

8th PLASTIVISION INDIA 2011

International Plastics Exhibition & Conference

Exhibition News

Vol.4

23rd Jan. 2011

Shaping the future with plastics

From simple everyday products that make life easier to step-changing technological developments, Borouge is leading the way. We are committed to addressing global challenges responsibly with innovative plastics solutions in infrastructure, automotives and advanced packaging.

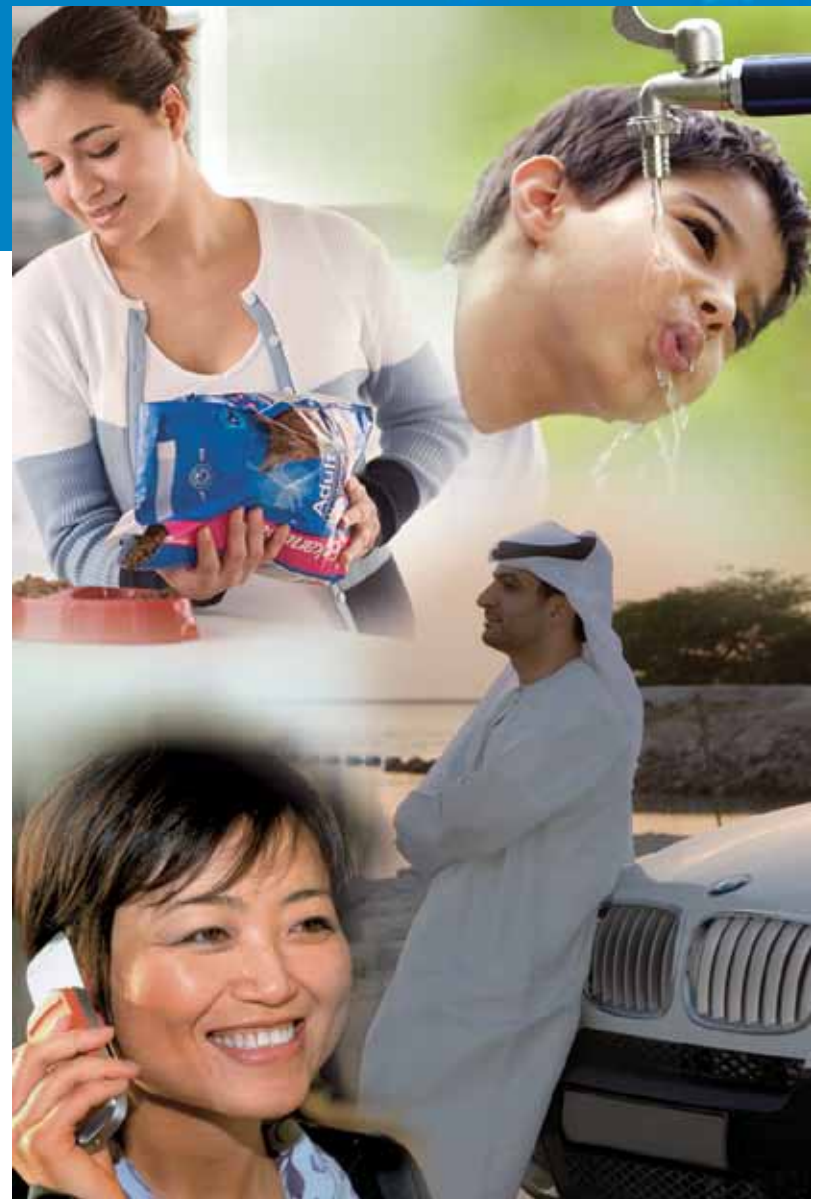
Borouge is increasing its production of innovative plastics with the construction of the world's largest integrated polyolefins complex in Abu Dhabi.

By combining the most advanced technologies with world-class innovation, Borouge is making a difference to everyday life.

Visit us at Plastivision India 2011
Hall 6, Stand C080

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بروج
Borouge

SHAPING the FUTURE with PLASTICS

RAJOO ENGINEERS WITH ITS COLLABORATORS AND PARTNERS SHOWCASE AT PLASTIVISION 2011

For Rajoo, the merger of Wonderpack, technical collaboration with Hosokawa Alpine, Germany and a joint venture with Bausano & Figli, Italy has made 2010 a landmark year.

After achieving stupendous success at K 2010, now Rajoo Engineers along with their collaborators and partners showcase innovative technologies for India at Plastivision 2011, at Mumbai between 20th and 24th January, 2011.

Rajoo's 220 sq m stand B1-1 in Hall 1, at Plastivision 2011 would provide a perfect blend of global technology, Indian manufacturing abilities coupled with the acclaimed 'Rajoo ethos' of quality service.

Sheet Extrusion and Thermoforming Solutions

The combined entity of Rajoo Engineers and Wonderpack continues to leverage respective strengths, benefiting customers by way of the most efficient sheet extrusion and thermoforming solutions, backed by a proven support network.

Blown Film Extrusion Solutions

Experts from Rajoo and Hosokawa Alpine, Germany - both companies being long-established manufacturers of blown film lines - would be present to understand your specific needs and evolve the most cost



effective and optimised blown film solutions, something that the Indian industry has been long waiting for! As for the road ahead... both companies are now developing a new product line of blown film systems. It is planned to combine the time proven machine assemblies and components of both

RAJOO

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manufacturers to form new hybrid systems on a higher quality level and simultaneously at attractive price levels.

Pipe Extrusion Solutions

A PVC pipe extruder from Bausano, Italy - one of the most reputed pipe and profile extrusion machinery manufacturers in the world - would have one of the many machines on display. With this JV (based in Rajkot), Rajoo and Bausano will revolutionise pipe manufacturing technology in



homogenisation at much higher output levels using similar size extruder and motor ratings. Experts from Bausano, Italy would be especially there to understand and address concerns of the users.

Come to our stall to witness the 'Excellence in Extrusion...and More!'

Thick PE Sheet Extrusion Systems

Rajoo with its strategic tie up with DIPIEMME Srl, Italy - a company with over 3 decades of experience, will bring to the Indian market thick PE Sheet extrusion lines to produce drainage dimple sheet, corrushet, bubble film, sheets, plates, and more...

High Performance Additives from ADEKA Japan for PVC, Rubber & Polymer Industry.

ADEKA Corporation is Japan based Additive maker with plants in Japan, Korea, China, Thailand, France and USA.

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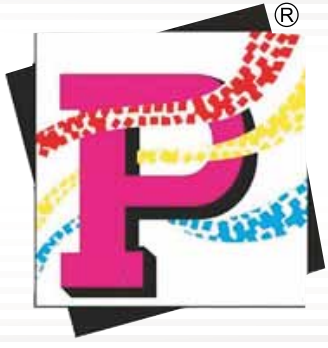
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International Conference on Indian Plastic Industry Vision 2020



Glimpses of Seminar

Key Note Speech of Mr. Anil Jain, M.D. Jain Irrigation at international conference at Plastivision 2011

Dignitaries on the dias, Member of AIPMA visitors exhibitors and delegater who choose to attend this conference. I would like to welcome one and all.

The question today is 'Do we have plastic with Purpose.' We say plastic in life, it has application in Agriculture, Healthcare, Pharmaceutical, Automotive, Gerospace, etc.

WE say plastic is every where. And if it is life, men life needs purpose too.

We are grappling with Important issues

- Raw Material is costlier
- Processing Equipments need to be updated
- Margin for processors are limited & many others. So what is the way out.

The real value addition will come if we focus on customer and his application.

If we make x type of plastics, how does it impact the customer.

We chose to focus on that we pioneered drip irrigation in India. We looked at farmers business model. In other words we looked at customer value creation.

And this path will not only lead to water security (drip irrigation means providing only the required amount of water to the root of crop) however will only lead to Food and Energy Security.

Secondly, as a processor we have many stake holders

- Supplier
- Bank associations
- Society
- Customer

Are we creating value for all the stake holders – we need to ask ourselves.

3. In VS / Europe Raw Material and processors work hard in hard. We need to be thinking on those lines. We need to be thinking of inclusive growth.

4. Now we have heard of Globalization. Globalization actually is efficient Capital + efficient labour to provide maximum return to investors for a decade we were shielded now however we are in a very competitive world. China is our competitor.

Again the solution world be value creation.

5. Plastics & its effect on environment.

We got to be conscious of the harmful effects of plastics. For example for one of our product, a poly tube that is laid in the ground with a life of 5 years – we are looking at ways to make use of bio-degradable plastics. We are investing in R & D for such products.

6. Lack of Scale.

In India we like to enjoy the benefits of

being small. The duty benefits that come from being small are – looked at – however what we don't realize is that we can't fight the world without scale. We need to scale up.

7. I don't want to sound to be 'preaching' however – another aspect that we need to focus is on our code of conduct. Is our conduct benefiting all the stake – holders in a sustainable way.

8. Technological innovation.

What we really do in India is create a eco-environment that fosters innovation & that too using one least amount of resources & this well for us in the long run. Technology creates value.

9. Finally, we need to have a long term focus with commitment.

Our work should be such that we create

- Value for all
- Conduct well
- Scale up
- Bring in technology.

This in true sense is Excellence.

Finally, on a personal note I would like to think that if work is workshop than our factories are our temples & we ought to regard our work place with great amount of respect – keeping it clean, hygienic – so on & so forth.

So that bring me to where I begin.

Do we make plastics with purpose & that too with pride & if the answer is yes, we are sure to

'Leave this world better than we found it.'

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Congratulations

LIST OF AWARD WINNING EXHIBITORS - INTERNATIONAL

SR. NO.	COUNTRY NO.	NAME OF EXHIBITOR	HALL NO.	STALL
1	TAIWAN	CHUMPOWER MACHINERY CORP.	6	C020
2	KOREA	DEAHAN ELECTRIC CO. LTD.	6	C11-.4
3	CHINA	JIANGSU VICTOR MACHINERY CO. LTD.	6	C-90
4	EUROPE & ASIA PAVILION	SUKANO SDN BHD.	6	C078

The AWARDS shall be presented on Sunday 23rd January 2011

LIST OF AWARD WINNING EXHIBITORS - NATIONAL

SR. NO.	NAME OF EXHIBITOR	HALL NO.	STALL NO.
1	MAHARASHTRA MAHA POLYPLAST	1	F-6
2	DEVU TOOLS PVT. LTD.	1	E-2-3
3	YUDO HOT RUNNER INDIA PVT. LTD.	1	A-2-2
4	HIDEN PACKAGING MACHINES P. LTD.	1	A-2-2N
5	KABRA EXTRUSIONTECHNIK LTD.	1	D-1-1
6	RAMAN POLYMERS	2	A-2-1A
7	SHUBHAM ENGINEERING WORKS	2	A-4-5
8	SHANTI PLASTIC INDUSTRIES	2	A-2-23
9	BAHUBALI ELECTRONICS PVT. LTD.	2	A-2-12
10	GEM EQUIPMENTS LTD.	2	A-3-12
11	SVP PACKAGING INDUSTRY PVT.LTD.	5	J-11
12	JYOTI PLASTIC WORKS PVT. LTD.	5	H-H1-1B
13	TECHNOPET MACHINERIES	6	A-13-1
14	IMMTEK ENGINEERS	6	C-13-5
15	ARZO PLASTICS PVT. LTD.	7	H-6
16	QUALICHEM SPECIALITIES PVT. LTD.	7	B-1-5

THE AWARDS SHALL BE PRESENTED ON SUNDAY 23RD January, 2011

PULL YOUR PROFITS - CUT YOUR COSTS - SOCKET YOUR FUTURE.

The Italian Plastic Pipe Downstream Machinery Manufacturer **SICA S.p.A.**, and the Indian company **SATELLITE PLASTIC INDUSTRIES** have started a joint venture at Mumbai in the year 2010. **SICA** is a family run company specialized in downstream machinery and service for the plastic pipe extrusion industry since 1962. **SATELLITE**, also a family run company has experience in making and selling plastic machinery since 1984.

The new company called Sica Plastic Machinery Pvt. Ltd. (**SPM**) is the best of both companies to produce Indian made machines with international quality at lower prices than European Machines. These machines made in India with Indian components, based on European know how are adapted for the Indian market and many other countries which do not need CE approved equipment.

The program of machines covers a wide range of Haul Offs and Saws/Cutting Machines. The range of haul-off's is from 160 mm to 1200 mm diameter depending on size from 2 belt to 8 belt executions.

The saws are available in the same range of size in 3 different executions (options).

1. They can be equipped with a rotary saw blade and chamfering tool or with a knife or with both as a 2 arm execution. The rotary saw blade is mainly used to cut PVC pipe together with Chamfering,
2. The knife cutting gets more and more popular in PE pipe extrusion.
3. Using both together gives the advantage of avoiding chips and swarf inside the pipe. The wall of the pipe is cut mainly by the rotary saw, only the last 2mm is cut by knife. With this process thick-wall pipes can be cut.

You will find also Pipe Magazines and Off-Line Belling Machines in our existing manufacturing program.

SICA and **SATELLITE** have already their presence in the Indian market with a lot of equipment working successfully at leading PVC and PE pipe producers.

Though the new company **SPM** is in operation only since one year, 15 units are already sold to India, Africa, Near East, Australia, South America, etc to name few.

As next step an Inline Belling Machine based on state-of-the-art design will be available by August 2011.

50 years of **SICA** experience in manufacturing and assembly of machines and 25 years of **SATELLITE** experience in providing

not only machines but also after sales service, maintenance and spare parts will guarantee to future customers of **SPM** a maximum of customer relation ship, quality and cost efficiency.

VISIT US AT HALL-1 STALL NO: A1-B1

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Ms. Revati Mahadik



Ms. Archana Verma



Mrs. Amita Raval



Ms. Mugdha Samarth



Mrs. Laxmi Solanki



Mr. Lalit Vishwakarama



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Mr. Praful Pimple



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Mr. R. P. Jagtap



Mr. Baleji Pinjare



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Mr. Vinod Jadhav



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Mr. Zoyab



Mr. Mahendra Khinvesra

AVAILABLE

LETTER OF

CREDIT FACILITY FOR IMPORTER ONLY

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PACKAGING COMPANIES TO ALLURE RETAILERS WITH INNOVATIVE PACKAGING SOLUTIONS

The organised retail industry is growing phenomenally. The retail industry will be able to maximise sales when the products on display are eye-catching. Therefore packaging becomes a very important aspect of selling. The role of packaging is multifarious in the organised retail industry: it maintains the shelf life of the product; it makes the product easy to display and gives it an attractive look. A major requirement is that the package should use shelf-space efficiently – in organised retail, sales per square foot of space used is a very important factor.

A consumer will always want a product that is durable and convenient to carry. Packaging contributes significantly to both these aspects. Earlier, mostly metal and glass packaging was used. Over the years that lost its charm because of its weight and inconvenience. Flexible packaging proved to be a much more useful substitute. The world is moving towards disposable items and the packaging industry is moving along with it. Constant innovation is required to keep up with evolving customer tastes. Major brands have now gone in for a change of packaging because of modern trade. There is now a more frequent change of packaging, including graphics, than there was earlier. The design, shape and colour of the packaging are all important factors that entice a customer to take a second look at a product, luring her to buy on impulse.

For a company like ours, there are a number of things that have to be kept in mind when designing packaging: (a) The shelf life expectation of the customer; (b) the customer's convenience in using the pack; (c) the impact of the material on the product that is inside - this is particularly so for the pharmaceutical and food industry; (d) The time taken in transit. This depends on the distance that the product has to travel. Primary and secondary packaging must withstand logistic loads. (e) Finally, the shelf-life appeal. The product must be attractive and eye-catching from a distance.

Kris Flexipacks is an end-to-end packaging solutions provider, and deals with both primary and secondary packaging. The primary packaging is what the customer sees. It is what influences her buying decisions. To protect the primary packaging during transit, effective secondary packaging is used. The various types of secondary packaging include

inner cartons, shrink packs and corrugated boxes. Secondary packaging is back-end packaging and is used for logistical convenience.

Creating affordable and attractive packaging with a suitable shelf life is a challenge. Kris Flexipacks scores high on all these aspects. We work in partnership with the manufacturer. We first examine their current packaging. After that, we drill down to see what can be cost effective without compromising on functionality or customer convenience. Our experts offer suggestions for materials, label, thicknesses and different types of secondary packaging that are good and affordable. Much thought goes into putting up the right size and type of plant to be able to create a perfect package for the product in question. We are vertically integrated in total, and that makes our packaging very cost effective.

The way we helped recreate the Calcium Sandoz package for the new generation is a case in point. Novartis India manufactures Calcium Sandoz, a calcium tablet for young children. The packaging used earlier was a white blow-moulded bottle in the shape of a puppy dog, with little eyes, ears, a nose and tongue pasted on it. This type of packaging is called demographic packaging, where it is meant to appeal to a specific section of the population, in this case children. This worked fine for the previous generation of kids. Today, technology has moved and needs have changed. The company still wanted a demographic package that would appeal to today's young generation.

We were able to offer them that new look. We created a full-body shrink sleeve that maintained all aspects of the previous pack, and had greater appeal, better colour and a look that made the character complete. The entire concept and design came from our team. Our shrink pack gives the bottle a unique and contemporary look, and hides all the visible blemishes of the moulded bottle like joints, inclusions and minor irregularities. Printing is carried out on the reverse side, so there is no damage from the environment. The shrink sleeve enhances the thickness of the bottle and gives an easy grip. It helps the company increase production efficiency, because the concept of a shrink sleeve does away with labelling and pasting of other accessories. The bottle always has a fresh look, because dust can be wiped away easily.

Brand loyalty has been maintained because the shape of the bottle has not changed at all.

This new pack has been well accepted by the market, and has enhanced sales of the product.

Another example is how we went beyond packaging with Nimbooz. The reason why this product is a hit is that India is a tropical country with almost 10 months of summer in most parts. People need water and energy so that they do not get dehydrated. Traditionally, lemon juice or nimboo pani is the most well accepted drink. The biggest challenge was to convert a fresh drink to a packed drink. Pepsi took up this challenge.

They created a slick, handy nimboo pani bottle. To enhance the look of the nimboo pani inside, it was critical for the shrink sleeve manufacturer (ourselves) and the product manufacturer (PepsiCo) to do something innovative.

Pepsi zeroed in on a beautiful design with real lemon colours. They wanted a shrink sleeve that would rest on the shoulder of the bottle. We were hand in hand with them to aid them in using their technology to create it. A shrink sleeve on the shoulder naturally undergoes a certain amount of distortion. We calculated the exact extent of distortion and corrected for it, so that after distortion, the printing would look original. The sleeve was designed with the main text on the lower area, and the picture on the top. The picture is such that it does not draw attention to the fruit; the customer automatically focuses on the brand. The gold and silver colours give a very fresh look. The font is stylish and matches the colour of the cap. We used the best quality film that would shrink equally in all directions and do justice to the colour and graphics.

On the other hand, a competing product failed in the market because the overall packaging including the shrink sleeve was not appealing. This product entered the market at the same time as Nimbooz, but could not survive. They paid the price for not having the right packaging and the right labelling, even though the product was comparable to Nimbooz.

In the retail industry, seeing is believing. The shape, label, material and colour of the package are very important and that's where our Company is involved to give a best innovation product every time.

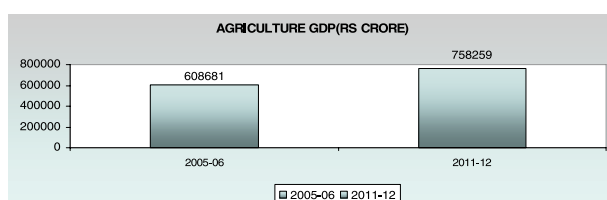
“New Innovations Needed in Polyethylene Greenhouses in India”

– Ms Poorvi C. Desai, Sr. Manager, Business Development – Polymers, Reliance Industries Limited

Importance of Agriculture in Indian Economy in India & Percentage of Population Dependent on Agriculture

Is an agriculture-based economy, where 43% of its people remain employed in agricultural and allied activities. Agriculture along with other related fields like forestry and logging provides employment to 60% of India's population. Agriculture accounts for almost 19% of the Gross Domestic Product and 9% of the total exports. India's agro-climatic conditions and rich natural resource base sets prelude for doing very good on agriculture front. Today, India has become the world's largest producer across a range of commodities, like coconut, mango, banana, milk & dairy products, cashew nuts, pulses, ginger, turmeric and black pepper. It is also the second largest producer of rice, wheat, sugar, cotton, fruits and vegetables.

Agriculture is Indian economy's mainstay & it comprises 18.5% of the gross domestic product (GDP). In the last two years agriculture growth rate was 4% against growth rate of 2.5% during the 10th Five Year Plan.

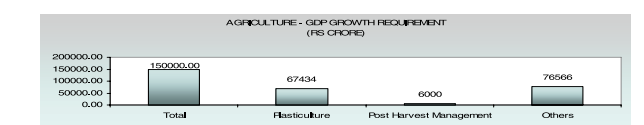
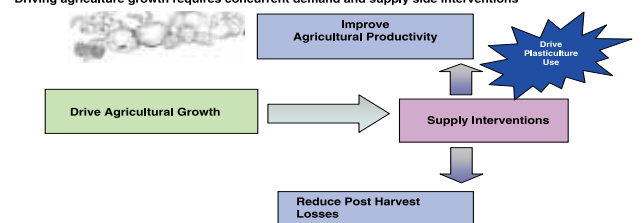


(Source : Reserve Bank of India, Planning Commission Targets)



4.1% growth implies a Rs 1,50,000 crore increase in Agriculture GDP

Driving agriculture growth requires concurrent demand and supply side interventions



(Source : Reserve Bank of India, Planning Commission Targets)



New Products in Plasticulture

- **HDPE Eyeleted Tarpaulins as sacks for fruits & vegetables**
- **LDPE Reverse Printed Extrusion Coating on 2 sides of HDPE Woven Sacks**

Plastics in Agribusiness

Plastic pipes open up flow of water into the agricultural fields contributing to the growth of fruits & vegetables. Barren land without water would lead to a failure of crops. Plastic products related to agriculture include LLDPE Mulch film, PVC Pipes, HDPE Pipes, LLDPE Drip Irrigation Pipes, HDPE Nets, PE Greenhouse etc would lead to higher productivity(yield).

Plastics which was initially perceived as films have grown from films to agrishade nets, from tapes to agrishade net and from monofilament to monofilament agrishade nets.

A growing phenomenon, this plastic product has been an indirect contributor to the food of a common man. Food, meaning fruits and vegetables, for survival of each human being. Plastics in Agribusiness have been a contributor for a higher productivity(yield) of fruits and vegetables.

India being No.2 producer of fruits (50 million tonnes) & No.3 producer of vegetables (90 million tonnes) in the world, high potential exists for plastic products related to agriculture

Polyethylene Greenhouse

Polyethylene Greenhouse is a plastic product made up of a polyethylene film of upto 10 mts wide & upto 200 microns. Polyethylene monolayer, three layer & five layer films are used. Three layer polyethylene film extruders of 1200 kg/hr upto 10 metre wide are available in the country. PE Greenhouses are available in widths of 4.5 mts, 5.5 mts, 7 mts & 9 mts (mainly used upto 200 microns).

A greenhouse is a framed or inflated structure covered with a transparent or translucent material in which crops could be grown under the conditions of at least partially controlled environment and which is large enough to permit a person to work within it to carry out cultural operations.

Specific Benefits of Polyhouses

1. Crop cultivation under inclement climatic conditions
2. Control of growing conditions for plants to obtain desired results
3. Certain crops cultivated year round to meet the market demands
4. High value and high quality, even organic, crops grown for export markets
5. Small land holdings increased several fold
6. Successful nurseries from seeds or by vegetative propagation prepared as and when necessary
7. More Self-employment opportunities for educated youth on farm
8. Manipulation of microclimate and insect proof feature of the greenhouse for plant breeding and, thus, the evolution of new varieties and production of seeds

9. Protection from birds and animals
10. Facility in controlling pests and diseases
11. Possibility of widening the variety of plants for general gardening purposes
12. Possibility of reducing gardening costs because the owner or gardener grows his own plants

(Source : <http://www.homegardenguides.com/wiki/Greenhouse>)

Benefits of Plastic Greenhouses

1. Construction cost per square foot is much lower than a glass greenhouse
2. Plastic greenhouses can be heated as satisfactorily as glass greenhouses
3. Plants grown under plastic have the same quality as those grown under glass
4. Polyethylene tend to scatter light. Scatter or diffused light tends to benefit plants by reducing excess light on upper leaves and increasing reflected light to lower leaves
5. Plastic is adapted to various greenhouse designs, generally resistant to breakage, light weight and relatively east to apply

(Source : Oklahoma Cooperative Extension Service, http://nmwater.nmsu.edu/pubs/_circulars/circ556.html)

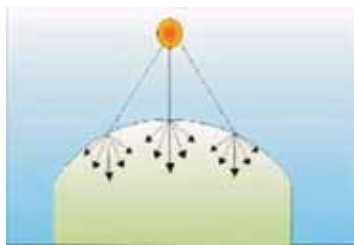
Types of PE Greenhouses

Classification based on material

1. Frames are made of wood, galvanized steel or aluminium
 2. Covering can be :
 - Glass
 - Fibreglass
 - Double wall plastic
 - Film plastic
- (Source : NCPAH)

- High cost structure with iron/Aluminium frame need to be replaced by bamboo and timber
- Low density polyethylene uv stabilised film of 200 micron thickness

Green Houses & Large Tunnels



Crop	Yield (tonne/ha)		% increase	Type of Green House
	Greenhouse	Open field		
Onion	15.6	11.10	41%	Naturally ventilated greenhouse
Cauliflower	15.2	8.00	90%	Naturally ventilated greenhouse
Raddish	55.3	20.00	177%	Naturally ventilated greenhouse
Tomato	98,9	80,00	24%	Multispan greenhouse



Benefits

- Cultivation possible in hostile climates
- Yield increase (more than 100%)
- Better quality of produce
- Reduced infestation of plant diseases and pests
- Rain-shelter in heavy precipitation areas

Status in India

- 2000 Ha under Green House cultivation.
- Potential: 400, 000 Ha area can be brought under Green House.

(Source : PCBG)

Plastics opens up into multiple enduses leading to closed structures such as polyethylene greenhouses. These greenhouses in the greenfields have made plastics the most sought product for increasing the productivity(yield) of fruits & vegetables.

The machinery used to manufacture Three Layer & Five Layer Polyethylene Greenhouse are three layer & five layer blown film extruders

Manufacturing Process

Blown film extrusion is a technology that is the most common method to make plastic films. The process involves extruding a tube of molten polymer through a die and inflating to several times its initial diameter to form a thin film bubble. This bubble is then collapsed and used as a lay-flat film.

The Film Blowing Process –

1. The polymer material starts in a pellet form, which are successively compacted and melted to form a continuous viscous liquid
2. This molten plastic is then forced or extruded, through an annular die. Air is injected through a hole in the centre of the die and the pressure causes the extruded melt to expand into a bubble. The air entering the bubble replaces air leaving it, so that even and constant pressure is maintained to ensure uniform thickness of the film
3. The bubble is pulled continually upwards from the die and a cooling ring blows air onto the film. The film can also be cooled from the inside using internal bubble cooling. This reduces the temperature inside the bubble, while maintaining the bubble diameter
4. After solidification at the frost line, the film moves into a set of nip rollers which collapse the bubble and flatten it into two flat film layers. The puller rolls pull the film onto windup rollers. The film passes through idler rolls during this process to ensure that there is uniform tension in the film. Between the nip rollers and the windup rollers, the film may pass through a treatment centre. During this stage, the film may be slit to form one or two films or surface treated.

Three layer blown film extrusion (also known as blow film co-extrusion) is a process of simultaneously extruding in molten stage three polymers which adhere to each other through a common die to form an integral film of unique strength and barrier properties. This process saves time because it extrudes two or more layers at the same time. Coextrusion is the least expensive means of producing layered films.

L&T PLASTICS HANDS OVER ITS MAIDEN INDIGENOUS ALL-ELECTRIC INJECTION MOLDING MACHINE

L&T stall positioned at Hall 1 has been witnessing a record customer attraction in the Plastivision 2011 show. Today was a special day for L&T Plastics Machinery, they have handed over their first Indigenously designed and built all-electric injection moulding machine - e tech 105. The machine was handed over to Mr Ashok Goyal, Chairman of M/s Tenty group of companies, Kolkata by Mr Raghavan, Director, L&T Plastics Machinery Limited.



The event was graced by the entire management team of Tenty and the management of L&T Plastics Machinery Limited headed by Mr P.Kailas, Chief Executive. On the occasion Mr Goyal and team of Tenty group, expressed their happiness of their long association with L&T Plastics Machinery and also complimented L&T's team for coming out with machines of latest technology. Tenty Group are pioneers in the field of Injection molded plastics.

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