

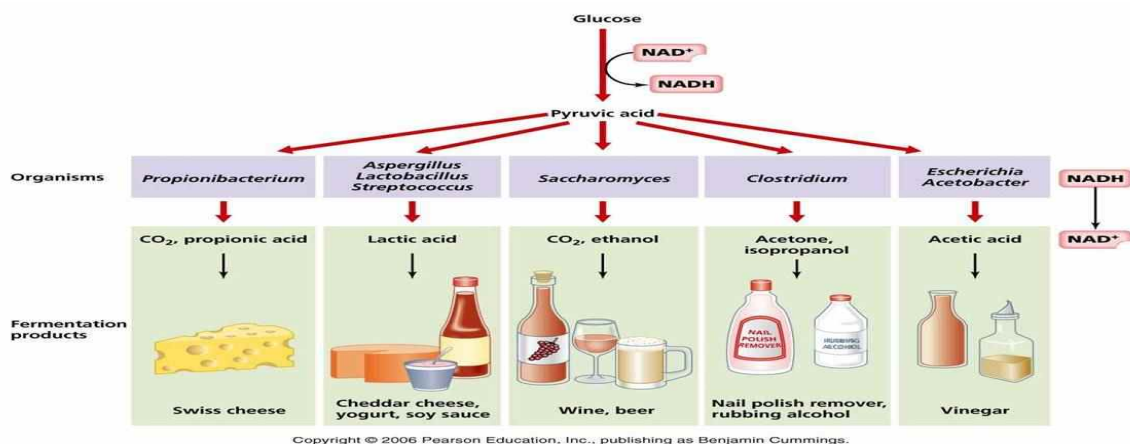
Korean Traditional Fermented Foods and Global Strategy

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Fermented Foods?

Fermentation is a process for the microbial degradation of organic material with an enzyme that they have.

Base	Fermentation Foods
Bean	Cheonggukjang, Doenjang, Miso, Natto, Soy sauce, Stinky tofu, Tempeh, Oncom, Soybean paste, Beijing mung bean milk, Kinama, iru
Dough	Proofing(baking technique)
Grain	Amazake, Beer, Bread, Choujuu, Gamju, Injera, Kvass, Makgeolli, Murri, Ogi, Rejuvelac, Sake, Sikhye, Sourdough, Sowans, Rice wine, Malt whisky, Grain whisky, Idli, Dosa, Vodka, Boza
Vegetable	Kimchi, Mixed pickle, Sauerkraut, Indian pickle, Gundruk, Tursu
Fruit	Wine, Vinger, Cider, Perry, Brandy, Atchara, Nata de coco, Burong mangga, Asinan, pickling, Chocolate, Raki
Honey	Mead, Metheglin
Dairy	Cheese, Kefir, Kumis(mare milk), Shubat(camal milk), Cultured milk products such as quark, Filmjolk, Crème fraiche, Smetana, Skyr, Yogurt
Fish	Bagoong, Faseekh, Fish sauce, Garum, Hakarl, Jeotgal, Rakfisk, Shrimp paste, Surstromming, Shidal
Meat	Jamon iberico, Chorizo, Salami, Sucuk, Pepperoni, Nem chua, Som moo, Saucisson
Tea	Pu-erh tea, Kombucha



<Consumption Fermented Foods>

Food	Country	Average Annual Consumption(per person)
Beer	Germany	106 L
Cheese	UK	10 kg
Kimchi	Korea	22 kg
Miso	Japan	7 kg
Soy sauce	Japan	10 L
Tempeh	Indonesia	18 kg
Wine	Italy, Portugal	90 L
	Argentina	70 L
	Finland	40 L
Yogurt	Netherlands	25 L

Intake of fermented foods is about 50~400g/day, Accounts for 5% to 40% of total consumption in the world.

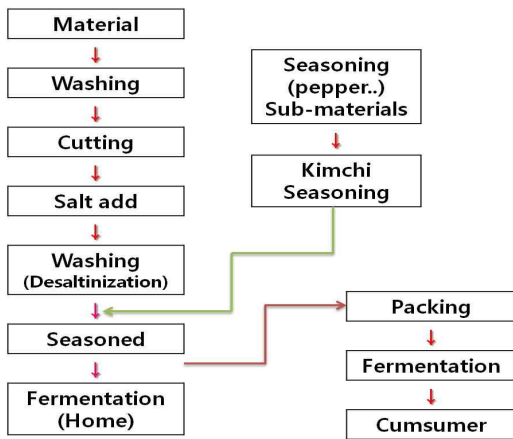
<Why Eat Fermented Foods>



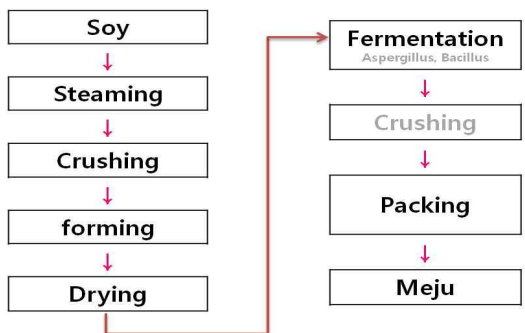
Various fermented foods is formed depending on the geographical location and environmental factors, and religion.

Production of Korean Traditional Fermented Foods

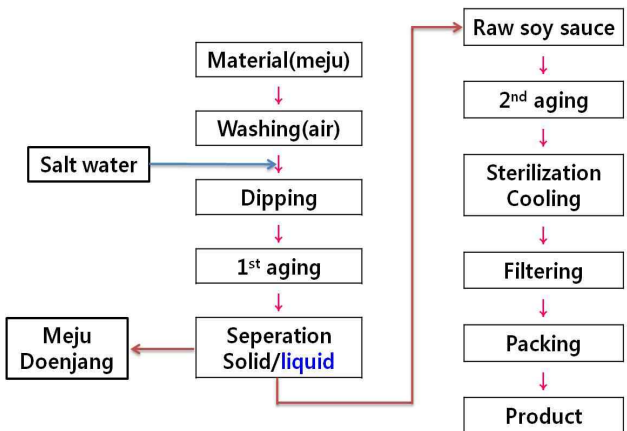
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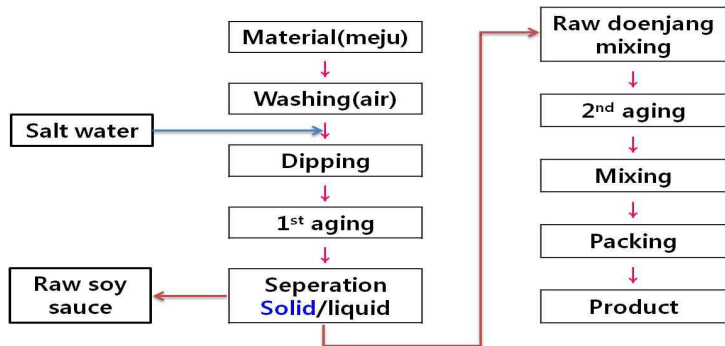
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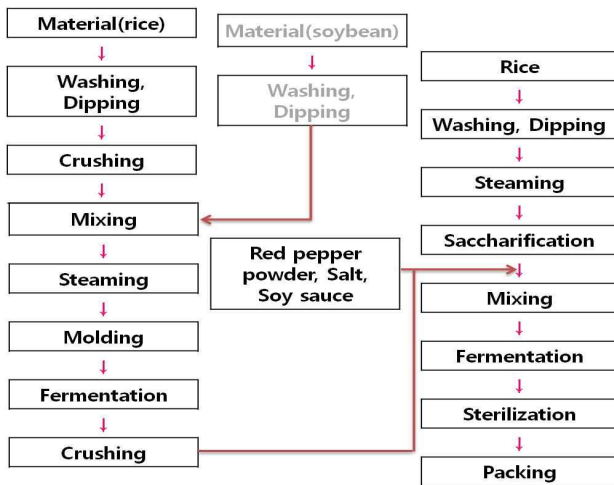
<Production of Soy sauce>



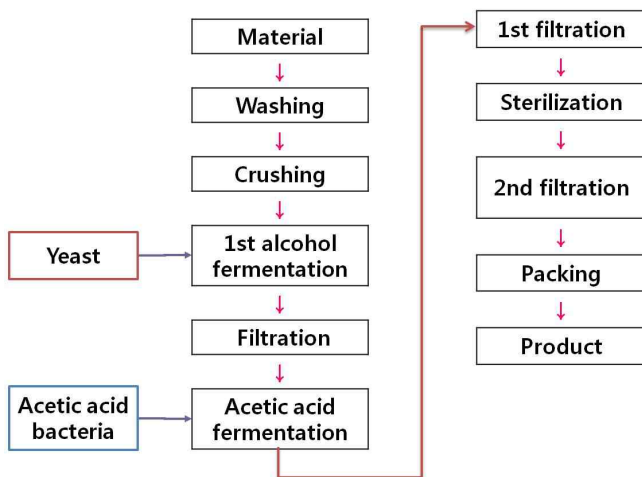
<Production of Doenjang>



<Production of Gochujang>



<Production of Vinegar>



Health Benefits of Fermented Foods

<Kimchi>

- Increase appetite
- Reduce body fatness
- Prevention of constipation and colon cancer
- Good source of probiotics (lactic acid bacteria)
- Decrease serum cholesterol, and increase fibrinolytic activity
- Antioxidative effect (antiaging, prevention of skin aging)
- Anticancer effect (antimutagenic and antitumor effect)
- Increase immune function
- Possibly prevent bird flu

<Jangs>

- Health claim (FDA) : Heart disease prevention
- Potential health benefit : LDL cholesterol decrease
- Bone health
 - ❖ Soy protein → Ca emission suppression
 - ❖ Skeleton form
 - ❖ Isoflavone(genistein) : Soy protein(isoflavones)
- Breast cancer, prostate cancer
 - ❖ Isoflavone(genistein)
- Soy protein : stroke, Alzheimer's disease
- Diabetes prevention

<Vinegar>

- Fatigue : Organic acids
- Relieve stress
- Osteoporosis Prevention
- Controlled diet
- Cholesterol regulation
- Blood pressure
- Promoting digestion
- Improve allergies

Status of Korean Fermented Foods

<Kimchi>

(Unit : one hundred million won, %)

	Self-manufacturing		Manufacturing plant		Total
		Ratio		Ratio	
2007	11,442	54.5	9,560	45.5	21,002
2008	12,065	52.9	10,741	47.1	22,806
2009	11,914	52.5	10,767	47.5	22,681
2010	12,082	51.8	11,239	48.2	23,321
2011	12,124	50.9	11,682	49.1	23,806
2012	12,229	50.4	12,025	49.6	24,254
2013	12,840	50.8	12,428	49.2	25,268

Source : Agricultural Economics Research Institute, 2013
Korean Kimchi industry trends and consumer research plan, 2013

(Unit : one hundred million won, %)

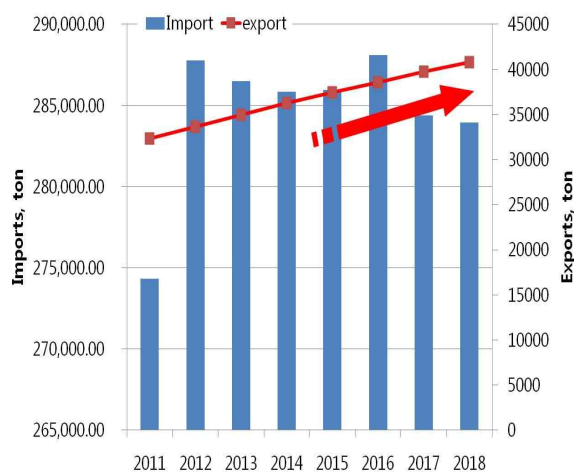
	B2C		B2B		Total
		Ratio		Ratio	
2006	2,018	23.4	6,590	76.6	8,608
2007	2,179	22.8	7,381	77.2	9,560
2008	2,253	21	8,488	79	10,741
2009	2,194	20.4	8,573	79.6	10,767
2010	2,495	22.2	8,744	77.8	11,239
2011	2,719	23.3	8,963	76.7	11,682
2012	2,882	24	9,142	76	12,024
2013	2,993	24.1	9,435	75.9	12,428

Source : Agricultural Economics Research Institute, 2013
Korean Kimchi industry trends and consumer research plan, 2013

(Unit : %)

Year	Japan	USA	Taiwan
2004	93.1	1.5	1.3
2005	91.8	1.5	2.1
2006	89.0	2.1	2.8
2007	89.1	2.4	2.6
2008	87.5	2.2	3.0
2009	88.5	2.5	2.8

source : aT
Import & export2010



Source : Korea Rural Economic Institute, 2008

<Jangs>

Gochujang

Year	2003	2006	2009	2012		
					'03 Contrast	CAGR
Exports(ton)	12,424	17,795	20,501	24,765	(99.3)	(8.0)
Exports(Thousand dollars)	17,603	29,479	31,907	43,502	(148.8)	(10.7)
Countries(ea)	57	65	69	81	(82.1)	

Soy sauce

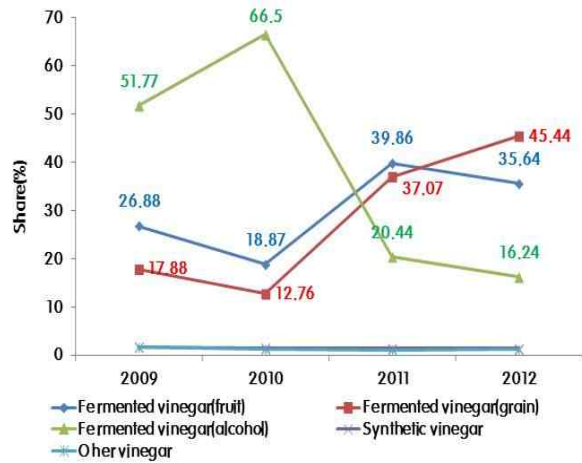
Year	2003	2006	2009	2012		
					'03 contrast	CAGR
Exports(ton)	5,401	7,451	9,933	11,124	(105.9)	(8.4)
Exports(Thousand dollars)	5,659	9,184	11,733	13,864	(145.0)	(10.5)
Countries(ea)	45	48	55	62	(37.8)	

Doenjang

Year	2003	2006	2009	2012		
					'03 Contrast	CAGR
Exports(ton)	2,541	4,753	3,482	3,619	(42.4)	(4.0)
Exports(Thousand dollars)	4,074	8,945	5,583	6,231	(52.9)	(4.8)
Countries(ea)	33	45	54	63	(90.9)	32

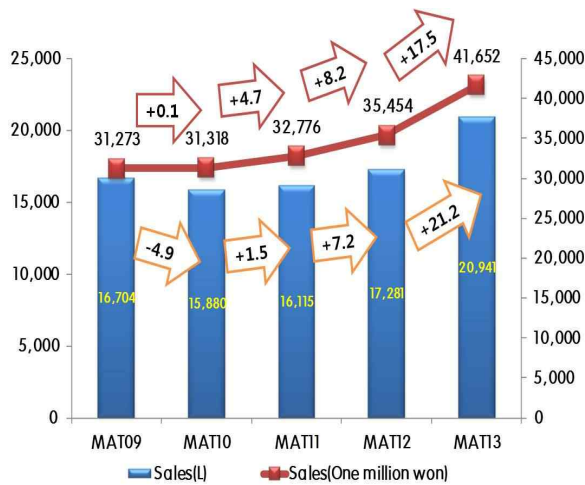
Year	Production Status		Export Status	
	Product(T)	Turnout(thousands)	Export(T)	Exports(\$)
2008	654,030	681,068,248	19,194	30,293,323
2009	631,030	728,174,851	21,208	28,982,492
2010	636,753	702,971,023	20,630	29,657,991
2011	618,083	744,257,578	25,535	30,945,262
2012	613,933	888,523,941	24,161	37,586,479
2013	621,764	783,681,183	23,970	40,105,932

Source : KFDA

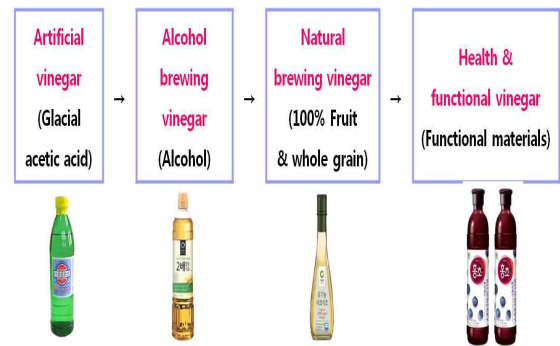


Source : KFDA, 2013

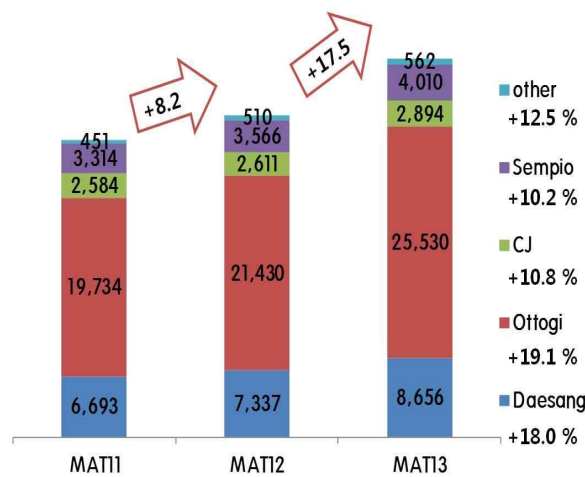
<Vinegar>



<Change of vinegar consumption pattern>

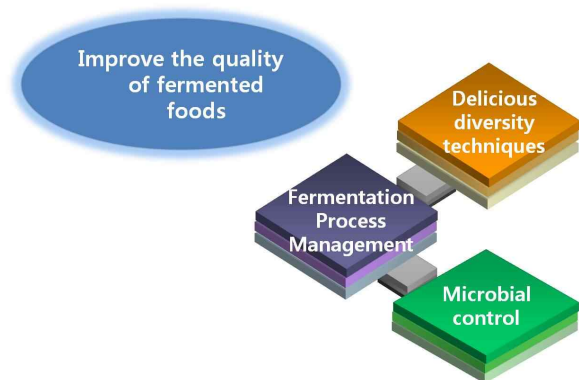


Various vinegar fermenting methods have been vanished due to the introduction of synthetic vinegar production in 1970s, but there has to be many improvements for the health of nation's people as of now.



Source : Nielson Retail Index

Globalization Strategy



<Globalization case>

	Definition	Examples
Globalization	Maintaining the key features	Soy sauce, Cheese Chilly sauce
Localization	Key Features of deformation	Curry, Deep-fried pork cutlet Jajangmyeon
Fusion	Original + Local food (Key features combined)	Bulgogi Pizza, Gochujang pizza



Conclusion

- Kimchi, Jangs, Vinegar is a traditional fermented food in Korea
- Fermented foods provide a variety of health benefits
- Fermented foods market is continues to grow market in Korea and export growth
- Kimchi : Reduced domestic demand, export growth
- Jangs : Domestic market slowdown and related products increased
- Vinegar : Fermented vinegar market increases. Expand into Beverage market
- Korean Fermented Foods Globalization Strategy
 - 1) Standardization
 - 2) Stability
 - 3) Health benefits
 - 4) Convenience
 - 5) Localization