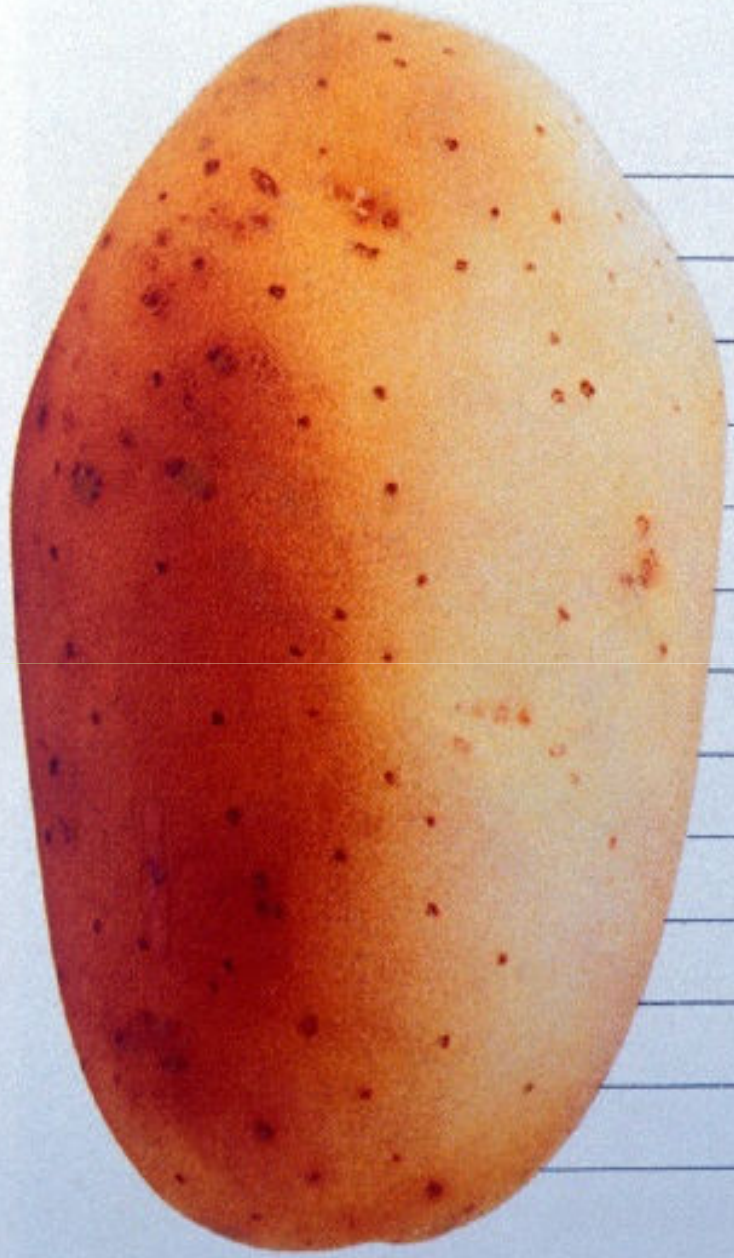
한국생명공학연구원
Korea Research Institute of Bioscience and Biotechnology

인공씨감자의 대량생산기술

한국생명공학연구원

Dr. 정 혁



77 g. water

2 g. proteins

0,1 g. fats

19 g. carbohydrate

10 mg. calcium

60 mg. phosphorus

0,5 mg. iron

14 mg. sodium

600 mg. potassium

Vitamin A

Vitamin B1

Vitamin B2

Vitamin C

100 grams of potatoes provide 84 calories and

to consult the calorie tables which have been distri-
buted far and wide in our overfed society. From

Historically, potato plantlets, produced "In Vitro", have been used for several years in the production programmes of seed potatoes. However, following various multiplications of basic product in the field to yield certified seed potatoes, viral infections transmitted to descendants gradually invade the cultures. After a few multiplication cycles, the product no longer satisfies the sanitary norms required by the Inspection Authorities and must consequently be rejected or purified. The "Vitroplantlet" system allows the latter solution to be adopted. Its use nevertheless requires an adaptation to "In Vivo" conditions following the "In Vitro" phase by passage through greenhouse culture. This condition greatly restricts the quantitative potentiality of the technique so that further multiplication cycles are necessary in the field (where there is a source of reinfection before sufficient product becomes available for commercialization). In practice, it may be estimated that eight multiplications derived from "Vitroplantlets" would be required before a certified seed potatoes is obtained. Furthermore, such plantlets create serious conservation and transportation problems.

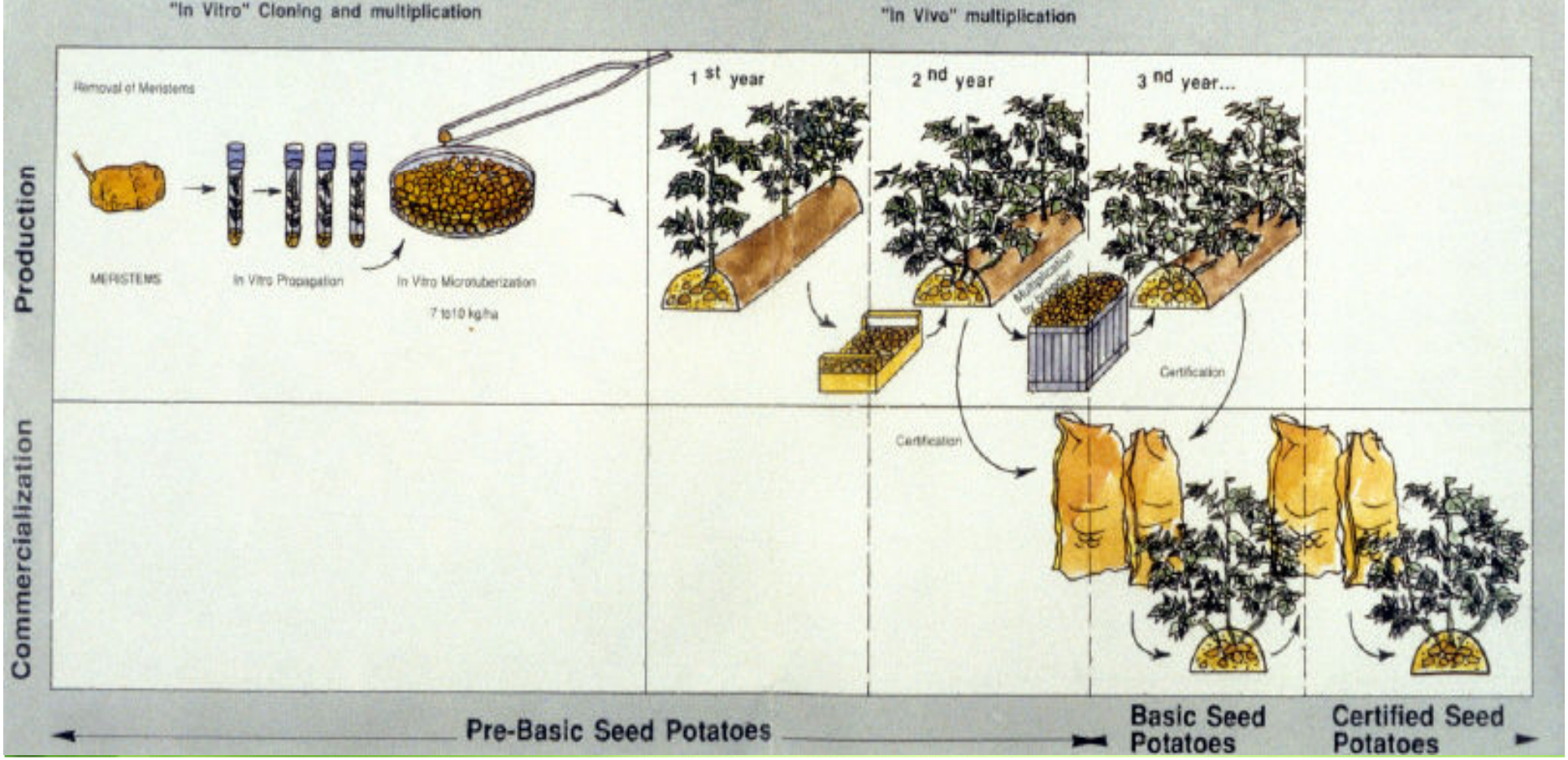
Removal of Meristems

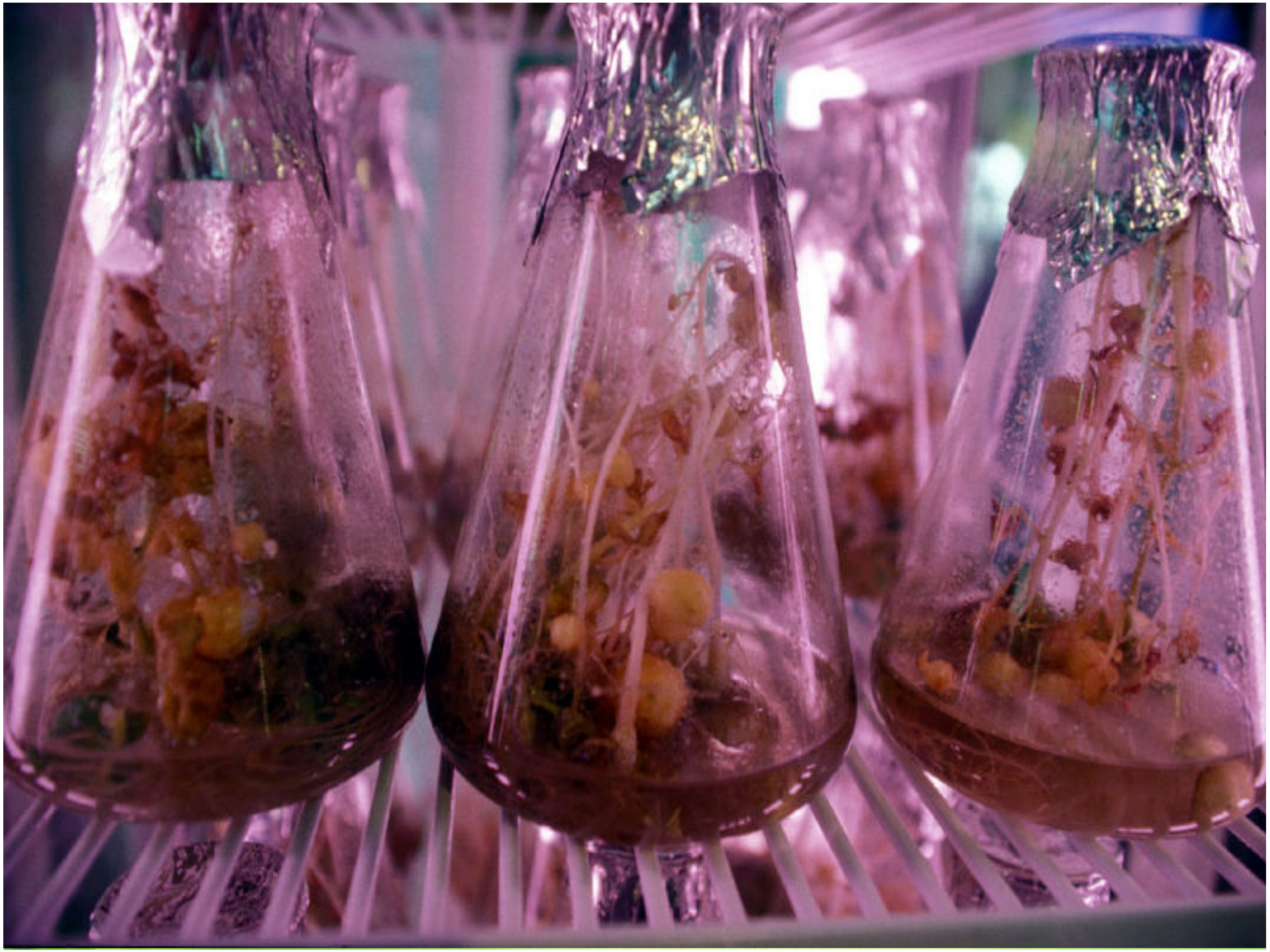
PRODUCTION OF SEED POTATOES FROM Phytotec MICROTUBERS

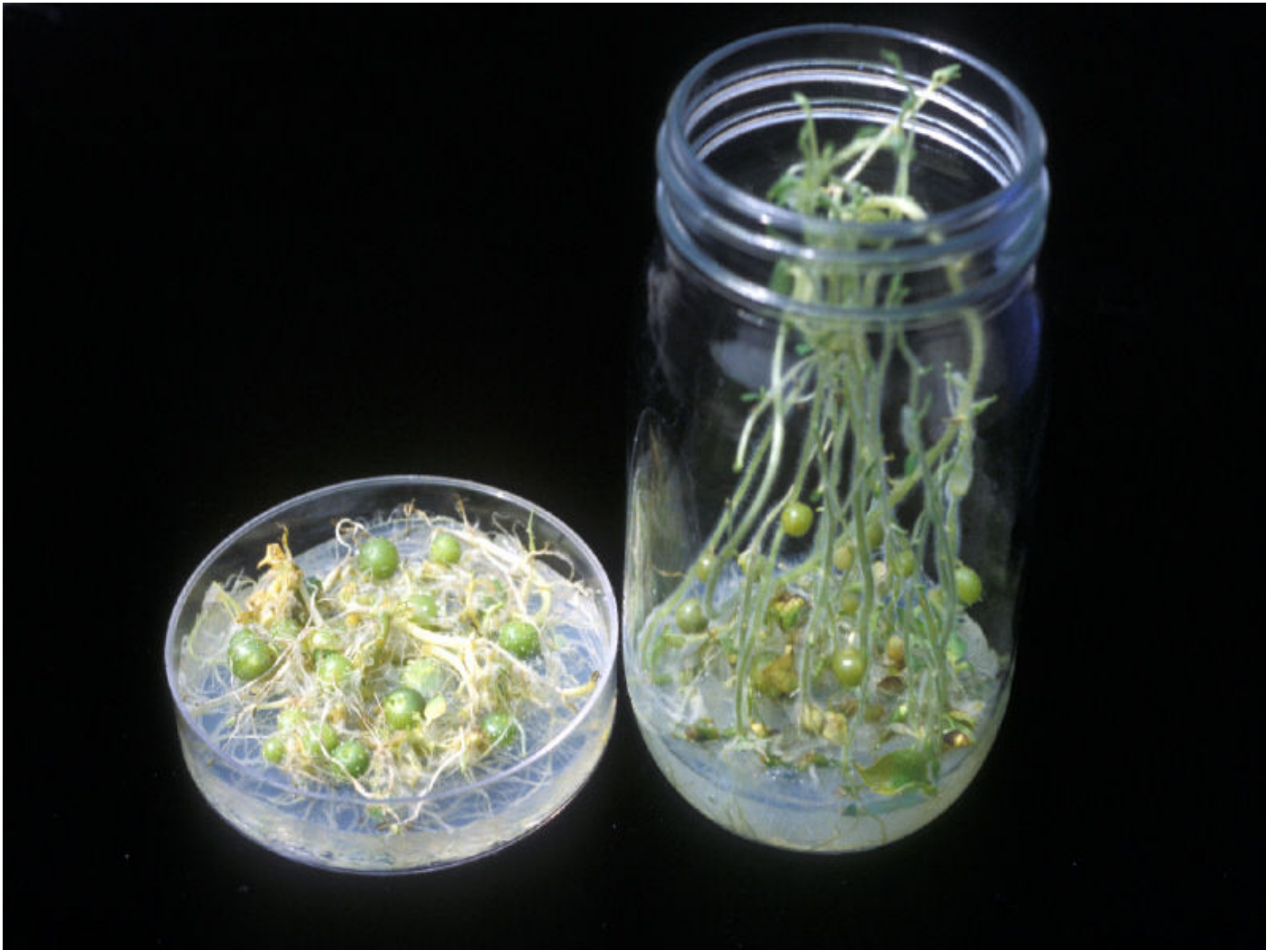
The **Phytotec microtuber** maintains the advantages of the vitro plantlets from which it is grown. It is easy to handle and easy to transport. Its small volume means that 7 to 10 kg, for 100.000 microtubers, are required to sow one hectare of land. As compared to the hundreds of kilogrammes necessary for normal cultivation, it is obvious that the export cost of **Phytotec microtubers** is extremely advantageous.

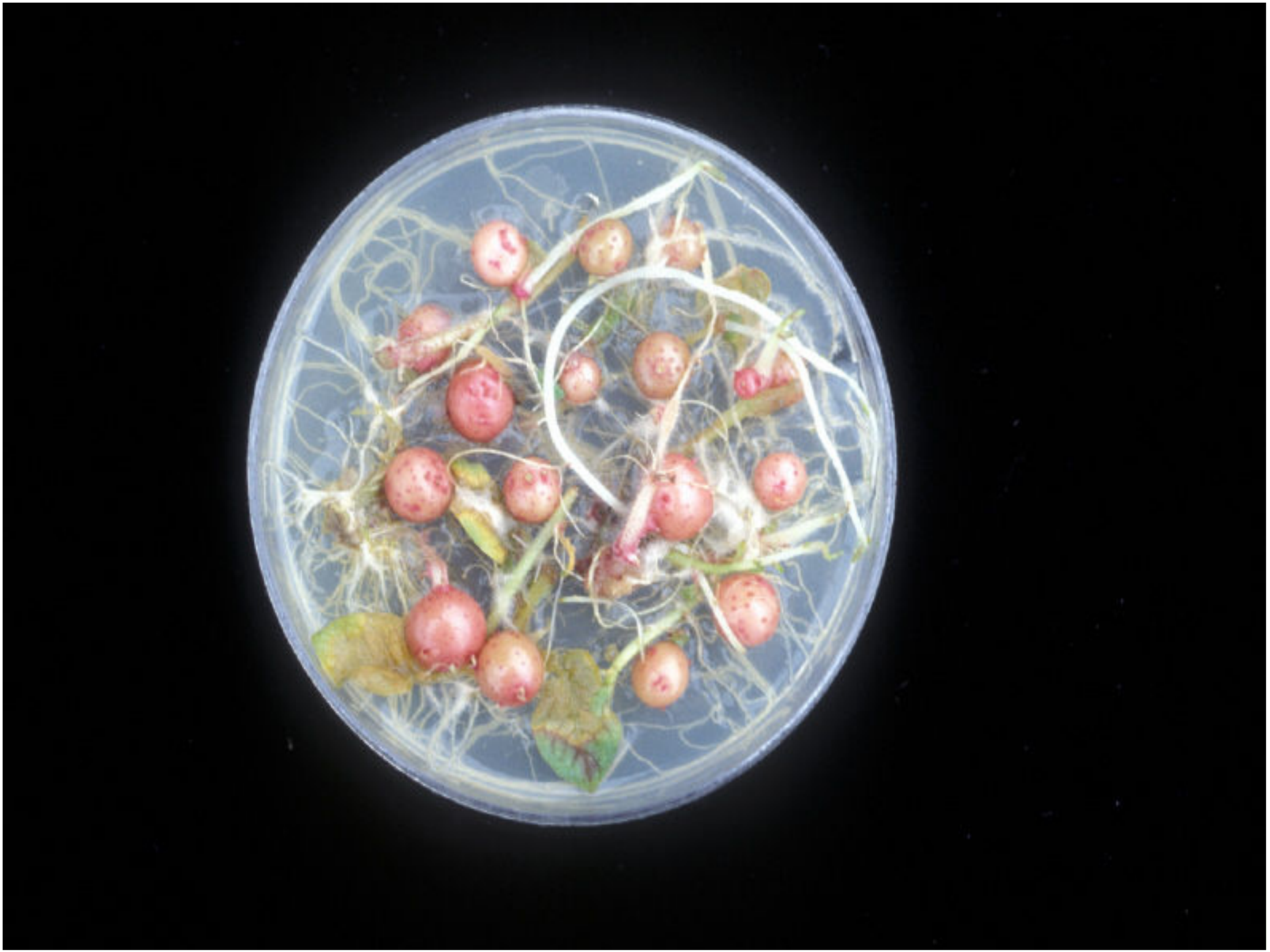
These characteristics mean that passage through greenhouses can be avoided and therefore full advantage can be taken of the performance of the micropropagation technique. In practice, following several years of trials in the field, we consider that 2 to 3 cycles of multiplication from microtubers are sufficient to ensure the profit-earning capacity of the production of certified potato slips. This reduction of 5 to 6 multiplication cycles increases the sanitary quality of the production and permits full advantage to be taken of the juvenile character induced by "In Vitro" cultivation.

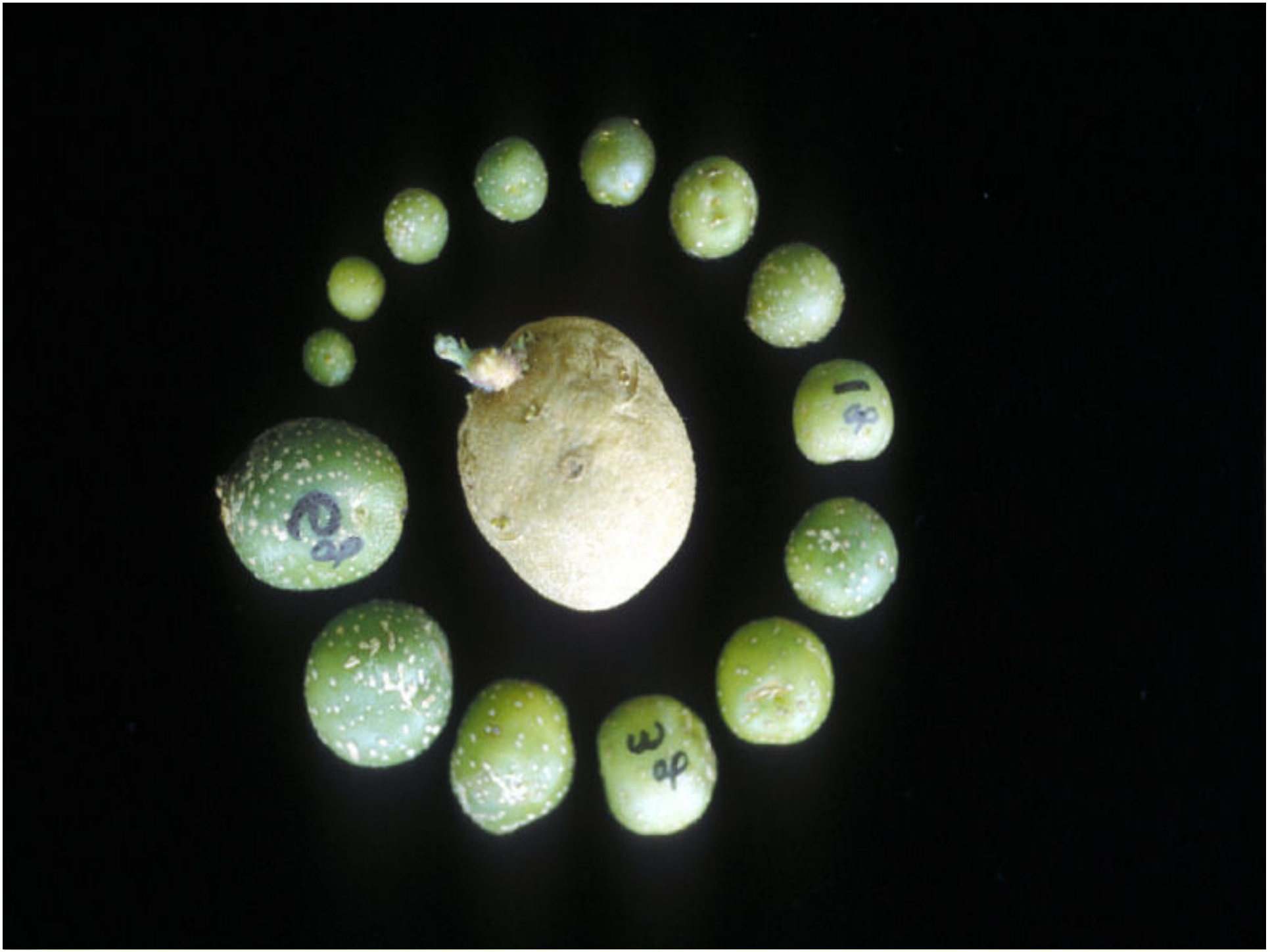
Production scheme of seed potatoes grown from Phytotec microtubers.

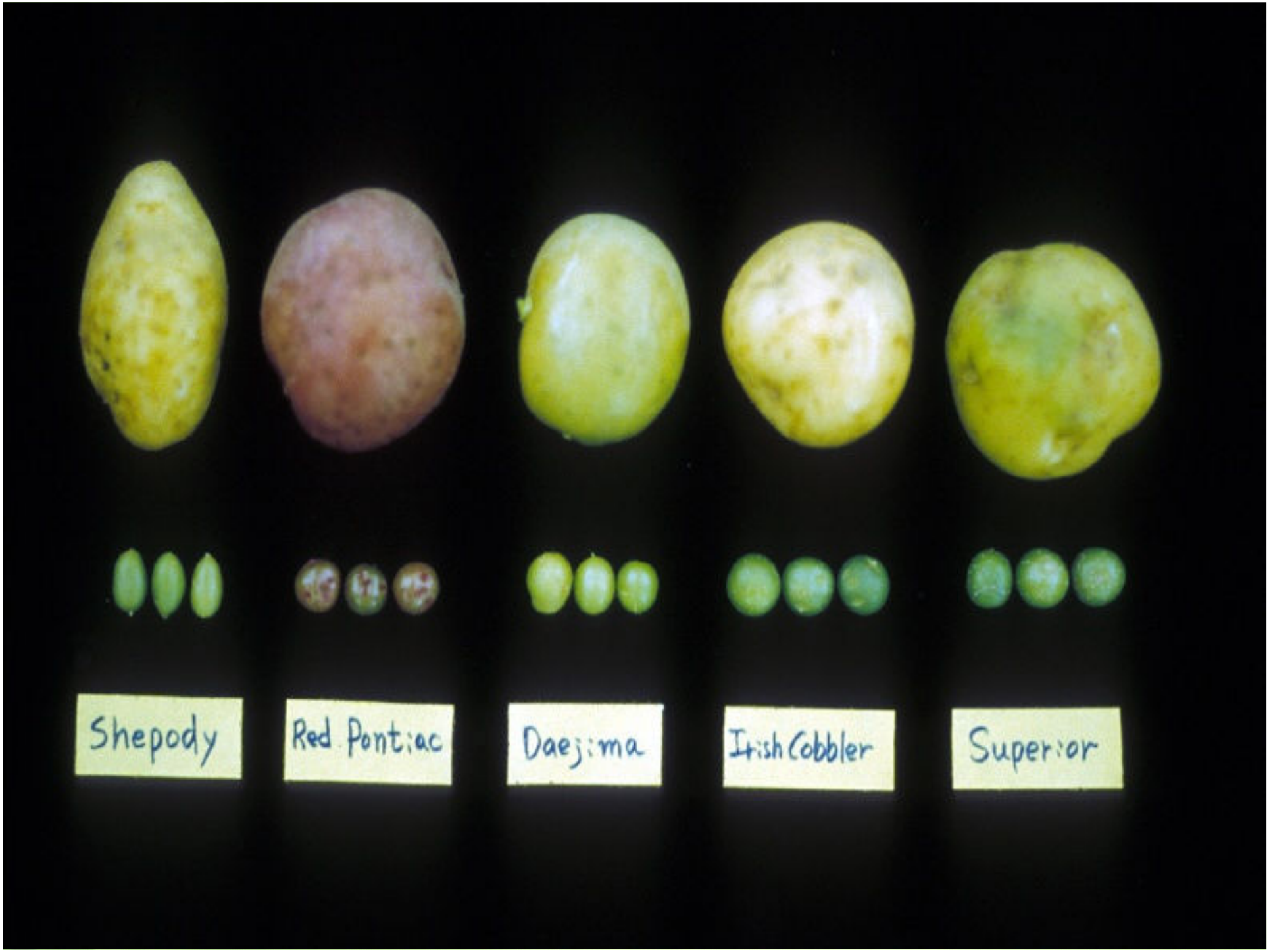











Shepody
Red Pontiac
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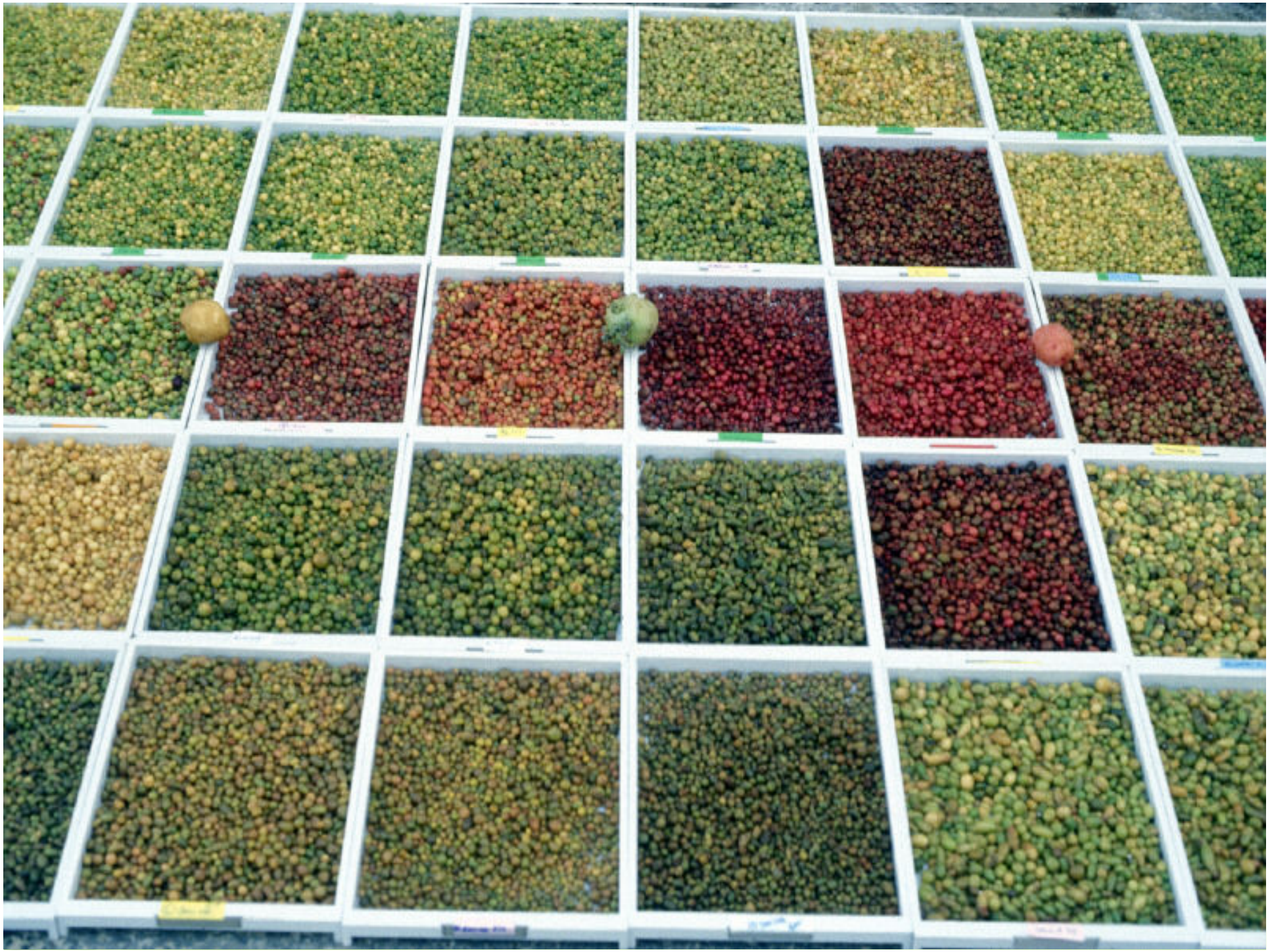
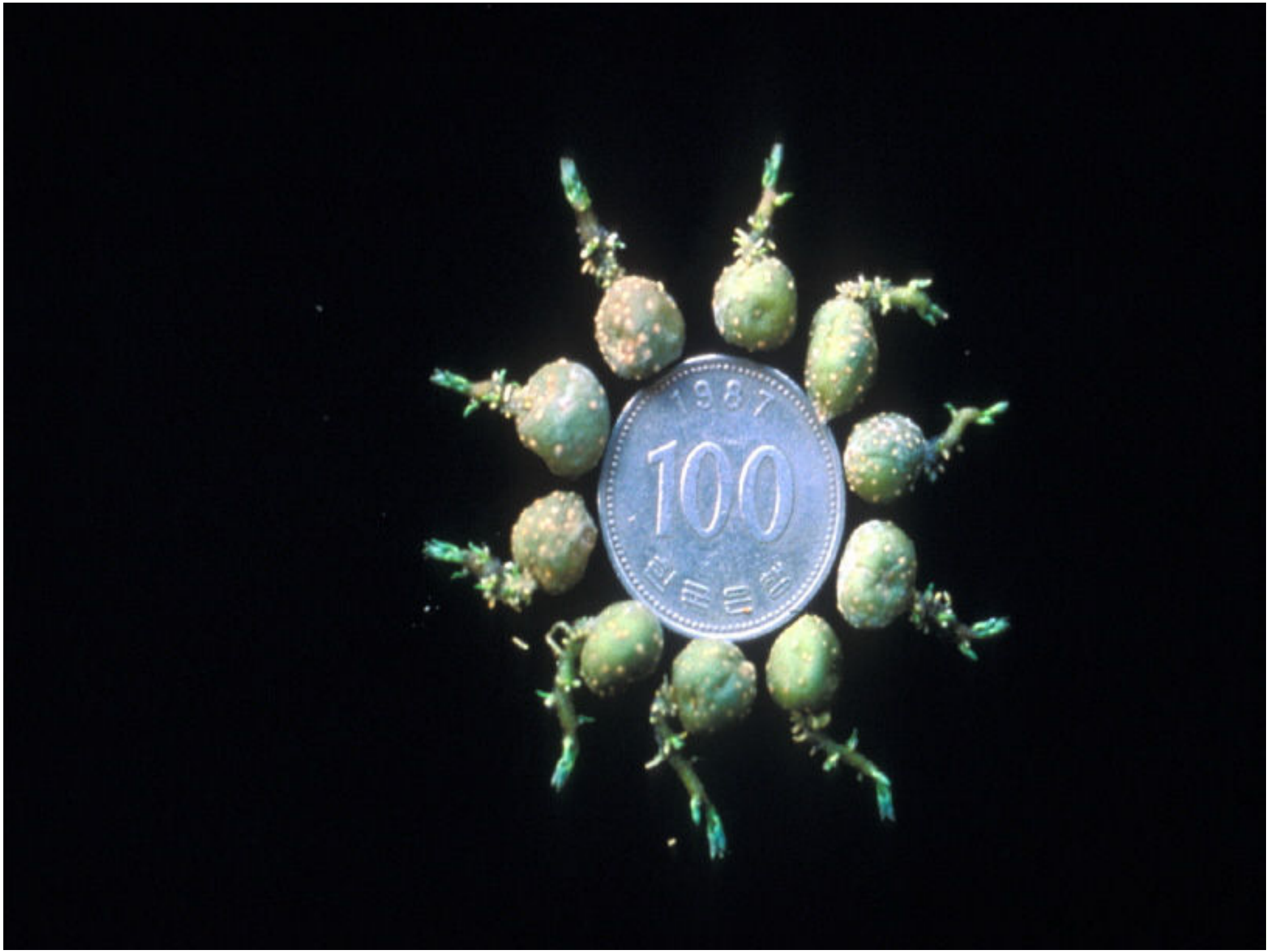
Irish Cobbler
Superior

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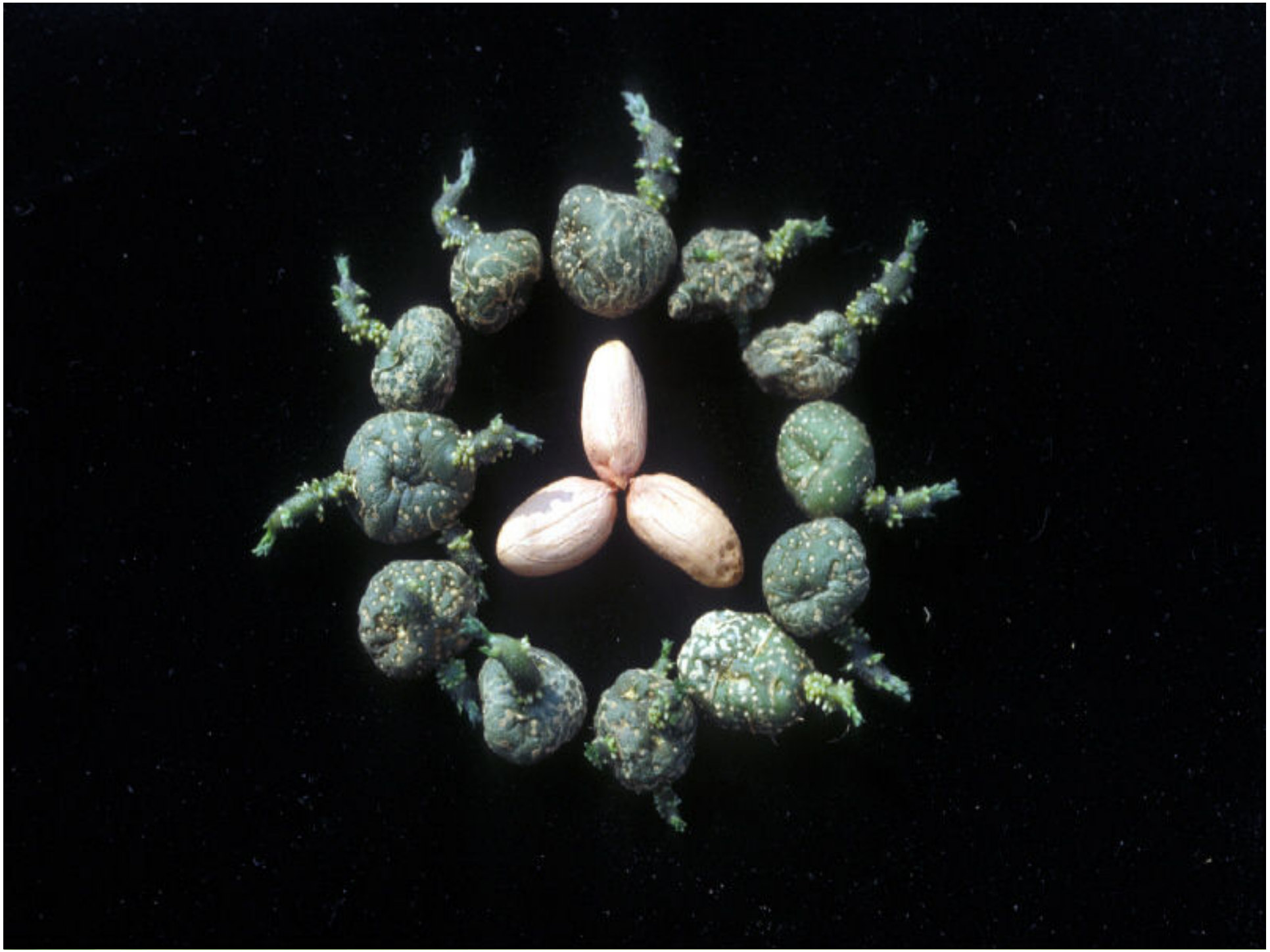

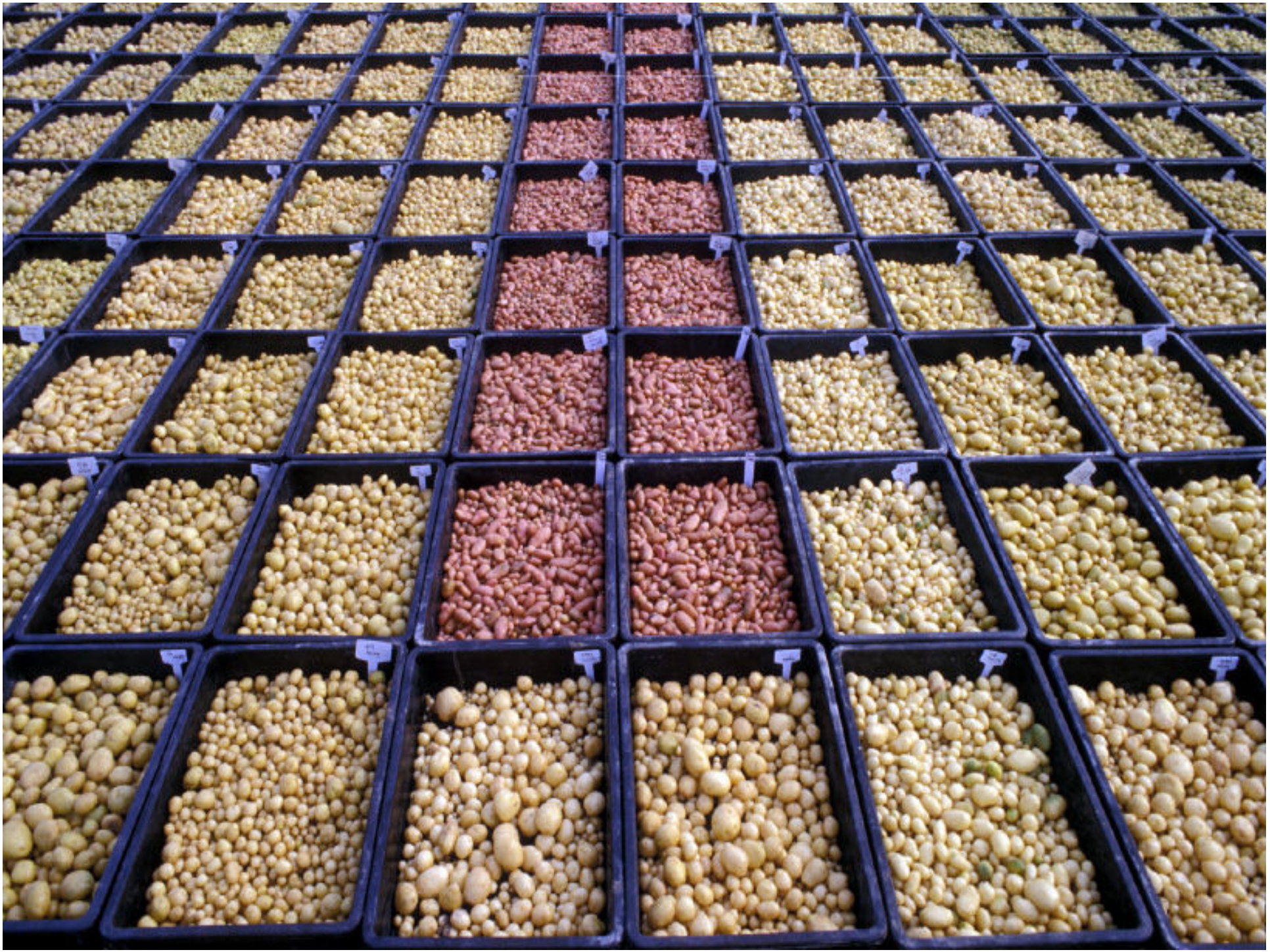


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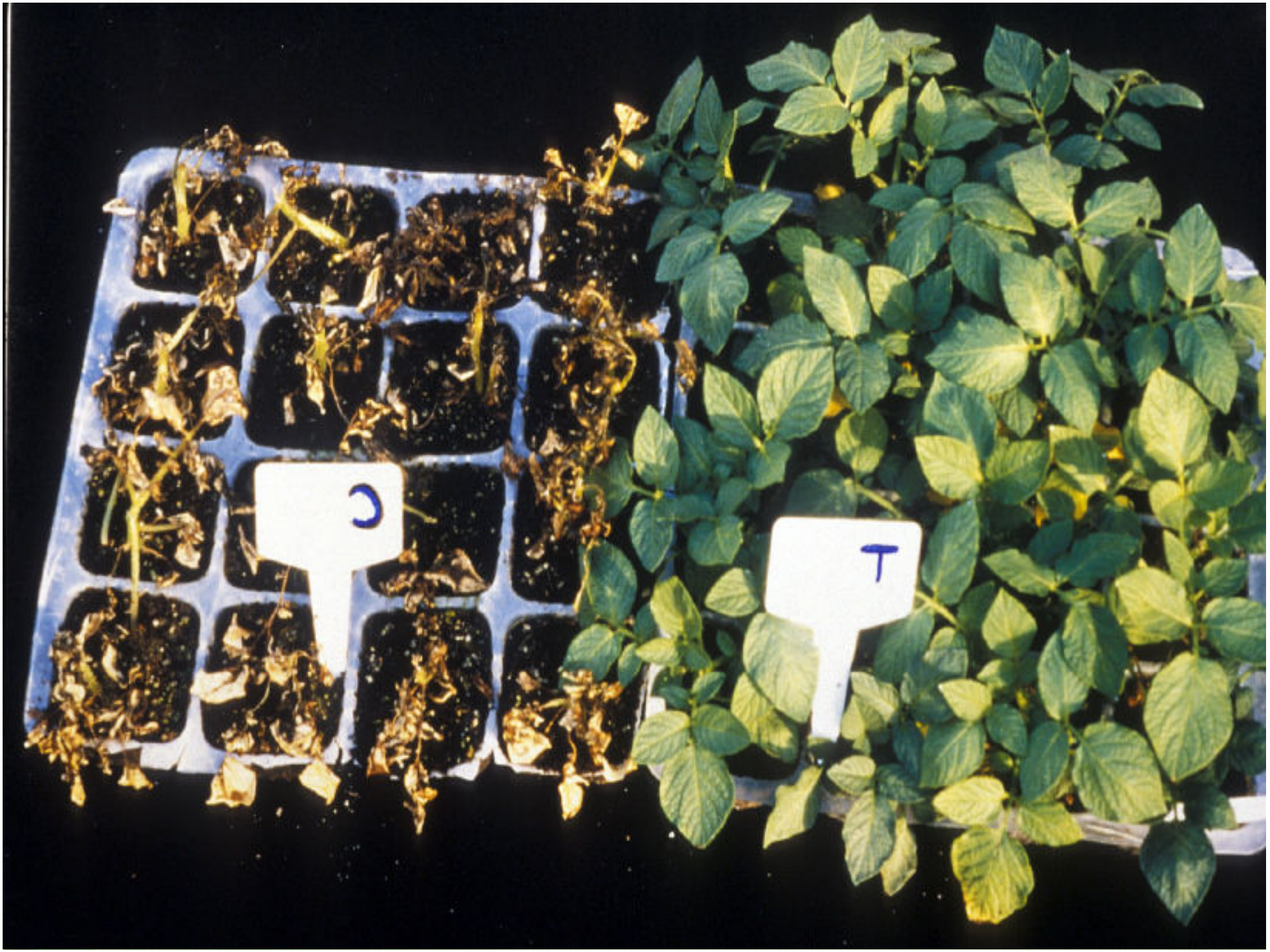
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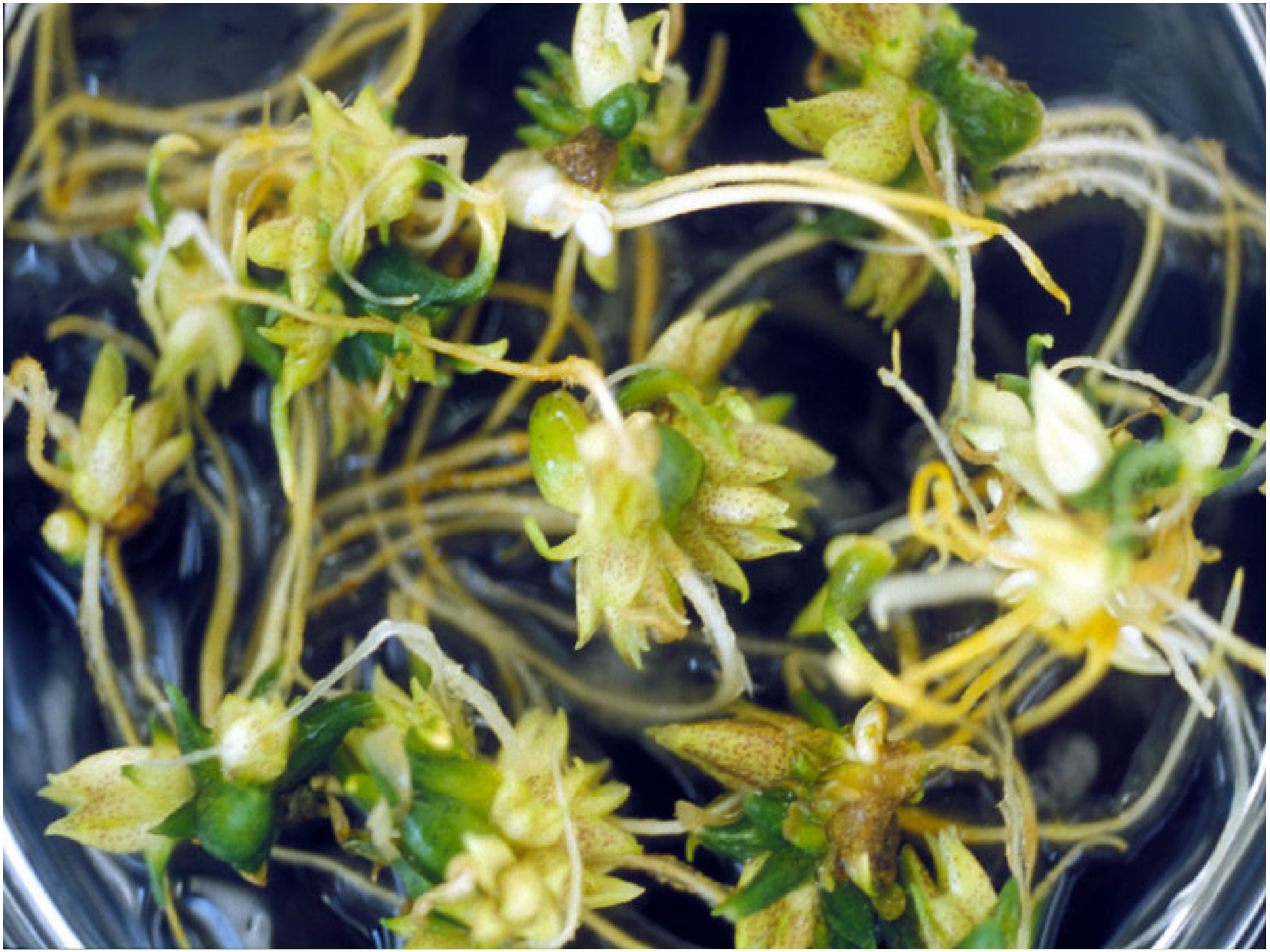

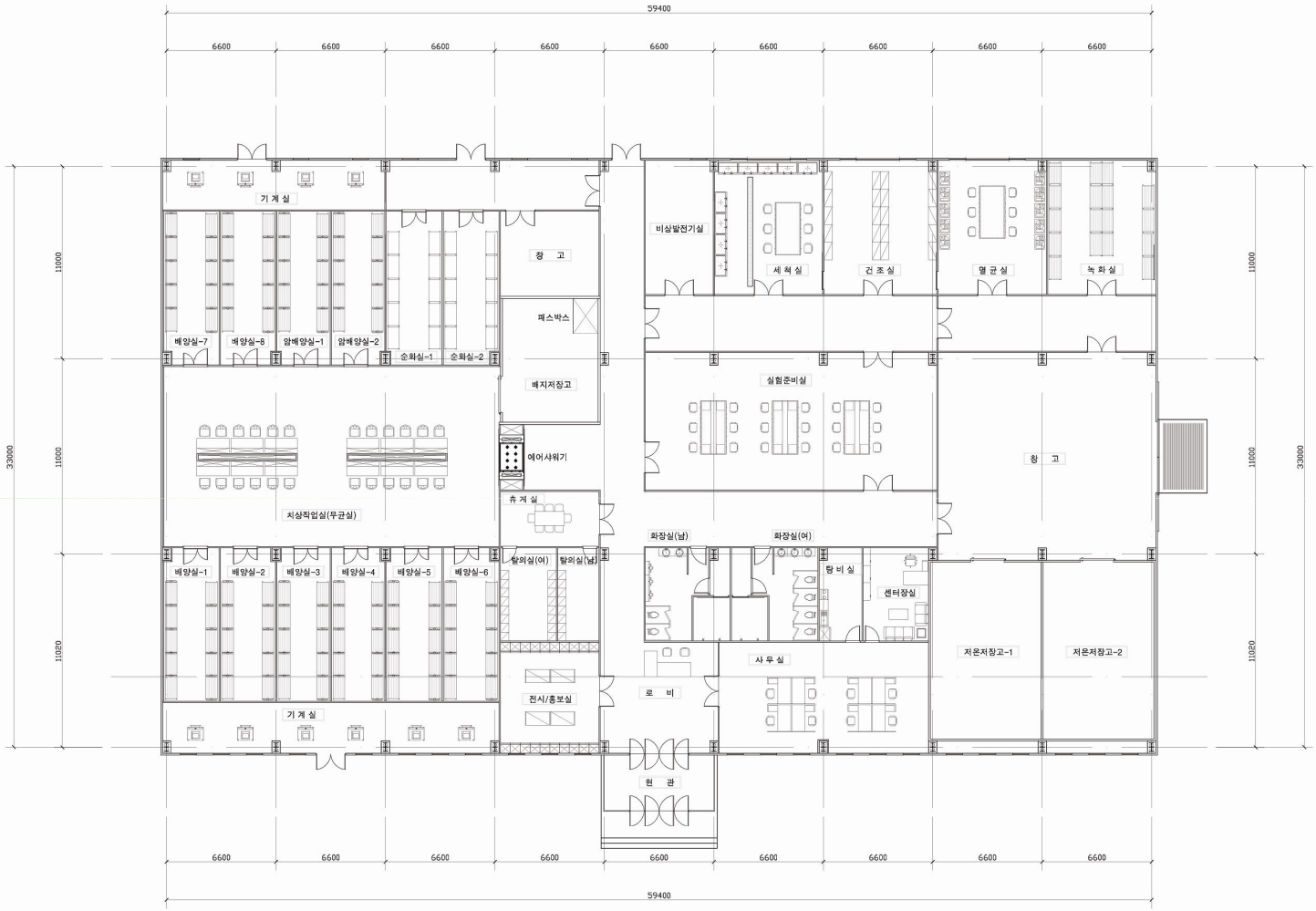

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Scale A3 : 1/250

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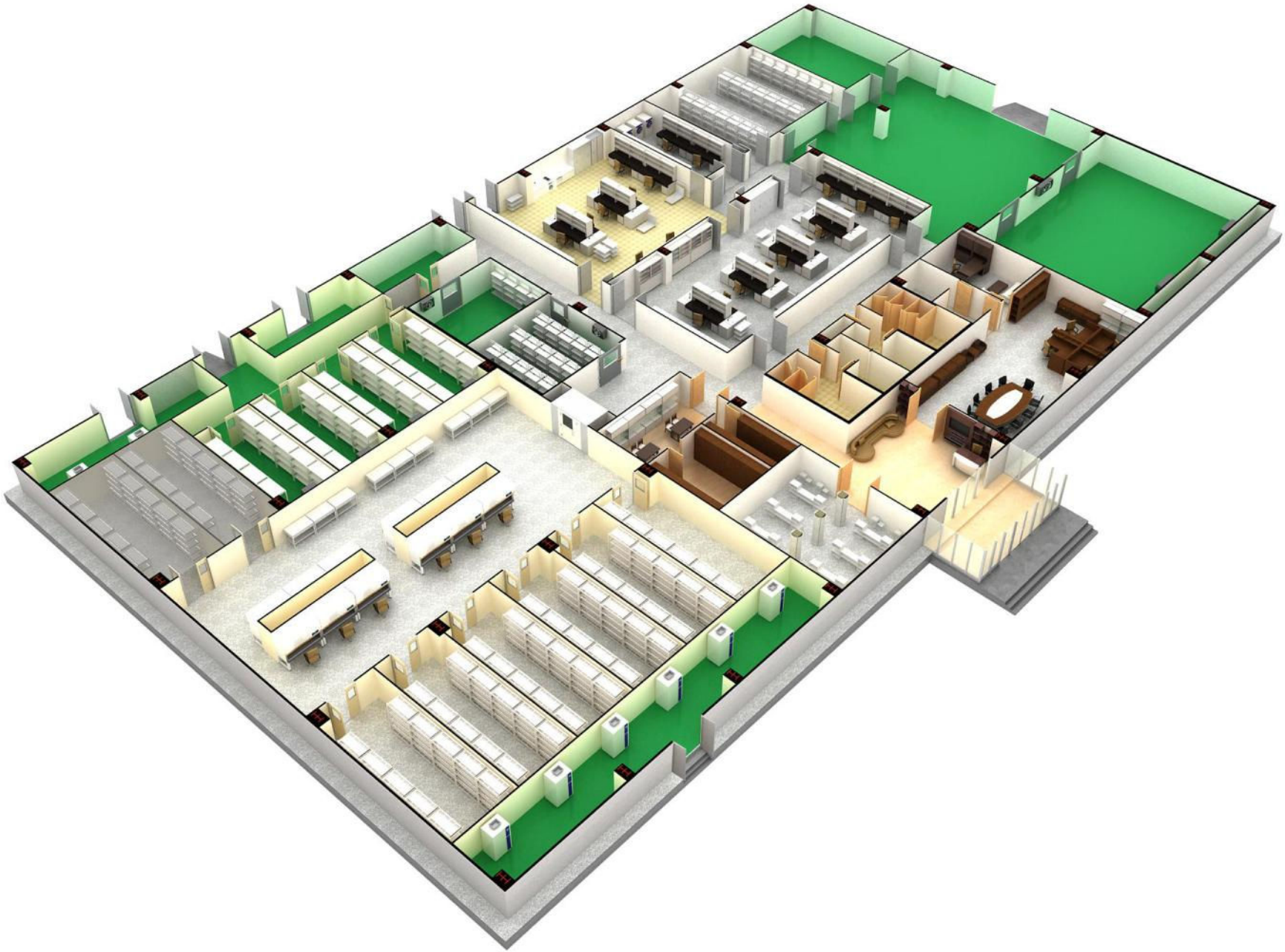

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생명공학

우리의 미래 !