

피복재료가 천년초선인장의 생육 및 수량에 미치는 영향

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Effects of Mulching Materials on Growth and Yield of Cheonnyuncho (*Opuntia humifusa*)

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연구목적 (Objectives)

천년초선인장(*Opuntia humifusa*)의 적정 피복재료를 선정하고자 함.

재료 및 방법 (Materials and Methods)

- 시험재료 : 천년초선인장(*Opuntia humifusa*)
- 시험방법
 - 피복재료
 - ① 무피복 ② 투명PE ③ 흑색PE ④ 흑백PE ⑤ 녹색PE ⑥ 짚 ⑦ 부직포 ⑧ 칼라보온덮개
 - 정식기 : 4월 하순
 - 주요 조사내용 : 생육특성, 수량성 등

결과 및 고찰 (Results and Discussion)

- 줄기길이는 모든 피복구가 무피복 보다 길었으며, 녹색PE가 가장 길은 편이었고, 투명PE와 흑색PE도 길은 편이었다.
- 줄기수는 흑백PE, 녹색PE, 흑색PE 및 칼라보온덮개가 많았으며, 줄기무게는 녹색PE, 흑백PE, 흑색PE가 무거웠다.

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○ 열매수는 흑색PE, 흑백PE, 녹색PE, 부직포 및 칼라보온덮개가 많았으며, 열매무게는 흑색PE, 흑백PE, 녹색PE, 부직포 및 칼라보온덮개가 무거웠다.

* 시험성적

Table 1. Characteristics of stem in Cheonnyuncho(*O. humifusa*) as affected by mulching materials.

Mulching materials	Stem length(cm)					Stem width(cm)					Stem diameter(mm)				
	The first	The second	The third	The fourth	Average	The first	The second	The third	The fourth	Average	The first	The second	The third	The fourth	Average
Non-mulching	11.3	9.6	7.3	-	9.3	8.2	6.7	5.7	-	6.9	10.4	8.7	6.9	8.7	8.7
Transparent vinyl	11.3	9.8	9.8	-	10.3	8.1	6.7	6.3	-	7.1	11.0	8.5	7.5	9.0	9.0
Black colored vinyl	12.3	10.6	9.8	8.1	10.9	9.7	6.8	6.2	6.1	7.6	10.8	7.8	7.7	6.4	8.2
Black & white colored vinyl	11.7	10.5	9.8	8.8	10.6	7.8	6.7	6.2	6.0	6.9	11.1	8.4	8.2	6.5	8.6
Green colored vinyl	12.5	11.2	10.1	10.1	11.7	8.1	7.0	6.5	7.0	7.2	10.1	7.9	7.1	6.6	7.9
Straw	11.6	9.6	8.0	7.3	9.7	7.4	6.7	5.8	5.2	6.6	9.2	7.8	6.8	4.0	7.0
Non-woven fabric	10.6	10.0	9.6	8.3	10.0	7.5	6.7	6.3	5.7	6.8	10.2	8.2	8.7	5.2	8.1
Color non-woven fabric	11.4	10.1	9.1	7.2	10.2	7.8	6.7	6.3	5.3	6.9	10.8	8.4	7.7	6.4	8.4

Table 2. Stem yield of Cheonnyuncho(*O. humifusa*) as affected by mulching materials.

Mulching materials	No. of stem per plant					Weight of stem per plant				
	The first	The second	The third	The fourth	Total	The first	The second	The third	The fourth	Total
Non-mulching	12.9	8.0	1.6	-	22.5c	201	66	15	-	283c ^b
Transparent vinyl	12.7	15.0	2.8	-	30.5b	329	219	39	-	588b
Black colored vinyl	14.5	27.7	6.3	1.0	49.5ab	373	327	77	26	802a
Black & white colored vinyl	15.8	28.7	13.3	3.4	61.2a	278	365	131	39	812a
Green colored vinyl	14.3	24.9	7.5	3.4	50.1ab	403	374	101	45	923a
Straw	12.4	14.8	3.0	0.1	30.3b	228	246	15	1	491b
Non-woven fabric	15.5	18.2	3.8	0.4	37.9b	296	123	30	7	456b
Color non-woven fabric	12.3	26.1	7.2	0.8	46.4ab	311	173	59	6	546b

^bMeans with different letters within a column are significantly different at 5% level by DMRT.

Table 3. Characteristics of fruit in Cheonnyuncho(*O. humifusa*) as affected by mulching materials.

Mulching materials	Fruit length (cm)	Fruit width (cm)	No. of fruits per plant	Weight of fruits per plant(g)
Non-mulching	32.9	18.4	9d	53d ^b
Transparent vinyl	33.8	19.5	12c	76cd
Black colored vinyl	40.7	20.5	34a	252a
Black & white colored vinyl	41.8	20.7	29a	223a
Green colored vinyl	39.3	20.5	25a	190a
Straw	37.3	19.8	14c	98c
Non-woven fabric	38.6	19.7	25a	140ab
Color non-woven fabric	38.6	19.9	19ab	136ab

^bMeans with different letters within a column are significantly different at 5% level by DMRT.