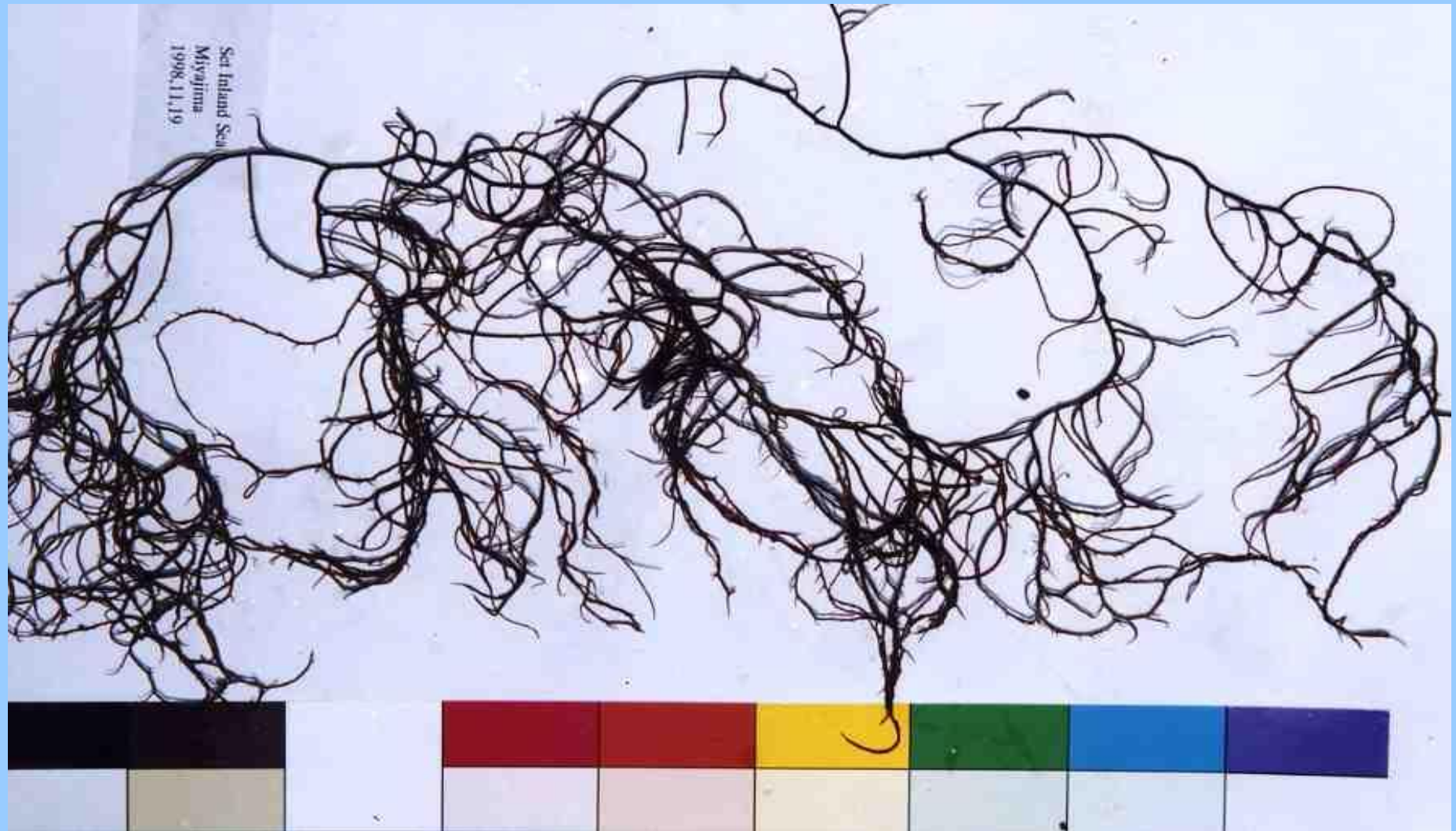


Gracilaria cultivation





***Gracilaria* grows on the sandy bottom in brackish waters**

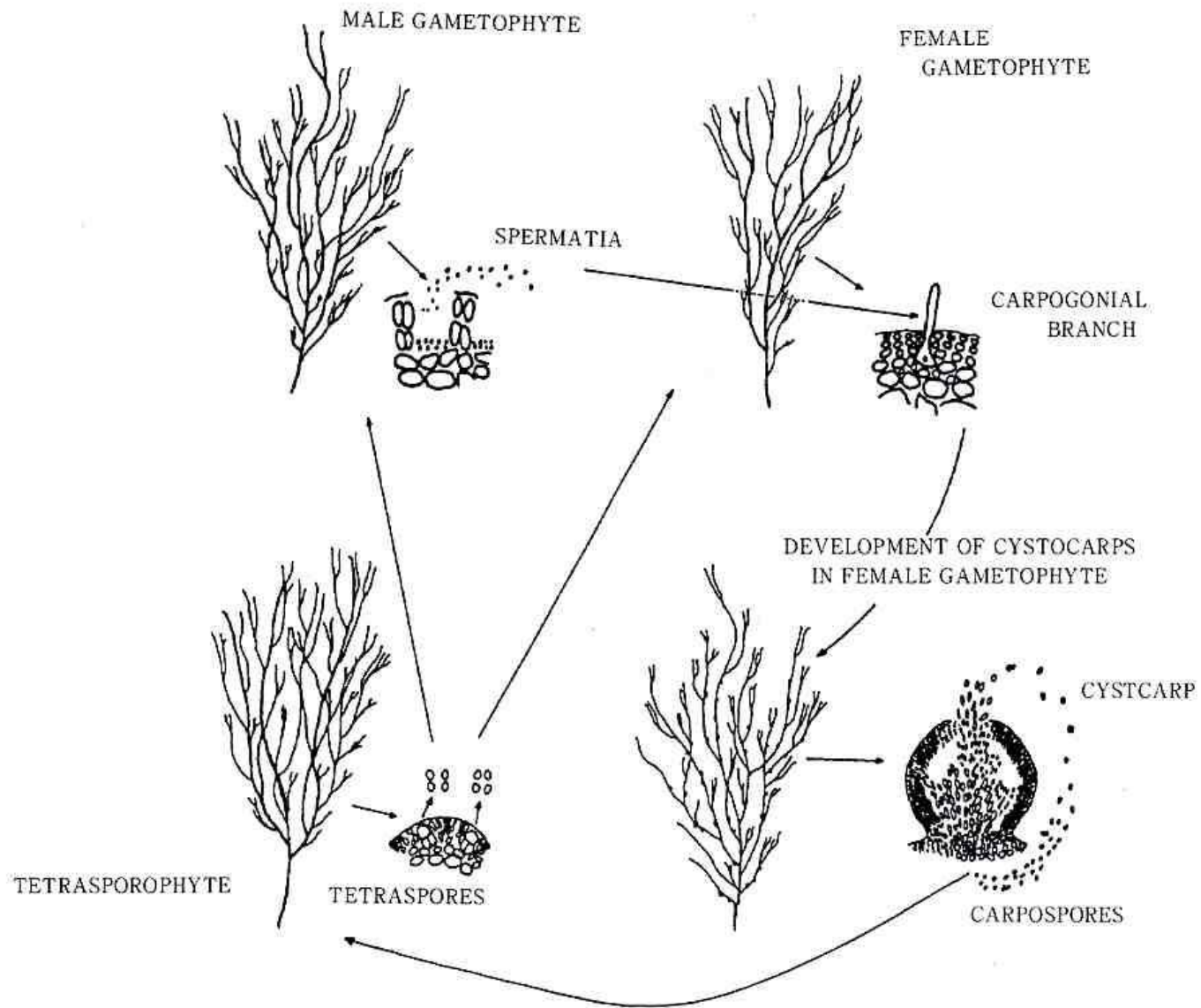


Figure 2. Triphasic life history of *Gracilaria* (*Polysiphonia*-type, after Santelices and Doty, 1989).

- Japanese harvesting method of natural *Gracilaria* fronds in Brackish water





Collecting tool in Japan





***Gracilaria* cultivation in Lagoon , Vietnam
-Seeding is sprayed-**



Harvesting of fronds



Stocking of dry products

Gracilaria cultivation in front of pigsty in Thailand





Seeding of *Gracilaria* fronds



***Gracilaria* cultivation by support form**

Graciralia cultivation in Namibia





Modern long- line method of floating



Pet bottle floating









Seeing machine



Rope used the nets



Seeding of *Gracilaria* material



Drying of *Gracilaria* fronds in the sand coast



Removal of sand and others



Compression and packing



Gracilaria habitat (brackish water) in Chile



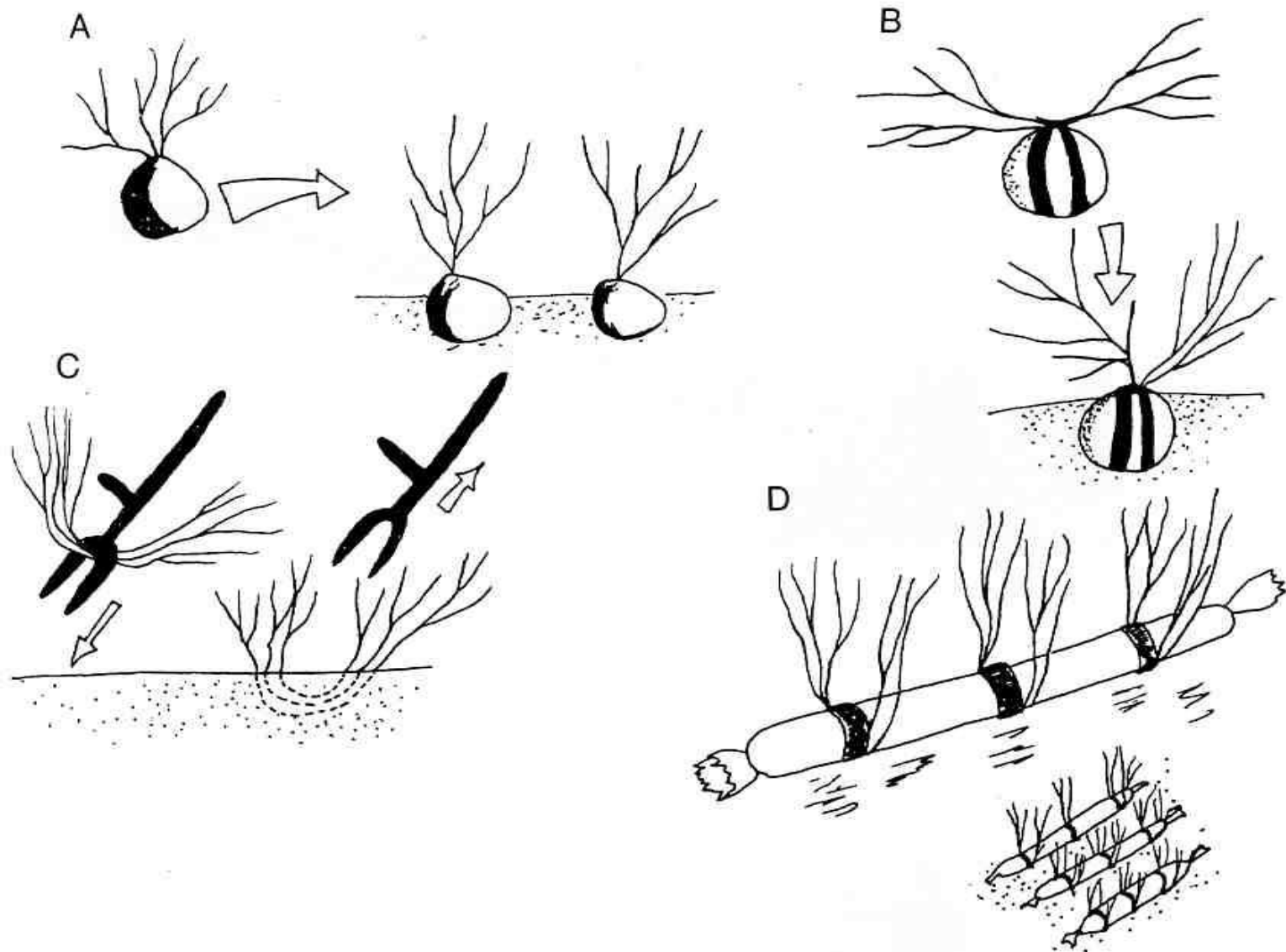


Figure 7. A. Transplantation of rocky substrata, with attached *Gracilaria* to new sites. B. *Gracilaria* attached to rocks, with rubber bands for anchorage in soft sediments. C. Insertion of *Gracilaria* into soft sediments using a fork. D. *Gracilaria* attached to sand-filled plastic tubes. (After Smith *et al.*, 1984; Santelices and Doty, 1989; Oliveira and Alveal, 1990)



Harvesting rake



Sand bags for *Gracilaria* cultivation





Gracilaria harvesting





Stock of *Gracilaria* products



Gracilaria products





Long line cultivation in the offshore, Fujian, China

ロングライン方式のオゴノリ養殖 開始 (中国)

**Expanding production with larger long line
cultivation since 2000s**

Production of 18,000 ton(wet) in 2000

Production of 1,116,108 ton(wet) in 2014

乾燥重量で約10万トン

(FAO data)



中国・福建省の オゴノリ養殖



若いオゴノリ種苗がロープ
に固着



ベトナムのキリンサイ養殖 (カラギナン)



Carried the harvested fronds



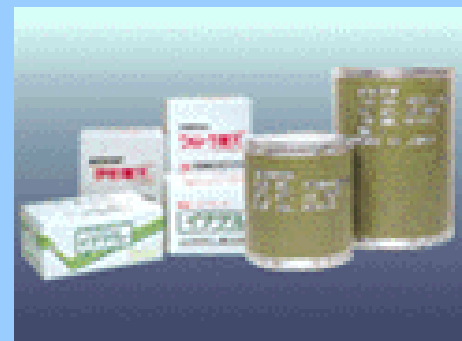
Drying *Gracilaria* products



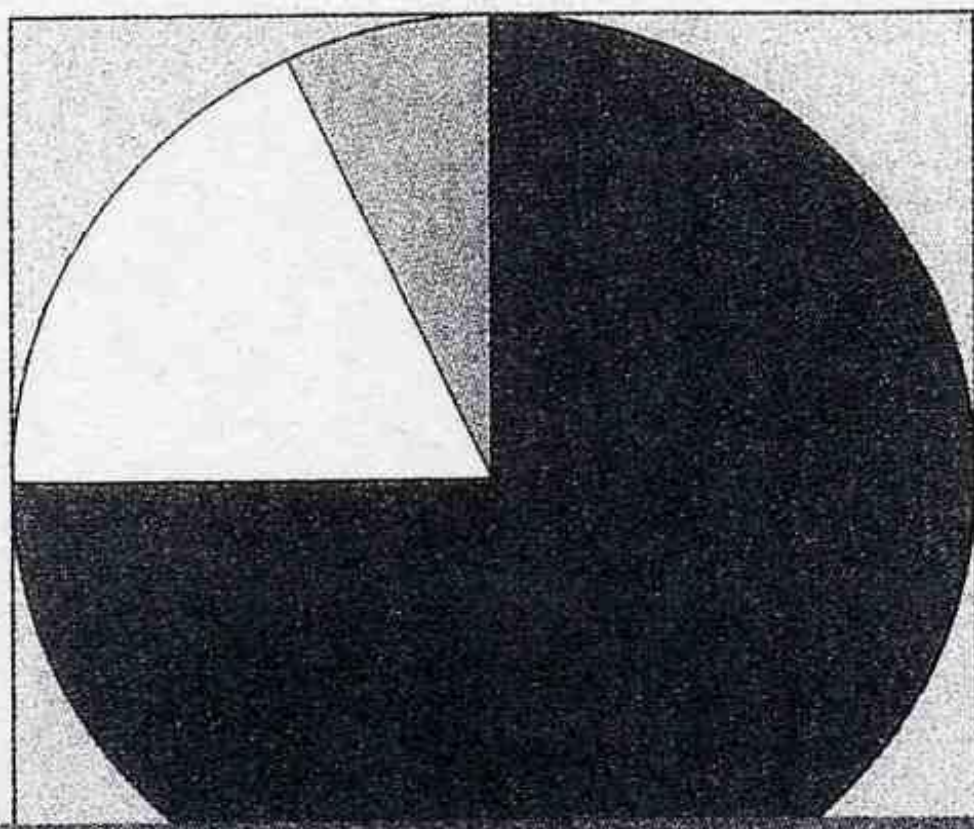
Vast drying coast



Drying products



伊那食品工業(株)での最新の工業寒天の製法



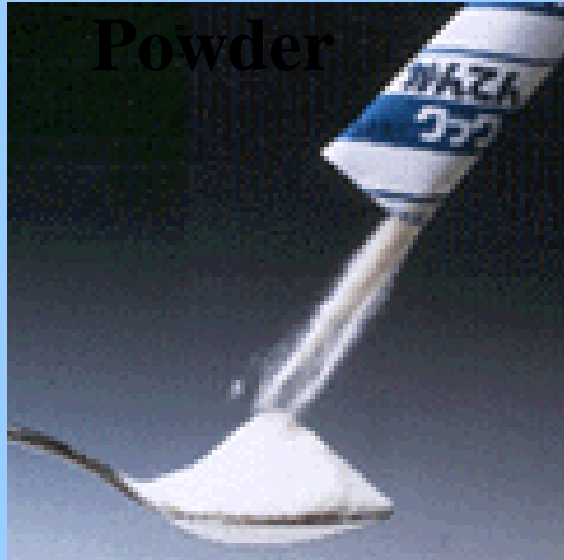
■ 粉末寒天

□ 糸寒天

■ 角寒天

国内総需要量 約2200t

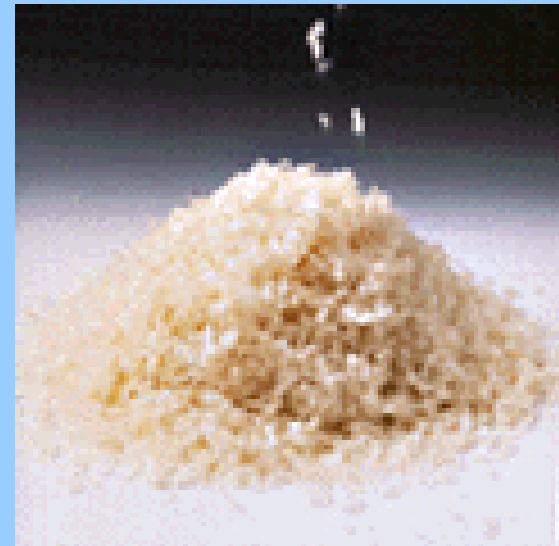
図7 国内で消費する寒天市場 (使用寒天別)



粉末



Tablet



フレーク

寒天の種類

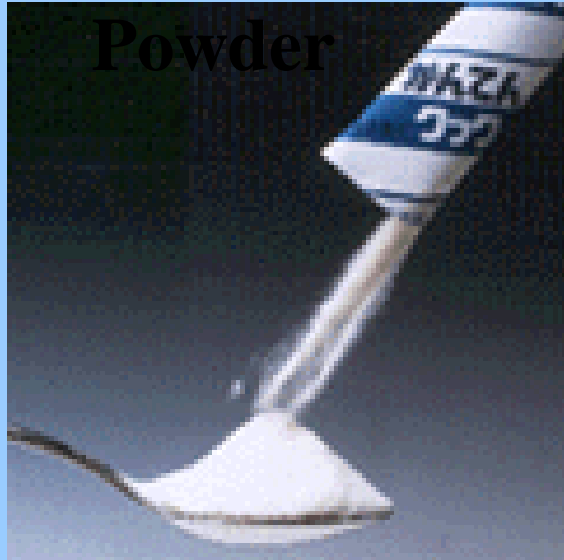
soup



cake



寒天の新しい利用法

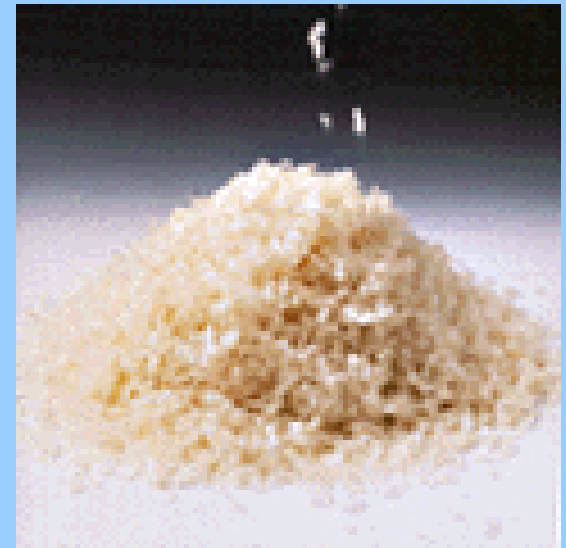


Powder

粉末



Tablet



フレーク

寒天の種類

新しい寒天の利用





和菓子に使われている寒天