



VOL LXX NO 2

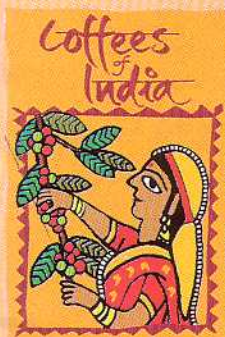
FEBRUARY 2006

RS 15

इंडियन कॉफी INDIAN COFFEE



THE FINE CUP AWARD 2005



IN THIS ISSUE.....

- EU COFFEE TRADE: A PICTURE OF STABILITY
 - COFFEE & HEALTH : A COFFEE A DAY
- QUALITY PRESERVATION OF GREEN OR PARCHMENT COFFEE IN THE TROPICS
- IRRIGATION MANAGEMENT IN COFFEE • ICO SEEKS FURTHER FUNDS FROM CFC
- ROAST YOUR OWN BEANS • BANKING YOUR GREEN



GRAINPRO INC

World leader in coffee quality preservation

Supplier of Hermetic (gas tight) quality preservation systems to premium coffee growers and exporters in C. America, now also in India, for alternative warehousing.

- Protection against moisture ingress of coffee beans
- Keeps coffee free of infestation
- Provides optimal "cup average" in cupping tests
- Suitable for Indian 'Monsoon Coffee' as it prevents change in Moisture Content
- Can be used in all climatic conditions
- Requires no infrastructure and can be for outdoor storage in the open
- Life span of 10 to 15 years
- An ideal 'organic' fumigation facility with carbon dioxide



For detailed information and documentation please visit
www.grainpro.com

or

contact

B. A. Agro Hermetic Preservation Systems (P) Ltd.

C – 30 West End Colony, Rao Tula Ram Marg, New Delhi – 110021

Tel 011 – 51661944, 24111576, Fax 011 – 24111577

Email: verdi@vsnl.com or verdi@airtelbroadband.in

of the Agricultural Research Organization in Israel clearly indicate that green coffee beans of various MC's in gas tight jars monitored by a gas chromatograph show no gas build up during storage under sealed conditions, even if the MC is above the ERH.

Cocoons for hermetic (gas tight) storage

GrainPro Inc. is the US company which is introducing the concept of sealed (hermetic) storage for dry agricultural commodities into the India market: a patented gas tight flexible "container" which GrainPro calls a "Cocoon™" is designed from an almost 1 mm thick flexible PVC liner with gas barrier properties. A gas tight "zipper" connects a bottom and a top part, enabling build up of a stack of bagged commodities in the bottom part. Once the stack has been loaded, the top part is added and zipped to the bottom section with a gas tight zipper.

The gas barrier properties of the plastic prevent any moisture from being absorbed by the commodity and seem to retain a good deal of the volatiles that otherwise might diffuse in the air. Thus, the overall quality of the coffee is preserved throughout the year.

In its application there is some similarity to the "ballooning" technology developed about a decade ago by the Central Food Technological Research Institute in Mysore. However the plastics used as well as the sealing level, plus the limited life span of the materials involved, make this technology less feasible than the "Cocoon" technology. Cocoons can be used for in and outdoors



Use of GrainPro Cocoons for coffee bean storage at Monte d'Oro cooperative in Costa Rica

storage and have a life span of 10-15 years. The high level of gas tightness makes the Cocoon an ideal fumigation facility: small amounts of phosphine tablets or "organic" fumigation with carbon dioxide can be easily implemented.

Application for Monsoon Coffee

Monsoon coffee is a specialty coffee produced in India only. It is based on moisture absorption of green coffee beans during the monsoon season in a specific coastal location, and gives the beans a rich mellow, earthy taste and a unique golden appearance. In order to retain these properties, the MC has to be retained at 15 %. Any change in MC would affect the taste. Hermetic storage would be an ideal storage facility for this specialty coffee, since the gas tight properties of the GrainPro Cocoon would prevent any change in the MC.

Other applications

Application of hermetic storage is not only feasible for coffee but it

can also be used for seeds as an alternative to cold storage, for spices and herbs, grains, dried fruits and oil seeds. In many instances, such as the case of grains, insect respiration combined with commodity respiration will create a "modified atmosphere" of high CO₂ and low O₂, which will have a preserving effect on the commodity. In the Israeli research facility grain has been kept for more than 10 years under these hermetic conditions, without any substantial loss in quality.

Recently with the introduction of its patent-applied- for Super Grainbag™, hermetic storage can be achieved in bags of up to 50Kg capacity.

For your inquiries, please contact tom@grainpro.com or verdi@vsnl.com

Tom de Bruin, Vice President, Marketing and Sales of Grainpro Inc. and heading the regional marketing office for Asia and Africa in Manila, Philippines.

Quality Preservation of Green or Parchment Coffee in the Tropics

Tom de Bruin, Manila

Much has been published on how coffee beans should be harvested. Much less has been published on the specific problems involving long-term storage of coffee in the countries of production.

In order to understand the specific problems, it is important to be familiar with the concept of "equilibrium moisture content" or "MC". Any agricultural commodity has to be dried to a level where it will not absorb or release any more moisture. A further restriction should be that the threshold of 65% relative humidity (RH) for development of microflora (fungus) will be observed.

Equilibrium moisture content

These two parameters: control of microflora and equilibrium moisture content caused the "set standard" of coffee to be set at 11% moisture content on wet basis. However the reality is that the relative air humidity in the tropics is far higher than 65%, especially during the rainy (monsoon) season, when the RH levels may reach 85%-95%.

Coffee is considered to be a "hygroscopic" commodity, meaning that it absorbs moisture easily. Other commodities, like for instance, paddy, absorb moisture much slower. Thus coffee stored under conditions of a high ambient RH, will absorb moisture rapidly. In GrainPro trials with Arabica coffee

stored in Costa Rica for five months an increase of 2% was observed.

Because of this increase, coffee growers in S. India try to dispose of their stocks before the rainy season sets in. This is often a clear disadvantage, since world market prices fluctuate and growers and traders would like to sell their coffee beans at the highest possible price.

Increased moisture will affect the taste and "body of brew" of the coffee. Research done by Mesoamerican in Costa Rica with premium coffee grower and processor Cafe Britt, has clearly

noted: Very good flavor, despite being from the previous harvest. Slight floral flavor." For beans in unprotected bags, he noted "Slight old flavor perceptible in the cup, slight harshness, tainted." For beans in large open bins, he noted "Old flavor perceptible in the cup. Slight harshness, tainted." CafÉ Britt subsequently ordered a production quantity of Cocoons for multi-month storage of its premium coffees.

Coffee beans do not respire

A common misperception is that green or parchment coffee would have to "breathe" or "respire".



Loading of premium Arabica coffee in a Grainpro Cocoon at NCBA facility Toraja, S.Sulawesi, Indonesia

indicated that a 2% increase in MC during 5 months will have a negative impact on the quality of the coffee as reflected by cupping tests. Consequently the coffee will be "degraded" and the loss to the grower or trader will be substantial. According to the final report issued by CafÉ Britt on the results of its trials, for coffee beans in Cocoons, the cupper (in these blind tests)

Scientifically this is not sound: since coffee is a "dead" commodity. The germ of the coffee berry has been killed in the fermentation process after harvesting. Trials done in Costa Rica show that coffee stored under sealed "gas tight" conditions, not only preserves the moisture content, but that no respiring activity whatsoever exists. Tests performed in the laboratories