Cassava harvesting

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- Simple harvesting tools such as digging stick, hoe, or narrow spade

Pull tool

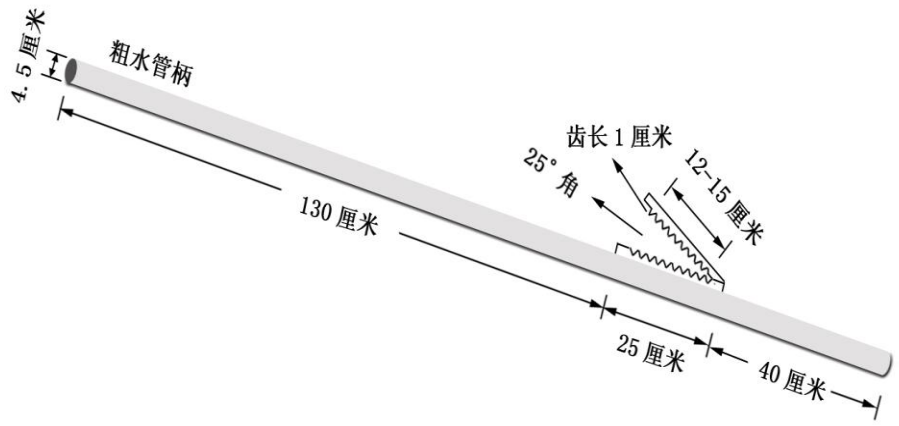

图 6-1

To measure starch content of roots without the use of a starch balance

1. Put about 4-5 kg of roots in a nylon mesh bag
2. Determine exact weight
3. Hang the bag with roots on a hanging balance of 1 kg capacity while suspending the bag in a tank with water, making sure that the bag does not touch the bottom and the roots are completely under water.
4. Determine the weight under water
5. Specific gravity=Weight in air/(Weight in air – Weight in water)

Root starch content = 210.8 Specific gravity – 213.4

Root dry matter content = 158.3 Specific gravity – 142.0

harvest time

- **>15°C, In spring, just after raining**
- **Just planting after harvest, suitable fresh stem, wet soil, →faster germination, resistant to drought, control weed, long term growing, early harvest.**

Table 6. Average fresh root yield of Rayong 1 as effected by age at harvest when planted at Rayong Field Crops Research Center, 1975-1979.

Age at harvest (months)	Fresh root yield (t/ha)	Dry root yield (t/ha)	Starch yield (t/ha)
8	16.19 f[1)]	6.44 f	2.31 f
10	23.06 e	8.31 e	4.81 e
12	31.31 d	10.69 d	5.94 d
14	37.56 c	13.06 c	7.38 c
16	41.50 b	15.00 b	8.69 b
18	45.25 a	16.44 a	9.19 a

[1)]Mean separation within each column: DMRT, 0.01

Source: *Sinthuprama et al., 1983.*

- **Starch content, harvest time and variety in Guangxi**

Months after plantig	Starch content（%）		
	Early variety	mid	Lately variety
8 Months	23.3	21.1	19.4
8.5 Months	25.1	25.3	23.8
9 Months	28.3	27.3	26.0
9.5 Months	27.5	28.6	27.0

- Plant and harvest in different month in china

Months after planting	Fresh root yield （t/ha）	Starch content （%）	Starch yield （t/ha）
Jan（10 M）	41.5	32.4	13.5
Mar (12 M）	34.0	30.8	10.5
June6（15 M）	44.2	23.6	10.4
Oct （19 M）	53.6	26.9	14.4

Not good
at long time growing

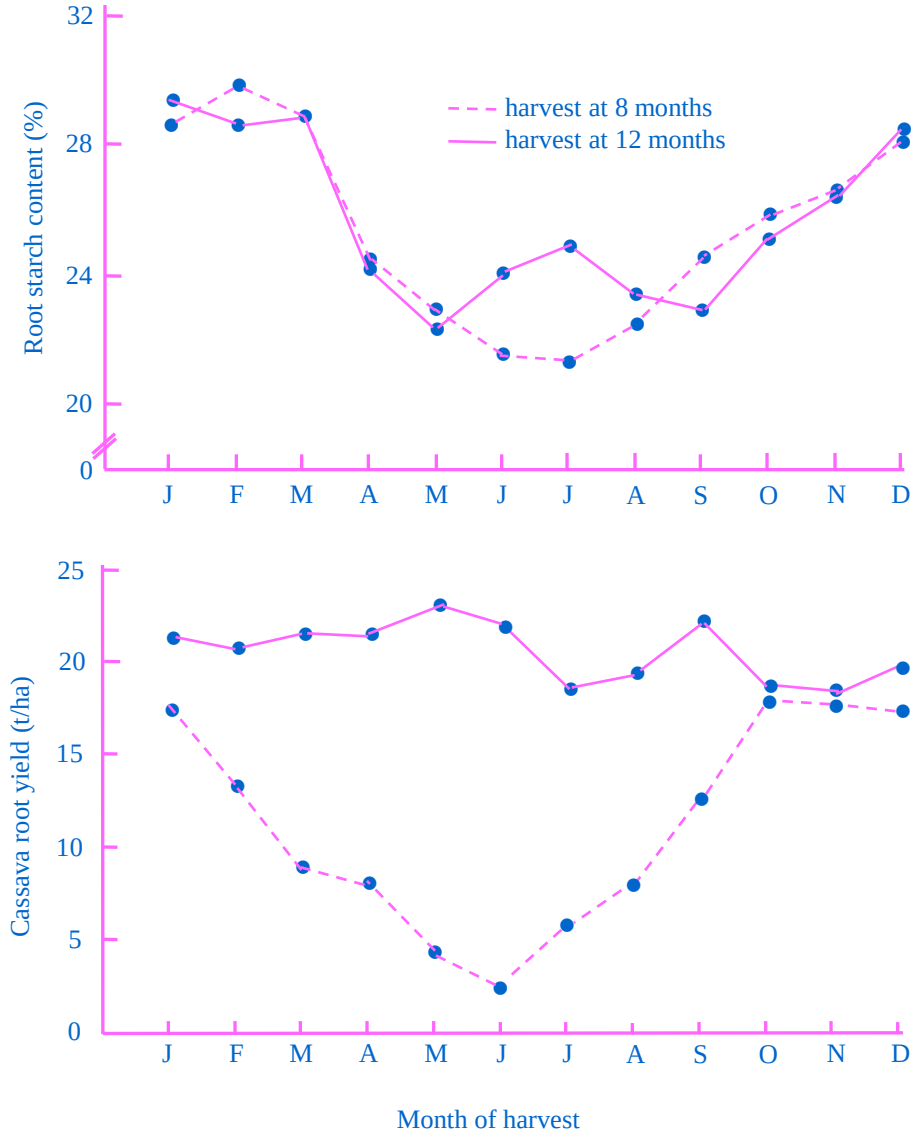

Figure 1. Cassava root starch content (top) and root yield (bottom) averaged over three varieties and three cropping cycles, when planted during different months of the year at CATAS, Danzhou, Hainan, China, and harvested after either 8 or 12 months.

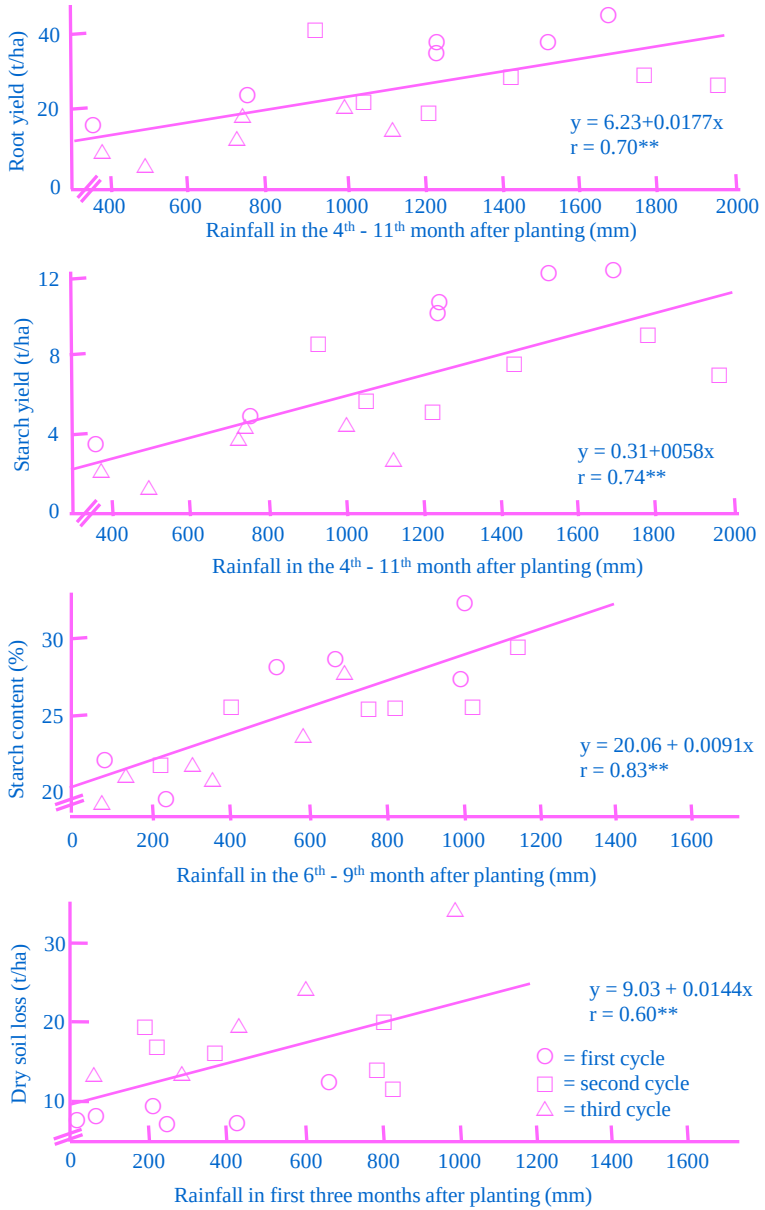

Figure 1. Linear regressions between cassava root yield, starch yield, starch content and dry soil loss due to erosion and the rainfall received during certain periods of the crop cycle when cassava, cv Rayong 90, was grown at bimonthly intervals for three complete cropping cycles on 4.2% slope at Rayong Research Center in Thailand from 1994 to 1998.

Source: *CIAT, 1998 b.*

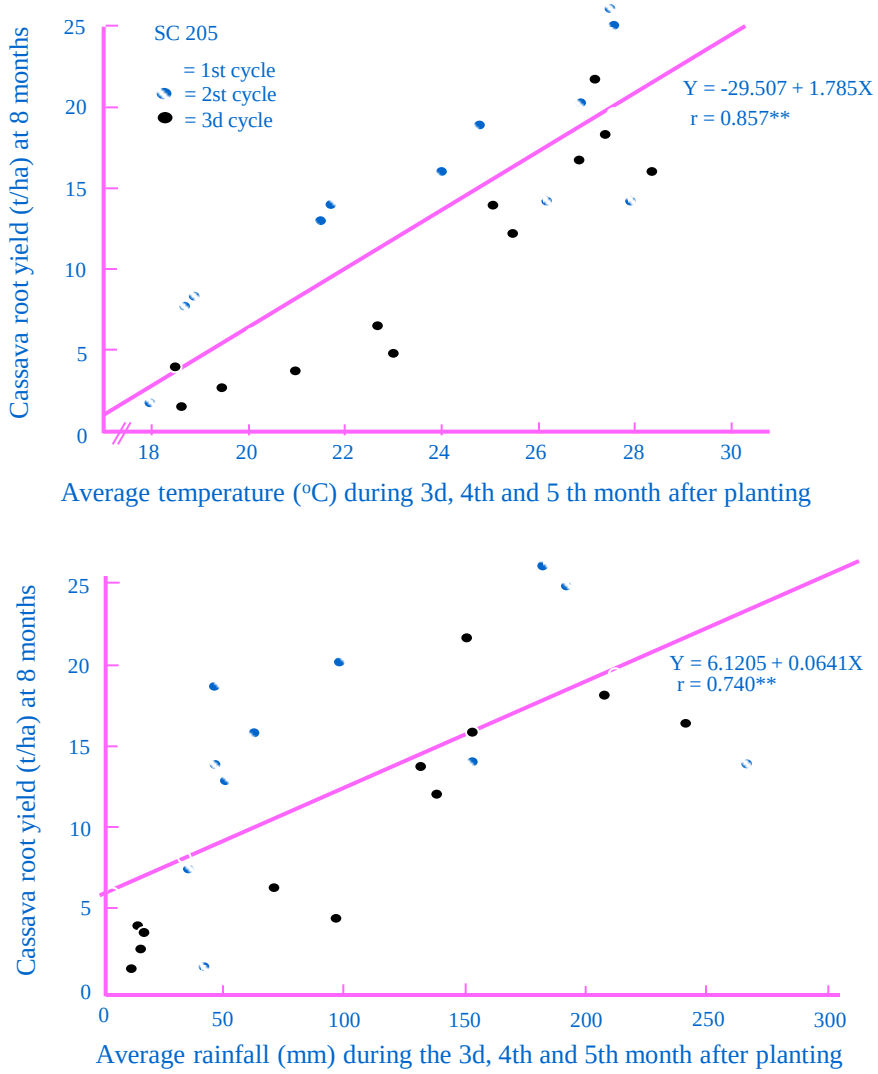

Figure 2. Relation between root yield of cassava cultivar SC 205, harvested at 8 months, and the average mean temperature (top) or rainfall (bottom) dring the 3d, 4th and 5th month after planting in SCATC, Hainan, China. Data are for 36 monthly plantings from 1990 to 1993.

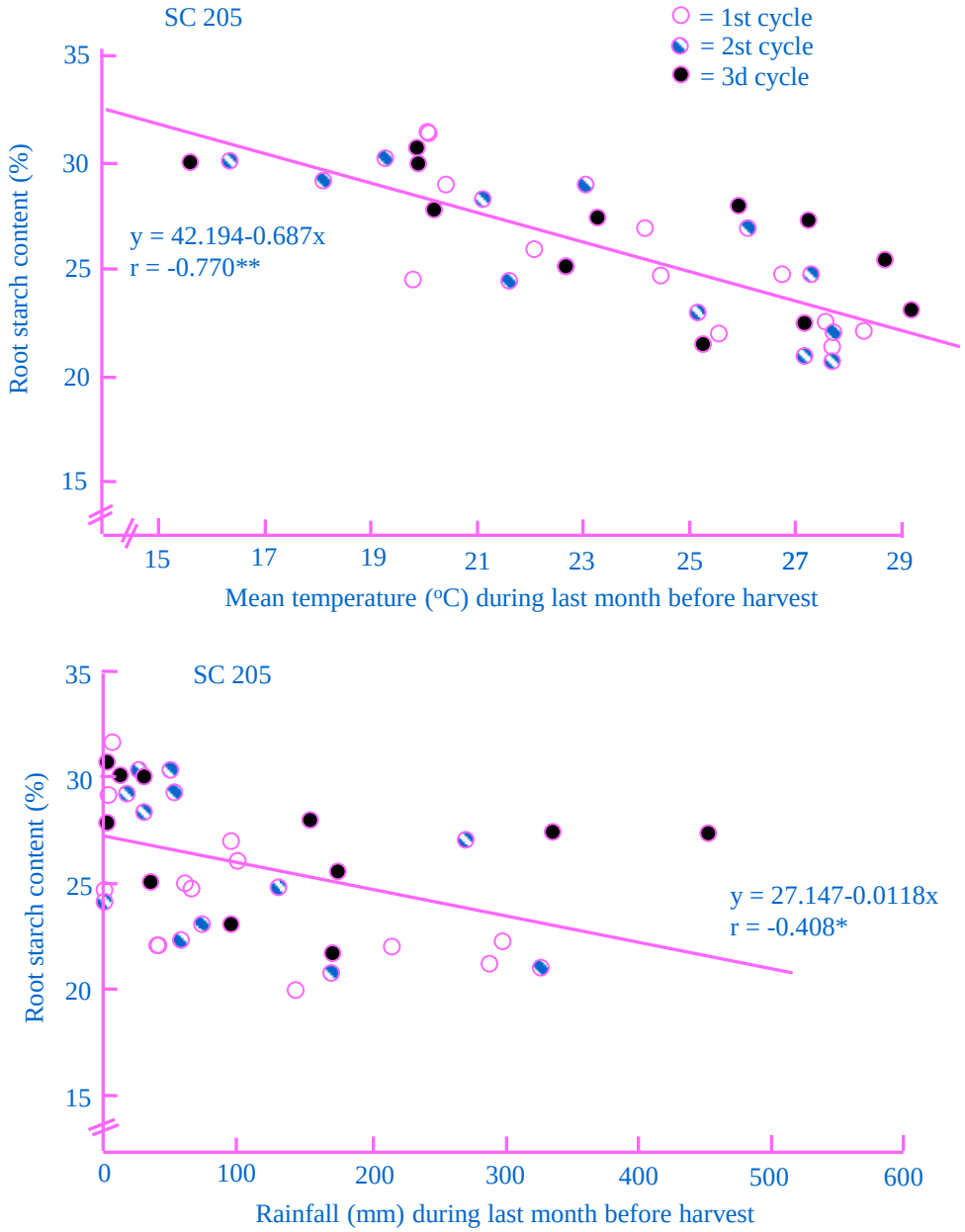

Figure 2. Linear regressions between root starch content and the mean temperature (top) or rainfall (bottom) during the last month before harvest of SC 205 (harvested at 8 MAP) during three consecutive cropping cycles at CATAS, Danzhou, Hainan, China, from 1990 to 1993.

•The best times to plant and harvest

•Plant as early as possible at the beginning of the wet season, and harvest in the middle of the dry season (at about 10-11 months), or

•Plant towards the end of the wet season and harvest in the middle of the next dry season (at about 16 months)

•In subtropical climates, plant in the very early spring and harvest in early to late winter, or plant at any time and harvest after at least 12 months, but not in the hot and raining time of the year

Harvest in china

- Stabilize and high yield also starch content, can support to industry material, normally in autumn and winter season.
- Early variety: 6 months after planting
- Middle variety：8 months after planting.
- Later variety：10 months after planting
- Labor: cut stem and branch stick, pull out or dig up, cut the roots.
- Plough or machinery.

stroage stem

- Good quality
- Regularity bottom of stem, bundle up.
- Few wind and sun light, under tree.
- Loose surface soil, straight bundle.
- The bottom of stem closed to soil and cover soil around.
- Cover grass on the top, prevent sun light.
- Keep moisture if dry.

Smashing machine of waste cassava stem

- One ton cassava stem or branch
- = 9.6 kg urea, 7.3 kg KCl and 6.95 kg Ca, Mg of phosp