

기능성 유색보리 계통의 항산화성 차이

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The Comparison of Antioxidative Effects on 40 Colored Barley Lines.

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실험목적

유색보리 계통의 항산화성 정도를 비교하여 기능성 보리 신품종 육성의 기초자료로 활용하고 이를 이용한 기능성 식품을 개발하고자 함.

재료 및 방법

- 공시재료 : 호남농업연구소 육성 유색보리 (40계통)
- 조사내용 :
 - 총 페놀함량
 - 항산화 효과 측정
 - SOD-liked 활성
 - Lecithin oxidase 저해활성
 - Hydroxyl radical 소거활성
 - Hydrogen radical 소거활성

실험결과

- 기능성 유색보리 계통의 그룹별 총 페놀함량간 차이는 유의성이 인정되었으며 3그룹으로 분류함.
- 안토시아닌 색소의 함량이 높은 그룹일수록 항산화 효과(SOD-liked 활성, Lecithin oxidase 저해활성, Hydroxyl radical 소거활성, Hydrogen radical 소거활성)가 높았음.

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Table. Antioxidative effects of 40 varieties of Colored Barley, Chunchu Naked Barley and Hulled Barley

	Electron donation activity(%)	SOD-liked activity(%)	TBARS(%)	Hydroxyl radical scavenging activity(%)	Hydrogen radical scavenging activity(%)
Colored Barley 1	56.84	91.32	87.21	65.20	50.82
Colored Barley 2	66.16	89.24	87.53	65.00	51.96
Colored Barley 3	68.76	96.46	84.09	26.40	34.79
Colored Barley 4	68.12	96.54	84.67	31.00	34.69
Colored Barley 5	40.57	96.76	89.45	53.40	39.20
Colored Barley 6	64.05	91.38	90.51	64.20	45.82
Colored Barley 7	62.60	91.78	90.51	61.60	46.39
Colored Barley 8	78.10	94.01	89.15	63.20	49.31
Colored Barley 9	74.04	91.76	88.19	64.40	46.06
Colored Barley 10	74.77	95.44	82.77	50.00	35.76
Colored Barley 11	48.09	96.67	83.92	48.80	34.23
Colored Barley 12	46.18	95.67	78.42	49.00	37.51
Colored Barley 13	72.21	95.74	80.08	53.20	34.95
Colored Barley 14	67.08	96.11	83.30	50.40	35.83
Colored Barley 15	69.25	92.55	84.95	64.80	46.32
Colored Barley 16	63.21	95.33	87.59	43.80	30.98
Colored Barley 17	60.85	95.84	89.72	50.00	33.54
Colored Barley 18	50.82	96.24	88.79	49.40	31.84
Colored Barley 19	71.08	96.26	89.10	61.80	33.59
Colored Barley 20	71.80	95.60	76.40	54.20	36.06
Colored Barley 21	70.94	96.76	93.84	34.40	34.49

Table. Antioxidative effects of 40 varieties of Colored Barley, Chunchu Naked Barley and Hulled Barley

	Electron donation activity(%)	SOD-liked activity(%)	TBARS(%)	Hydroxyl radical scavenging activity(%)	Hydrogen radical scavenging activity(%)
Colored Barley 22	78.76	96.37	94.01	47.80	36.70
Colored Barley 23	79.76	95.22	83.56	48.40	37.93
Colored Barley 24	85.10	94.33	90.36	51.20	39.90
Colored Barley 25	81.70	91.76	83.69	63.60	39.07
Colored Barley 26	79.63	93.78	92.47	58.20	41.79
Colored Barley 27	72.41	91.18	86.46	66.60	41.66
Colored Barley 28	77.49	94.94	84.73	59.00	35.76
Colored Barley 29	77.67	95.76	83.52	58.20	32.58
Colored Barley 30	71.27	95.08	84.67	61.20	37.10
Colored Barley 31	70.47	93.65	86.97	48.00	38.67
Colored Barley 32	79.53	94.57	87.82	55.20	41.61
Colored Barley 33	73.01	95.45	90.23	52.40	39.00
Colored Barley 34	77.73	91.30	90.90	56.60	53.64
Colored Barley 35	78.66	89.18	89.60	55.80	47.68
Colored Barley 36	73.94	92.10	87.97	58.60	43.85
Colored Barley 37	78.92	87.82	93.65	64.60	41.61
Colored Barley 38	79.85	89.08	92.13	64.20	52.02
Colored Barley 39	69.61	88.75	85.05	66.80	46.52
Colored Barley 40	61.64	89.14	89.42	67.20	44.13
Chunchu Naked Barley	78.32	94.94	79.17	44.00	40.08
Hulled Barley	45.00	90.62	76.46	40.80	30.18