



# 가 가

가 , 20 B.C 11 (defatted meal)

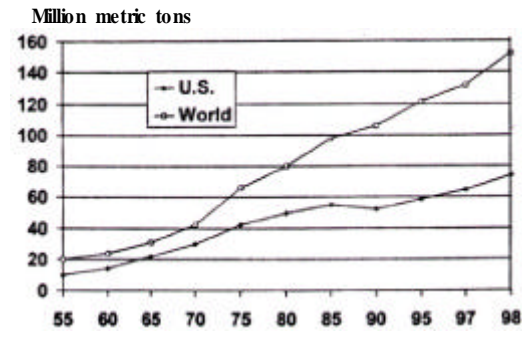
가 가 가

( 1). 1 가

5 (MT) , , , , 가

1/3 가 , 가 가

가 가



< 1. >

1999

가

Hain Pure Foods , Dean White Wave

Foods , Kellogg

Worthington Foods  
(soy burger)

, Kraff  
Boca

2. 가

Dupont General Mills  
가

, 가

가 가

가 가

가 가

가 가

가

6가

2.1 (Soybean Oil)

1. :

가 가

가  
80%

가

40% 20%  
가  
( 48% )

2.2 가 (Traditional Soyfoods)

가

(linoleic acid)  
(linolenic acid)

가 가

acid score)가

1 가

(phyto

가 가

chemicals)

가 (soymilk film), (soynuts),

(green vegetable soybeans),

가 (tempeh),

(natto)



< 1. (%)>

Country	Percent of soy uses as food
China	58
South Korea	23
Japan	17
United States	1
Rest of the world	10

< 2. 가  
 가 : , ,  
 , , , >  
 가 , ,  
 , , , ,

가 .  
 , ,  
 ,  
 (plain) ,  
 가(flavored) , (fortified)

2.2.1

2.2.3

가  
*Aspergillus oryzae* 가  
 (Koji) ,  
 (proteinase),  
 (amylase), (lipase)  
 가  
 가 가  
 가 가 가  
 가 가 가

(curd)  
 가 ,  
 가 ,  
 9:1 가 ,  
 (okara)  
 가 ( ) 가  
 (calcium sulfate),  
 (glucono- -lactone),  
 (magnesium chloride)  
 20 30

2.2.2

가 .  
 (silken or soft tofu)가 .  
 (carton) 가 가



< 3. >



< 4. >

가 , , 2.25  
 , 가 80% (raw)  
 50%, 27% , 가  
 가 가 , 가  
 가 , 2.26  
 가 가 , 가 ,  
 , , ,  
 2.24 , 가 (soy nut butter)  
 가 가  
 가 *Rhizopus oligosporus* 2.27  
 가 2  
 , 가 C,  
 , 가 가 . 1 가 가  
 가 가 .

2.3 (Soy Protein Products)

가 , 가  
(defatted soy flakes)

2.3.3

가 . 가 90%

(concentrates), (textured soy protein) 가  
(flour), (isolates), 4가

2.3.1

가 가 2.3.4  
가  
(extrusion)  
가  
50%

2.4 가 (New-Generation Soyfoods)

2.3.2

70% 가 가 가 가



< 5. >

2.5 (Soy-Enriched Foods)

가  
 가 가  
 가  
 가  
 가 (soy bread), (soy pastes), (soy cereals), (soy snacks)

2.6 가 (Functional Soy Ingredients / Dietary Supplements)

(lecithin),  
 (phytates), (trypsin inhibitors)  
 (phytochemicals)  
 가  
 가가 가  
 가

2.6.1 (Soy lecithin)

(1 3% )

(degumming)

2.6.2 (Oligosaccharides)

(raffinose, 0.1 0.9%),  
 (stachyose, 14 4.1%)

(galactose) 3  
 beta-fructosidic linkage alpha-galactosidic linkage  
 가

(prebiotic)  
 Prebiotic

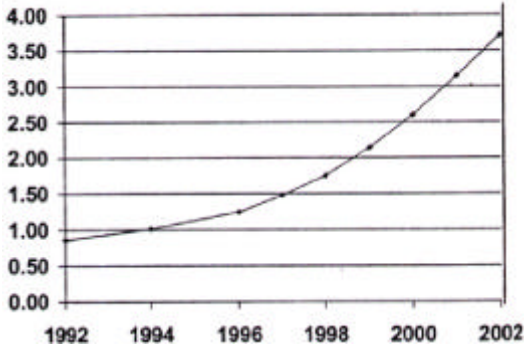
가  
 (lactobacilli) (bifidobacteria)

2.6.3 (Isoflavones)

(flavonoids)  
 3가  
 , 4 가  
 12 가 Daidzin,  
 genistein, glycitein (aglycone)

	1g 1 4mg	Phytate	2가	3가
가				
	가			가
		2.6.7		(Trypsin inhibitors)
	가 (estrogen)		Kunitx	(KI) Bowman-Birk
	가	(BBI)	2가	
				가
2.6.4	(Tocopherol, E)			
	alpha-, beta-, gamma-, delta-,		BBI가	가
4가				
alpha-, gamma-, delta-	10.9			
28.4, 150.0 191.0, 24.6	72.5 μg/g			
		3.	가	가 가
			가?	
2.6.5	(Phytosterols)	가		가
	44 phytosterol			
	beta-sitosterol, campesterol,		가	
stigmasterol	3가 . Phytosterol			
	, beta-sitostanol			
	가		가	(soy)
				(soy oil)
2.6.6	(Phytate)		'vegetable oil'	(soy burger)
	inositol hexaphosphoric acid가		'veggie burgers'	'harvest burgers'
			21	가
	가			
	1.00 147%	Soytech	SFH & Co.	가

\$ Billions in Sales



< 6. 가 >

가

가

( 6).

1992 8 5 2 1999

21 4 가 , 3

37 1 가

. 7 , ,

가 가 15 30% . 1998

가 17 4 7

45.7% , 18.6% ,

12.4% , 11.8% 가 ( 2).

가

3.1

< 2. 1998 가

>

Product	Sales in \$ million	% of total sales
Soy sauce	798	45.7
Meat alternatives (soy-based)	325	18.6
Soy milk	216	12.4
Tofu	206	11.8
Soy cheese	68	3.9
Miso	62	3.5
Soynuts	26	1.5
Tempeh	10	0.6
Nondairy frozen desserts	90	0.5
Other soyfoods	26	1.5
Total	1,746	100.0

가

가

3.2

1999

, 10

가

,

9

가

. 10



2/3가 , 1/3 가 , 1/2 가 20mg 가 , , 가

1990 가 , 가 가

(functional foods) nutraceuticals, designer foods, medical foods, pharma foods, phytochemicals 가 , 2000 1,000 가

, phytochemicals , 3.4

가 1 , 가

가 phytochemical 가 , 가 , 가 ,

3.3 가 가 가

1999 10 25 , (FDA) 1999 (USB) ,

43 가 71% , 1997 67%,

가 59% 68% 가 24% 1

6.25g 1 , 40% , 89% 가 가

1 1g , 1 가

가 , 가 (masking)

3.5

가 100% 가 , 가 ,

(beany flavor) 가 , , , , 가

가 (lipoxygenase) 가 가

(carbonyl compound) 가 가

가 400 mesh 가 가

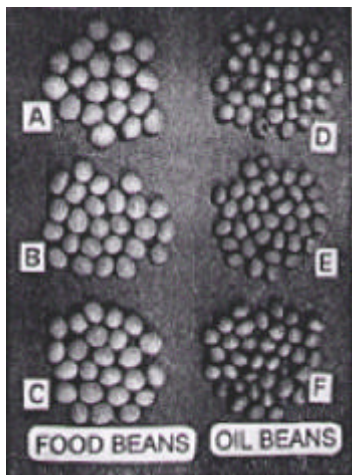
가 가 가 가

2가 가 20 가 가

가 가 가 가

3가 가 가 가

method) 가 (Cornell ( 7). (Illinois method) (cotyledon) 가 가



< 7. >

3.7

가 가  
 가 ,  
 가  
 가  
 가 1  
 (ASA)

3.6

1990  
 Kuzminski(1999)  
 2.25%,  
 5.35%

가  
 가  
 가 가  
 가 가 21 가

4.

가  
 가  
 가 가  
 가 가  
 가 가  
 가 가

1)

7) 가

가

가

2) 가 )

(

가

가

가

가

가

가

3) 가

가

4)

8)

가

3000

가

20

가

21

가

가

가

가

5) 가

(USB)

(ASA)

6)

가

가

가

가

가

가

가

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