

## — 黒斑病耐病性 —

## ニホンナシ新品種 ‘ゴールド二十世紀’

## New Japanese Pear Cultivar ‘Gold Nijisseiki’

## — A Mutant Resistant to the Pear Black Spot Disease —

わが国におけるニホンナシの育種は戦後急速に進み、赤ナシでは‘三水’をはじめとする優良新品種が育成された。一方、青ナシでは現在も

‘二十世紀’が主要な栽培品種である。‘二十世紀’はナシ黒斑病にり病性であり、その防除には多大な労力が払われており、耐病性突然変異体の育成が強く望まれていた。



第 1 図 ‘ゴールド二十世紀’の果実。  
Fig. 1. Fruit of Gold Nijisseiki.

## 育成経過

1962年、ガンマーフィールドに‘二十世紀’の苗木を定植しγ線の緩照射を開始した。1981年、線源に最も近い樹にナシ黒斑病の見られない一枝を発見した。黒斑病抵抗性を検定し、‘γ-1-1’の系統名で1986年からナシ第5回系統適応性検定試験に供試し、果樹試及び27の関係場所にて特性を検討した。その結果、黒斑病抵抗性以外の形質は‘二十世紀’とほぼ同じであることが明らかになった。ナシ黒斑病耐病性として



第 2 図 ‘ゴールド二十世紀’の原木。  
Fig. 2. Original Sprout of Gold Nijisseiki.



第 3 図 ‘ゴールド二十世紀’(右)と‘二十世紀’(左)の若木、二十世紀では黒斑病のため落葉が著しいが、ゴールド二十世紀では全く見られない。

Fig. 3. Young trees of ‘Gold Nijisseiki’ grafted on the rootstock. Defoliation on Nijisseiki trees (Left) was clearly observed by pear black spot disease, but not on Gold Nijisseiki (Right).

の優良性が認められ、1990年6月22日付けで、なし農林15号‘ゴールド二十世紀’と命名・登録された。現在、種苗法の基づく種苗登録を申請中である。

#### 特性の概要

室内検定の場合、黒斑病菌の胞子及びAK毒素に対する本品種の反応は抵抗性品種の‘長十郎’とり病性品種の‘二十世紀’との中間的である。圃場では稀に発病するが、病徴はあまり拡大せず、やがて灰白色化し病徴部分が脱落することが多い。樹及び果実の形態的特性には‘二

十世紀’との差は認められず、外観から両者を識別することは難しい。

(増田哲男・吉岡藤治)

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#### New Japanese Pear Cultivar ‘Gold Nijisseiki’

In Japan, the breeding program for Japanese pear (*Pyrus serotina* Rhed.) has made great progress since the World War II. Many excellent cultivars of the russet Japanese pear type, for example, Kousui, Housui and Shinsui, have been developed. Nijisseiki has been a leading cultivar of the non-russet Japanese pear type, although the cultivar is susceptible to the black spot disease. To prevent the disease from occurring, farmers have bagged the fruit in paper bags and repeated by sprayed the fruit with fungicides. Introduction of a resistant mutant to the black spot disease using  $\gamma$ -ray has been needed for a long time.

#### HISTORY

In 1962, young trees of Japanese pear cultivar Nijisseiki, susceptible to the black spot disease, were planted in a Gamma field at a position 37-93 meters (8 meters intervals) from the <sup>60</sup>Co source. In the summer of 1981, one bud sprouted, a resistant mutant to the black spot disease, was discovered 53 meters from the <sup>60</sup>Co source.

In 1986, it was referred to as ‘Pear  $\gamma$ -1-1’ and distributed for trial to Fruit Tree/Horticultural Experimental Stations in each Japanese pear-growing district in Japan.

It was called as ‘Gold Nijisseiki’ and registered as ‘Pear Norin No. 15’ by MAFF on June 22, 1990. Application for registration of ‘Gold Nijisseiki’ under the laws of Japan is currently under consideration.

#### CHARACTERISTICS

‘Gold Nijisseiki’ is considered to be periclinal-chimera, as a result of several experiments using AK-toxin, the product of the pathogen *Alternaria*. ‘Gold Nijisseiki’ has resistance to the black spot disease, an intermediate level between ‘Chojuro’ and ‘Nijisseiki’. Some leaves and fruit of ‘Gold Nijisseiki’ were infected by *Alternaria* under natural conditions, though the infection rate was significantly lower than that of the original cultivar, Nijisseiki. The spots on leaves of ‘Gold Nijisseiki’ stopped spreading, dried up and became gray in colour. Differences between Gold Nijisseiki and Nijisseiki in the tree figure and fruit were not observed.

(Tetsuo MASUDA, Toji YOSHIOKA)

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