Bry-Air

dry facts

...from BRY-AIR

APRIL-MAY-JUNE '93 VOL 3 No. 2

THE AIR IS CHANGING

8TH INT'L MEET.

Venue:
the new Bry-Air Plant, Ohio-USA.

The annual Bry-Air Int'l meet was held in April '93 in USA and attended by senior executives from USA, Netherlands, India and Malaysia. **A special welcome was accorded to Malaysia, the newest member in the group,** which is well on its way to making a mark in the S.E. Asian markets.

There was a lot to exchange. The mood was upbeat! Worldover the economy was beginning to look up and the Bry-Air group was ready to meet the challenges of the coming years with new products backed by strong R & D and a wide network of over 100 sales offices located in 35 countries and plants in USA, Europe, India and Malaysia.

The mood was captured aptly by the new corporate brochure which was released at the Meet.

REACHING OUT....

..... TO THE PHARMACEUTICAL INDUSTRY

"Understanding Practical Applications and compliance to good manufacturing procedure (GMP)" was the focus of the National Conference organised in June at Hotel Merlin Subang, Selangor, Malaysia. 250 stalwarts from the Pharma Industry deliberated on the subject.

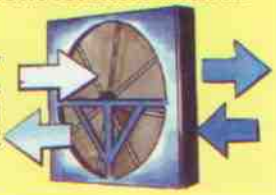
Bry-Air had taken this opportunity to display it's **'Compact** chemical **dehumidifier** which provides **engineered solution to environmental control problems in production, testing, packaging, and storage areas in the pharma industry.** Both the technology and the product was of great interest to attending delegates.

..... TO THE HVAC SPECIALISTS

Bry-Air's ***'Exclu-sieve'*** **Heat Recovery Wheel** was on display at the Bry-Air Booth at ITM '93, the Premier Industrial Machinery Show in Malaysia.

The *Exclu-sieve* HRW is ideal for Hospitals, Animal research rooms, Hotels, Auditoriums, Supermarkets and all such airconditioned spaces where fresh air is necessary. The *exclu-sieve* HRW slashes airconditioning plant size, and allows for more fresh air at lower operating cost.

Designed to disallow cross comtamination, the HRW attracted special attention from the HVAC specialists.



CALCIUM CHLORIDE STORAGE

Calcium chloride powder is used as an additive during manufacture of **'white' cement.** Being extremely hygroscopic, Calcium Chloride absorbs moisture while in storage, thus resulting in lumping, caking, hardening and sometimes even liquefaction of the powder, making it unusable.

Leading Cement Manufacturers have installed Bry-Air dehumidifiers to maintain the required condition of **less then 30% relative humidity in Calcium Chloride storage areas.**

'FOR A SMOOTHER SHAVE'

... 'Saving' Shaving Blades

Manufacture of Shaving Blades involves phosphating after heat treatment of the semi finished blades. (Blades are taken for ***'Dippassivation'*** in Ortho-Phosphoric acid post heat treatment). Blades tend to rust within 2-3 hours if not 'finished' immediately after phosphating. Rejection of blades due to rusting prior to finishing can be eliminated if conditions in the manufacturing area is **maintained at 35% RH and 80°F.**

Blades are prone to **rusting** in storage prior to packing, **if not stored in humidity controlled area at conditions 20±5% RH at 86°F.**

Bry-Air dehumidifiers have been installed by a number of Blade manufacturers to control humidity in their manufacturing and storage areas.

MOISTURE SPOILS FATTY ACID

..... if present during manufacturing

Fatty Acids are used as raw material in detergent and similar industries. The last stage of manufacture of fatty acids involves drying the liquid or thick slurry to powder or flake form. This is a partly solidification and partly drying process. The hot liquid comes to the flaker at about 158°F and is cooled to room temperature, till it solidifies in flake form.

Chilled water at 35-39°F, is used to cool the hot liquid. When the chilled surface of the flaker comes in contact with the ambient room temperature, condensation occurs, depositing water droplets on flaking fatty acid. This totally spoils the fatty acids, and causes a huge loss of money, time, and material as flaking is the last stage of manufacturing.

When Henkel Oleo Chemicals faced the problem of spoilage of manufactured fatty acids due to moisture they installed a Bry-Air Dehumidifier to stop the menace of sweating.

DID YOU KNOW!!

.... Nylon Gains 10% of it's dry weight in Water Vapour

Yes! Plastic has affinity to water vapour. Plastic in it's resin form is highly hygroscopic, and absorbs moisture while in storage and transportation.

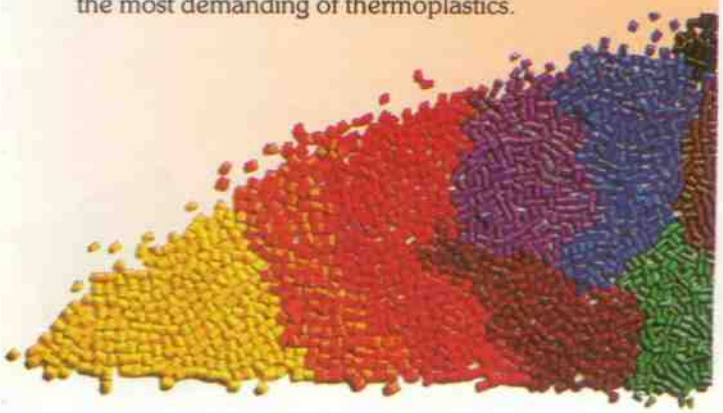
Plastic resins must be **properly dried** prior to processing to **avoid inherent flaws** like -

1. Poor Surface Quality	2. Loss of Physical Properties
a) Splay (splash type defect)	a) Loss of impact strength
b) Silver Streaking	b) Loss of tensile strength
c) Internal bubbles	c) Elongation
d) Craters and other surface defects	d) Poorer melt flow

Advantages/benefits of proper drying

* Better quality of products	* Process requirement
* Least number of rejections	* Zero defect moulding
* Speeds up production	* Minimises possibilities of degradation

Hence, **proper drying of plastic resins is the first critical step towards optimum performance of molded parts.** Bry-Air plastic dryers, working on the principle of desiccant dehumidification, assures thorough drying of even the most demanding of thermoplastics.



WHEN MOISTURE IS TORTURE!!

(In this column, we will share with you regularly our experience on major application areas where usage of dehumidification is both extensive and essential)

Dehumidified Ground Nut Seeds Storage

Ground Nut popularly known as peanut world over is a major food and cash crop.

It originated in Brazil before emigrating to North America via Africa. Today, the peanuts or the ground nuts are cultivated is over the world as major cash crop.

To grow well, ground nuts need a long frost free season and thus find ideal growing conditions in South East Asia and the Indian Subcontinent. Ground nut is an extremely profitable crop, yielding an average 100 to 150 hecto litres per hectre.

Ground nuts are enjoyed 'as peanut butter', salted or roasted nuts, and in candy bars. Their oil is used in salads, vegetable shortening, soaps. Ground nut is, also, an important input in dyes, printing inks and rubbers substitutes. Recognizing the important role of ground nuts in the economic development of farmers, **Orissa State Seed Corporation, India (OSSC),** has been researching to find the best method to store quality ground nut seeds, for long periods so that good, high yielding variety of seeds can be available for sowing.

Problems in Storage

Ground Nut seeds loses its germinating capacity, when stored under ordinary storage conditions, due to high temperature and humidity conditions, (more than 80% RH at 90°F)

The hull of ground nut pod absorbs moisture rapidly resulting in chemical, physiological and enzymatic changes. Faulty storage methods lead to loss of ability of the ground nut seeds to germinate. Also, *uncontrolled humidity levels during storage accelerates fungus growth on seeds.*

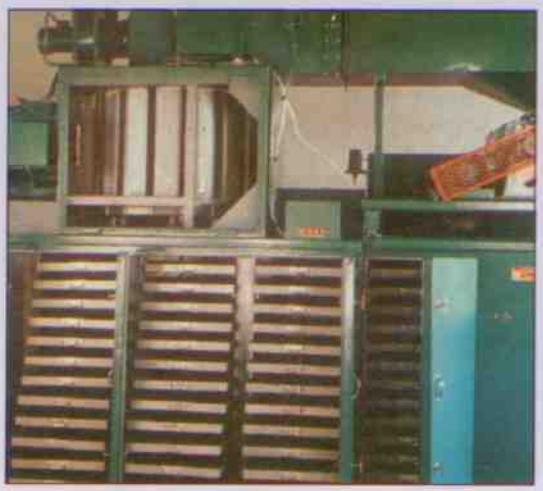
Controlled Storage Systems

Ground Nut seeds has the shortest longevity amongst all seeds especially, oilseeds.

Dehumidification ensures maintainence of required relative humidity (optimum being 60% RH), whereas refrigeration controls the temperature level in the store - (optimum temperature being 50°-60°F). A Bry-Air dehumidifier model **MVB 20 C** has been installed in conjunction with refrigeration system to maintain controlled condition in the ground nut seed store built by the OSSC to store 1000 quintals of ground nut seeds (podes).

Precautions prior to storage

* After harvesting, it is very important to dry the pods without damaging their viability.
* Pods should then be separated from the plant using thresher called strippers.
* Pods should then be processed in a pod cleaner cum grinder to separate it from foreign material.
* Finally, before being preserved in a dehumidified, refrigerated store the seeds must be tested in the lab for disease. **Diseased seeds must never be preserved.**



Seed Drying

Prior to preservation of seeds in a dehumidified store, it is imperative to dry the seeds without damaging it. Ground nut seeds should be ideally dried at about 95° F and with airflow having RH of 55-60%. Elevated temperature destroys the germination potential of seeds.

The best and the simplest way to dry seeds is to maintain the surrounding air at a lower RH level so that the seeds can release moisture to the surrounding air. The Bry-Air seed dryer by maintaining the air at a lower moisture level, can increase the drying potential and the drying rate. It also reverses the variable of weather as a factor, while retaining germination viability.

Bry-Air has numerous seed dryers and dehumidifiers to preserve various type of seeds for future use all over the world. **Detailed information of seed drying and seed storage is available on request.**

RECOVERING ENERGY ...

In this issue we bring you two very different fresh air applications where the Heat Recovery Wheel can be used for recovering waste energy from airconditioned exhausts.

PCB Screening Area

PCB (printed circuit boards) manufacturing plants have a sectioned off area known as the **screening area.** The screening area needs 100% fresh air flow as the screen process of PCBs generate acidic/dust/solvent laden fumes. The recommended conditions to be maintained within this area is 50% RH at 70°F.

Only the Exclu-sieve HRW's advanced desiccant technology removes, airborne pollutants such as carbon dioxide and volatile organic compounds (VOCs). At the same time it recovers sensible (heat) and latent (moisture) energy.

The *Exclu-sieve* HRW is thus ideal for recovering the waste enery from aircon exhausts, thereby cutting down operating costs without reducing the fresh air flow.

...Watch Case Buffing Shop

Watch cases are buffed after plating or pressing, to remove all the blemished occuring during plating. Each case is buffed individually on-line. Every buffing machine in the production line has a localised supply of conditioned air which is exhausted at 74°F and 55% RH leading to a large amount of energy loss with the exhaust.

The *Exclu-sieve* HRW was found ideal for recovering energy from the exhuasted air, especially since the exhaust air contained fine particles (about 20 microns in size) even after going through the cyclone separator. The selective media of the exclusieve HRW adsorbs only the moisture allowing dust particles to flow out thus ensuring that cross contamination does not take place.

Cut down your energy cost!!!
Ask for your free copy of the exclu-sieve HRW manual and computerised cost benefit analysis today. Write in to the address given below for prompt response.

Bry-Air

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