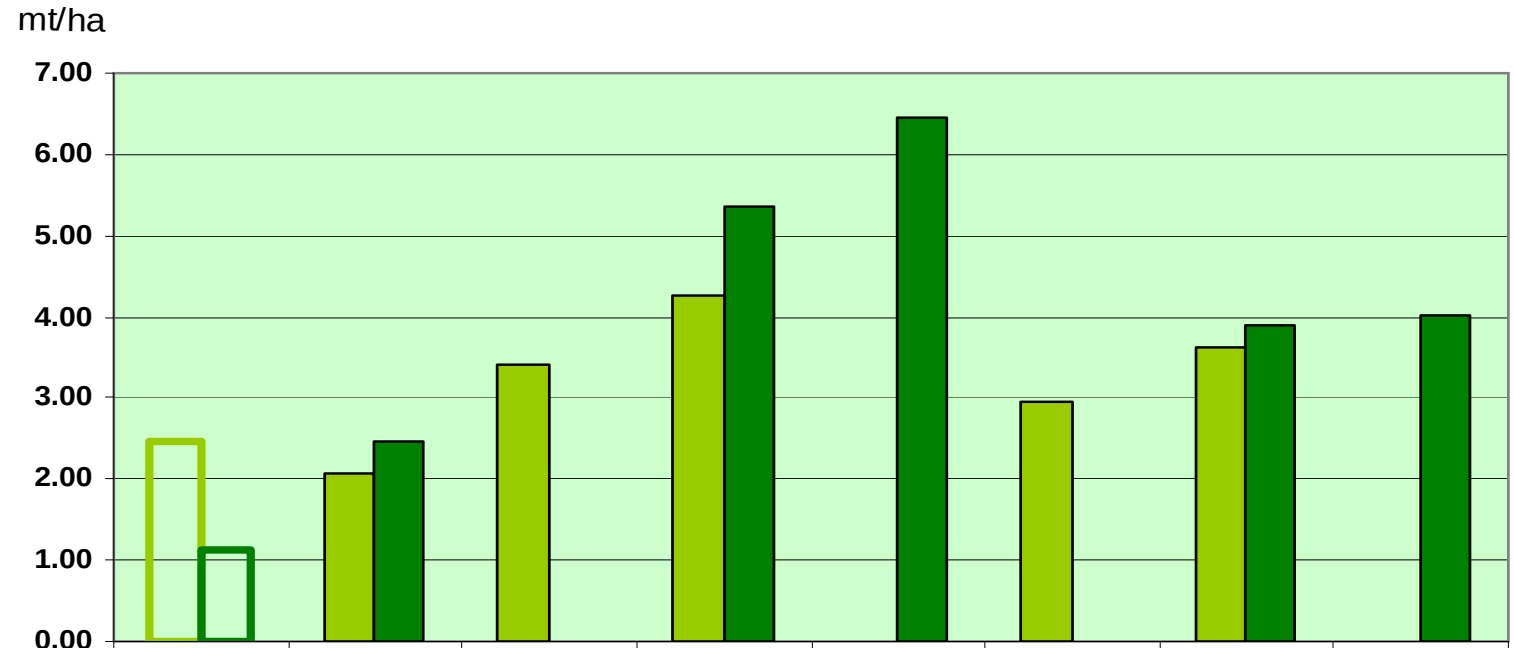
Yield of maize intercropped with Jatropha (Bukoba/Tanzania long rains 2011 and 2012)



	control= reported yield	zero	jatropha cake 1 mt/ha	jatropha cake 2 mt/ha	jatropha cake 5 mt/ha	cow manure 1 mt/ha	cow manure 2 mt/ha	cow manure 5 mt/ha	farmer 7	farmer 8
2011	3.35	2.88	3.28	2.90		3.01	2.78		3.35	2.17
2012	2.99	3.02		3.33	2.85		2.85	2.85	2.44	

Results of 2 rounds in Moshi

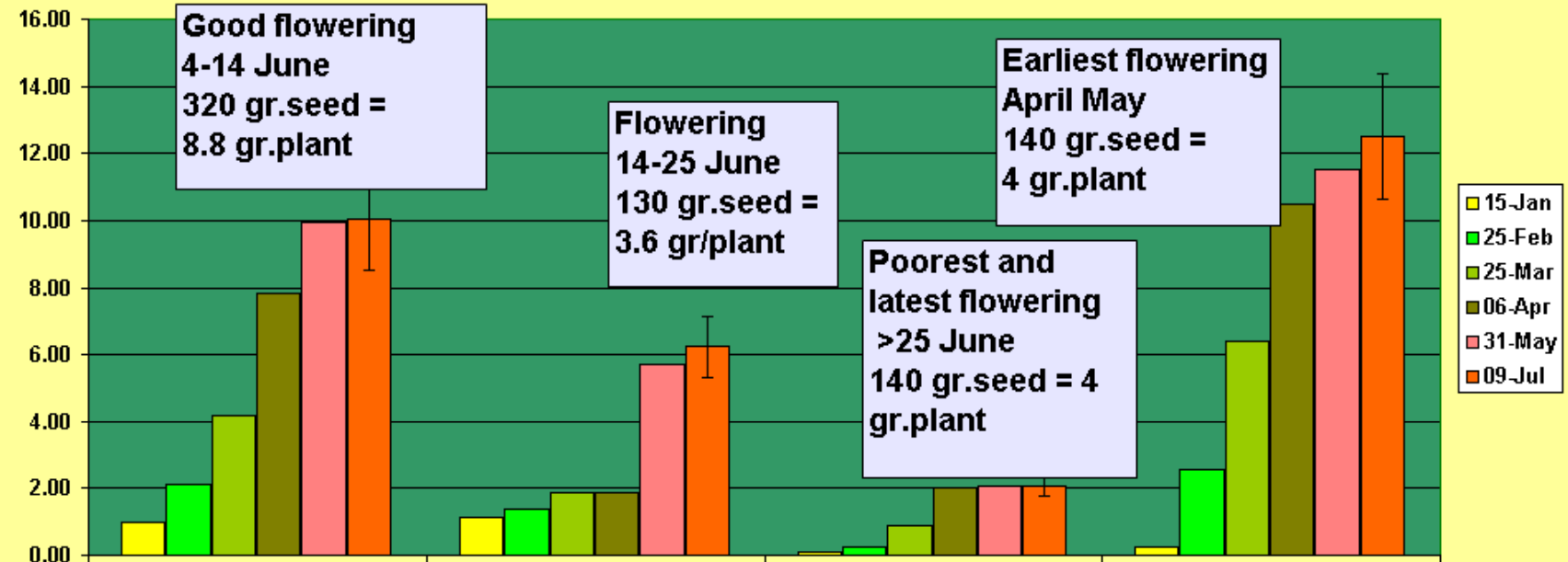
Yield of maize intercropped with Jatropha
(Moshi/Tanzania long rains 2011 and 2012)



	control= local farmer+66	zero	jatropha cake 1 mt/ha	jatropha cake 2 mt/ha	jatropha cake 5 mt/ha	cow manure 1 mt/ha	cow manure 2 mt/ha	cow manure 5 mt/ha
2011	2.46	2.08	3.40	4.27		2.95	3.61	
2012	1.11	2.47		5.35	6.46		3.89	4.03

In 2012 the local farmer (control) had a crop failure

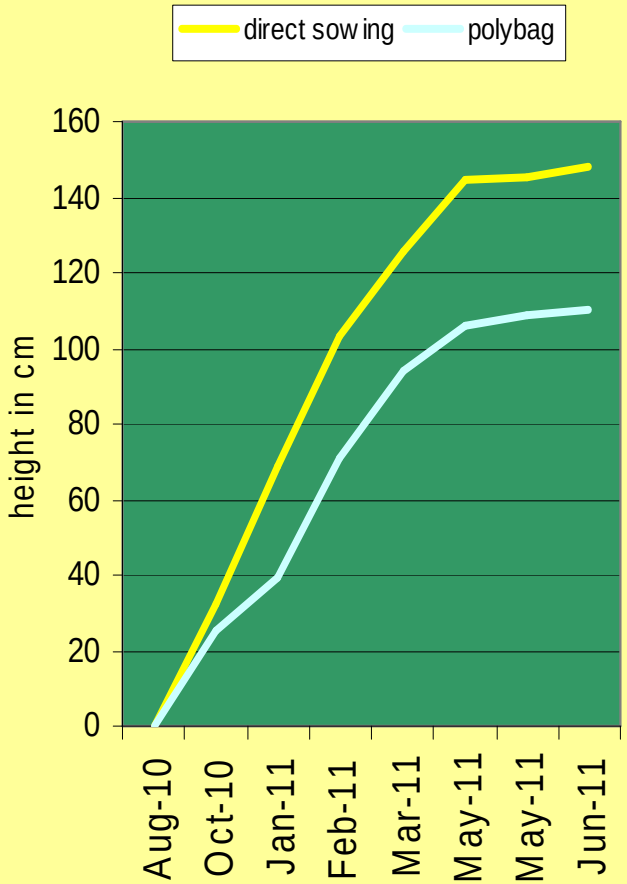
Bukoba selection trial, 4 blocs of 9 plants per selection



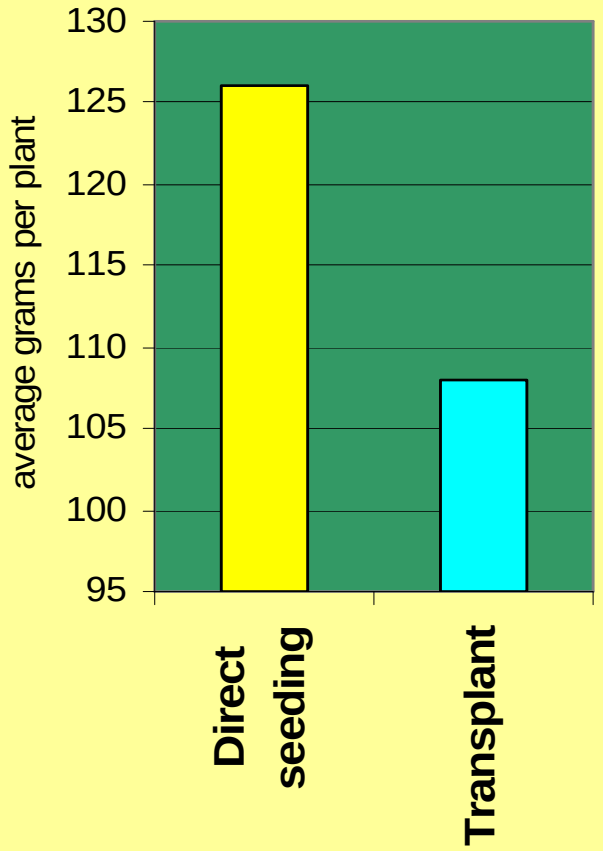
	1	2	3	4
15-Jan	1.00	1.12	0.10	0.22
25-Feb	2.11	1.40	0.25	2.58
25-Mar	4.19	1.85	0.89	6.40
06-Apr	7.83	1.85	2.00	10.47
31-May	9.94	5.69	2.06	11.53
09-Jul	10.03	6.23	2.08	12.48

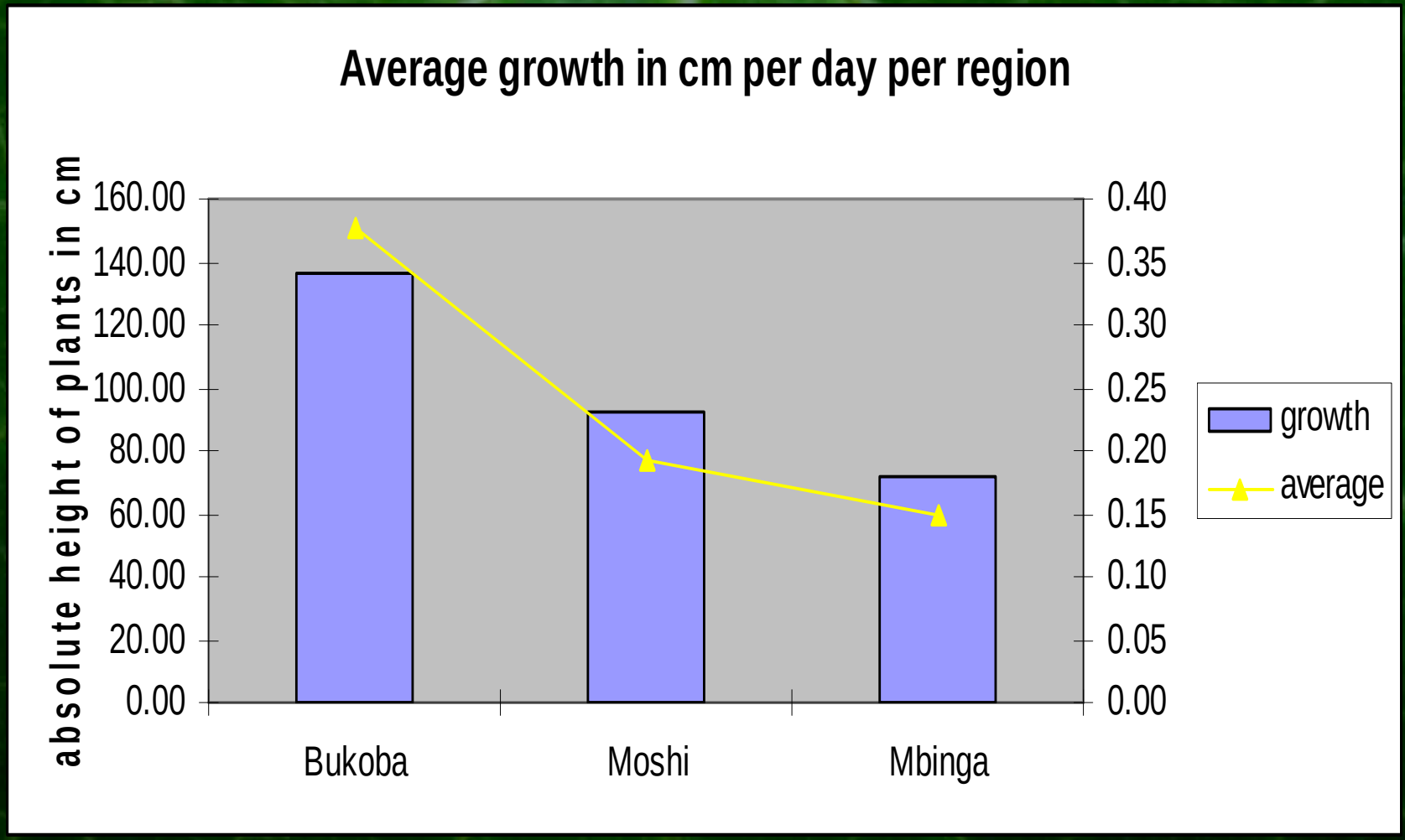
av. nr. of branches and first flowers per selection 1,2,3,4.

Direct sowing versus transplants



First yield direct sowing versus transplants




Average growth in cm per day per region
absolute height of plants in cm
160.00
140.00
120.00
100.00
80.00
60.00
40.00
20.00
0.00
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Bukoba
Moshi
Mbinga
growth
average