



HAL
open science

First results about in vitro bud neoformation on haploid apple leaves

Michel Duron

► **To cite this version:**

Michel Duron. First results about in vitro bud neoformation on haploid apple leaves. The impact of biotechnology in agriculture. The meeting point between fundamental and applied in vitro culture research, Jun 1989, Amiens, France. Université de Picardie, 1989, Conférence internationale. <hal-01600136>

HAL Id: hal-01600136

<https://hal.science/hal-01600136v1>

Submitted on 4 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire HAL, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



HAL Authorization

UNIVERSITE DE PICARDIE
International Conference

**THE IMPACT OF BIOTECHNOLOGY
IN AGRICULTURE**

**THE MEETING POINT BETWEEN FUNDAMENTAL
AND APPLIED *IN VITRO* CULTURE RESEARCH**

ABSTRACTS: POSTERS

10 - 11 - 12 JULY 1989

Palais des Congrès

AMIENS, FRANCE

WITH COLLABORATION OF:

IAPTC

SOCIETE BOTANIQUE DE FRANCE

FINANCIAL SUPPORT BY:

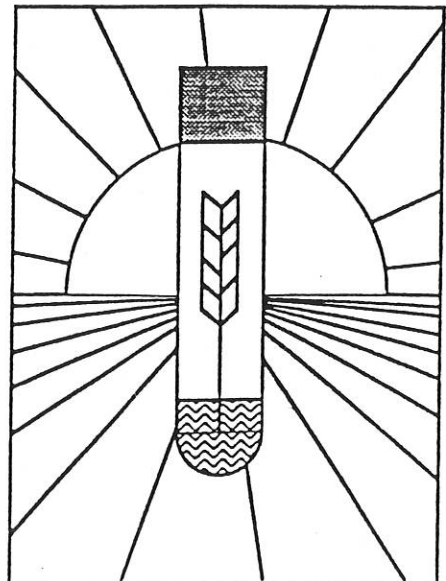
CONSEIL REGIONAL DE PICARDIE

CONSEIL GENERAL DE LA SOMME

MAIRIE D'AMIENS

D.A.G.I.C.

CREDIT AGRICOLE



First results about in vitro bud neoformation on haploid apple leaves

M. DURON - INRA - Station d'Amélioration des espèces fruitières et
ornementales - Beaucozé - 49000 ANGERS - FRANCE

A lot of work has been carried out in several laboratories to try to induce adventitious bud formation from explants of different species. The main applications of this work are :

- Trying to induce somaclonal variation of agronomical value.
- The association of a mutagen treatment with adventitious bud induction in order to obtain solid mutants rather than chimeras.
- Finally, when a gene transfer method will be available, the adventitious bud technique will be useful to regenerate plants from the transformed area.

The aims gain a special interest with haploid plants.

In a first experiment we assessed the neoformation aptitude of an in vitro propagated haploid apple genotype. This plant is a spontaneous haploid noticed among seedlings from a clone obtained by selfing the variety 'Golden Delicious'.

A Murashige and Skoog basal medium was supplemented with 2 concentrations of auxin and BAP ($22,2 \mu\text{Ml}^{-1}$) or thidiazuron - TDZ - ($2.3, 4.5$ or $6.8 \mu\text{Ml}^{-1}$). Adventitious buds were induced only on TDZ medium. BAP which gave us very good results - a 90 % regeneration rate with Golden Delicious half leaves explants - failed to promote bud formation from haploid explants.

The adventitious plants have characteristics of diploids (stem diameter, leaf size). Such rooted explants have been transferred in greenhouse for chromosome counting. Their diploid status has been confirmed. This method will present an additionnal interest in mutagenesis for it will be possible to obtain after only one manipulation homozygous mutations.