

# International Cocoa Quarantine Centre, Reading (ICQC, R) Newsletter

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The University of Reading

Welcome to the second edition of the International Cocoa Quarantine Centre (ICQC, R) Newsletter, which is being distributed every six months to keep members of the cocoa community informed of developments at ICQC, R. In this issue, we report on recent releases of material from quarantine, progress in transferring a key group of clones to ICQC, R and developments in cryopreservation.

## Releases from Quarantine

A total of seven clones have been released from quarantine since the previous newsletter and are now available for budwood export. These include two clones from the CFC/ICCO/IPGRI Collection (Table 1). The full list of available accessions can be found on the project website:

<http://www.icgd.rdg.ac.uk/datafiles/ruqlist.doc>

Table 1. Recent releases of clones from quarantine which are now available for export

Clone	Reading Accession number	Donor Genebank
CC 71**	RUQ 1429	ICG, T
CRU 124	RUQ 909	ICG, T
IMC 11	RUQ 1077	ICG, T
LZ 8	RUQ 1231	ICG, T
PA 303 [PER]**	RUQ 1372	ICG, T
UPA 134	RUQ 1172	CIRAD-CP
VENC 4/11 [FRA]	RUQ 1210	CIRAD-CP

\*\*CFC/ICCO/IPGRI Collection

## Progress in Transferring the "CFC/ICCO/IPGRI Collection" Clones to ICQC, R

The "CFC/ICCO/IPGRI Collection" comprises a list of 115 elite clones that was assembled during the first CFC/ICCO/IPGRI project on "Cocoa Germplasm Utilization and Conservation: a Global Approach". The clones were selected on the basis of particular agronomic, disease resistance and quality traits. An aim of the current CFC/ICCO/IPGRI project has been to transfer all these clones to ICQC, R, to pass them through quarantine and then distribute them (as budwood) to cocoa-growing countries.

We are pleased to be able to announce that we have now successfully established all but four of these clones at Reading. Around 40 of these have already passed quarantine and are available for distribution as budwood (these are highlighted on the clones list). The remainder are in quarantine and will become available over the course of the next two years.

## Putting Cryopreservation into Action

A method for cryopreserving cocoa somatic embryos, developed at the University of Reading<sup>1</sup>, is now being put into action at the International Cocoa Quarantine Centre. The procedure involves the encapsulation of somatic embryos that can then be stored for long periods of time in liquid nitrogen. Currently, we are focusing on cryo-

preservation of little used material in order to enable selected removal of material from the *in vivo* collection (see below). At a later stage we will also be using the procedure to back-up key clones in the collection, thus giving greater security to the collection. The technical operation of creating and encapsulating somatic embryos is being coupled with research to assess survival rates of re-activated embryos after different periods of time in cryogenic storage.

## Selected Removal of Material from the *In Vivo* Collection

ICQC, R exists to facilitate the movement of germplasm in response to the needs of the end-user. Where there has been little demand for some of the clones held at ICQC, R, we are proposing to remove these from the collection (Table 2). This will release space for material for which there is greater anticipated demand. The clones will, however, continue to be held in a cryo-preserved condition enabling them to be re-activated should they be required in the future. Please check your accession lists and let us know if you are interested in receiving this material immediately **it will not be available after April 2007.**

Table 2: Accessions scheduled for removal from the ICQC, R *In vivo* collection in April 2007

Clone	Reading Accession Number
B 13/7 [POU]	RUQ 349
B 18/4 [POU]	RUQ 742
C 15/61 [TRI]	RUQ 669
CL 19/49	RUQ 757
IMC 61	RUQ 12
LZ 2	RUQ 948
PA 3 [PER]	RUQ 774
RIM 2 [MEX]	RUQ 811
RIM 21 [MEX]	RUQ 486
RIM 41 [MEX]	RUQ 821
RIM 6 [MEX]	RUQ 820
SCA 23	RUQ 390
TRD 33	RUQ 841
TRD 46	RUQ 679
UF 12	RUQ 962

## Feedback Please

We are always interested in receiving feedback from germplasm recipients at an early stage on the success rate in establishing imported material. We are also interested to hear whether clones provided by ICQC, R have been used in breeding trials or as planting material. Please let us know if there are clones, which are not currently held at Reading, that you are interested in obtaining.

## To Receive Budwood

Please provide as much advanced warning of your requirements as possible and send us an import permit *at least two weeks* before the date of shipment. This should state that you wish to import cocoa as budwood and any treatment of the budwood required (e.g. pesticide and/or fungicide treatment, if applicable). Please fax the permit to: 00 44 118 378 8160 or send as an e-mail attachment.

## Enquires

Enquires or further information on ICQC, R should be directed to: Andrew Daymond. ([a.j.daymond@reading.ac.uk](mailto:a.j.daymond@reading.ac.uk)).

## Funding

The International Cocoa Quarantine Centre is funded by the Biscuit, Cake, Chocolate and Confectionery Association and the United States Department of Agriculture with additional funding from CFC.

<sup>1</sup>Fang, J.Y., Wetten, A. and Hadley, P. 2004. Cryopreservation of cocoa (*Theobroma cacao* L.) somatic embryos for long-term germplasm storage. *Plant Science*, 166, 669-675.

