

# 그로우백을 이용한 약용식물 천문동 임간재배 최적 조건 구명

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## Determination of optimal conditions for forest cultivation of medicinal plant *Asparagus cochinchinensis* (Lour.) Merr. using Growbag

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**요약:** 임간재배는 청정 임산물을 장기간 수확이 가능하고, 식감과 맛과 향이 좋으며, 기능성 물질의 함량이 높아진다는 장점이 있으나 재배적지 선정이 힘들다. 그로우백은 잡초 관리에 매우 유리하며, 산림훼손의 최소화 및 입지제한이 거의 없는 장점이 있으나 아직 임간재배에 적용연구는 없는 실정이다. 천문동은 백합과에 속하는 식물로 기침 완화, 해독 기능, 피로 회복에 효능을 가진다. 본 연구에서는 그로우백을 이용한 천문동의 임간재배 최적조건을 구명하였다. 실험에는 1년생 천문동을 사용하여 경상국립대 학수림에서 재배시험을 행하였다. 그로우백 크기에 따른 천문동의 생육을 비교하였을 때 그로우백의 크기가 클수록 지상부의 생육이 증가하는 경향을 보였으며, 지하부도 마찬가지로 뿌리 길이, 뿌리면적, 직경 생중량 등이 모두 증가하였다. 식재밀도의 경우 너무 소밀하거나 과밀하면 식물의 성장량이 감소하였다. 특히 뿌리의 길이와 생중량에서 큰 차이를 보였다. 사면에 대한 영향을 조사한 결과 북사면의 성장량이 약 2배 가까이 높게 나타났다. 임상에 따른 성장량 비교 결과 침엽수림에서 재배 하였을 때 뿌리길이 87.99mm로 활엽수림(49.33mm)에 비하여 길었고, 뿌리직경과 생중량에서도 큰 차이를 보였다. 따라서 천문동의 임간재배는 크기가 큰 그로우백에 적당한 밀도를 유지하여 식재한 후 북사면의 침엽수림에서 재배가 좋을 것으로 판단된다. 이상의 결과는 유용 약용 작물인 천문동의 임간재배를 통한 대량생산에 기여할 것으로 판단된다.

**Abstract:** Forest cultivation has the advantages of clean forest product harvest, long-term harvest, excellent texture, good taste and aroma, and high content of functional substances, but it is difficult to select a suitable cultivation site. Growbag is very advantageous for weed management, and has the advantage of minimizing forest damage and having almost no site restrictions, but there are no studies applied to forest cultivation yet. *Asparagus cochinchinensis* is a plant belonging to the Liliaceae family and has effects on cough relief, detoxification, and recovery from fatigue. In this study, the optimal conditions for forest cultivation in *Asparagus cochinchinensis* using Growbag were investigated. One-year-old *A.cochinchinensis* was used for the experiment. When the growth of *A. cochinchinensis* according to the size of the Growbag was compared, the growth of the above-ground part showed a tendency to increase as the size of the grow-back was increased, and the root length, root area, diameter and fresh weight of the underground part also increased. In the case of planting density, if the planting density was too dense or overcrowded, the growth rate of plants decreased. In particular, there was a significant

difference in root length and fresh weight. As a result of investigating the effect on the slope, the growth rate of the northern slope was nearly twice as high. As a result of comparison of growth according to clinical practice, when cultivated in a coniferous forest, the root length was 87.99 mm, which was longer than that of a broad-leaved forest (49.33 mm), and there was a significant difference in root diameter and fresh weight. Therefore, it is judged that the forest fern of *A. cochinchinensis* should be cultivated in the coniferous forest of the northern slope after maintaining an appropriate density in a large grow bag. The above results are expected to contribute to mass production through forest cultivation of *Asparagus cochinchinensis*, a useful medicinal crop.

**사사:** This study was carried out as a research project for finding and commercializing functional substances of medicinal forest plants.