



agricel[®]
feeding the future

COMPANY PRESENTATION

April 2012





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- 97.5% of the water on Earth is salty. One percent of that is brackish groundwater.
- 2.5% of the Earth's water is fresh. About two thirds of that is frozen. The rest is liquid surface water and groundwater. That is approximately 9.25 trillion gallons.
- That leaves less than one percent of the Earth's water for agriculture to grow our food, cool our power plants, and supply drinking and bathing water for households. Agriculture uses 70% of this water.
- The Earth's population is growing at unprecedented level every year. Water demand will keep going up unless we change how we use it.
- In 15 years, 1.8 billion people will live in regions of severe water scarcity.
- 46% of people on Earth do not have water piped to their homes.
- Americans use about 100 gallons per capita per day. The UAE uses over 200 gallons per capita per day. The poorest countries subsist on less than 5 gallons per capita per day.

OUR THIRSTY PLANET

Food, Energy & Water (cont'd)



- Triple digit food price inflation rises, especially between 2006 - 2008, has made food security of paramount importance to challenged nations and regions of the world.
- To feed a growing population, experts say that 'water-use' efficiency will need to double in the next 20 years. Weighing the export value of a crop against its impact on the local water supply, and charging more to reflect the water's value, could become part of the equation.
- The GCC imports \$25.8 billion worth of food annually. Only 1.4% of the GCC land mass is arable land.
- Over 75% of the food requirement needs to be imported in the GCC, making food security a major regional issue.

(Source: National Geographic April 2010, Special Issue: Water: Our Thirsty World, FAO and agricel analysis)



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EXECUTIVE SUMMARY



- ✓ agricel is a UAE based Company that has exclusive master distribution rights with Mebiol Inc.; a Japanese R&D focused company specialised in film farming
- ✓ agricel is focused to address the three most pressing issues in our target markets which are
 - Water conservation
 - Consistent, high quality, nutritious food production
 - Double digit food productivity increases
- ✓ The agricel franchisee can expect returns, with a base case scenario, of a minimum of 79% IRR
- ✓ As the commercial partner, agricel will be launching specialty branded food. Branding rights will be offered to all farmers using this technology
 - Country franchise agreements are being finalized to give our local partner exclusive rights in their territories
 - Local partners will own and promote the ‘agricel’ brand



MARKET POTENTIAL

MARKET POTENTIAL

Target Market



- ✓ agricel plans to target initially 3 key markets: Middle East, Africa, and the Indian subcontinent (we will refer to these combined markets as “the region”). Between them, this region represents the fastest growing population, in addition to macro growth rates, in the world
- ✓ Governments of the region are concerned about food security, water conservation and the environmental impact of these issues. Selected sovereign agencies are looking into subsidizing key elements of what agricel offers
- ✓ With a total population of approximately 2.4 billion people (UN estimates) and a combined GDP of just over \$4.0 trillion (2009 estimates) this region is the next big global story
- ✓ Given the growing population, improving average life span and increased per capita GDP, the basic demand for additional food is abundantly clear
- ✓ Add to this, the ever-increasing cost of irrigation water and arable land, we believe agricel, with its experience and proprietary technologies, has an unprecedented opportunity to service and provide a viable solution to one of the main problems facing this region today: sustaining its’ population
- ✓ Agricel are in the process of establishing local and regional franchisee business partners

TARGET MARKET

Countries - Phase I



TARGET MARKET

S.No	Countries	Population (Last census)	Population Growth Rate	Dependency on Food
1	UAE	5,671,112	3.28%	High dependency on imports
2	Qatar	1,692,262	9.60%	High dependency on imports
3	Saudi Arabia	25,731,776	1.54%	High dependency on imports
4	Bahrain	1,234,000	2.00%	High dependency on imports
5	Kuwait	3,500,000	2.00%	High dependency on imports
6	India	1,210,193,422	1.41%	16.6% of GDP, 52% work force
7	Pakistan	170,000,000	2.10%	21% of GDP, 41% work force
8	Srilanka	20,238,000	0.93%	13.38% of GDP 30.5% workforce

Source: CIA World Fact Book



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OUR
FIRST TECHNOLOGY

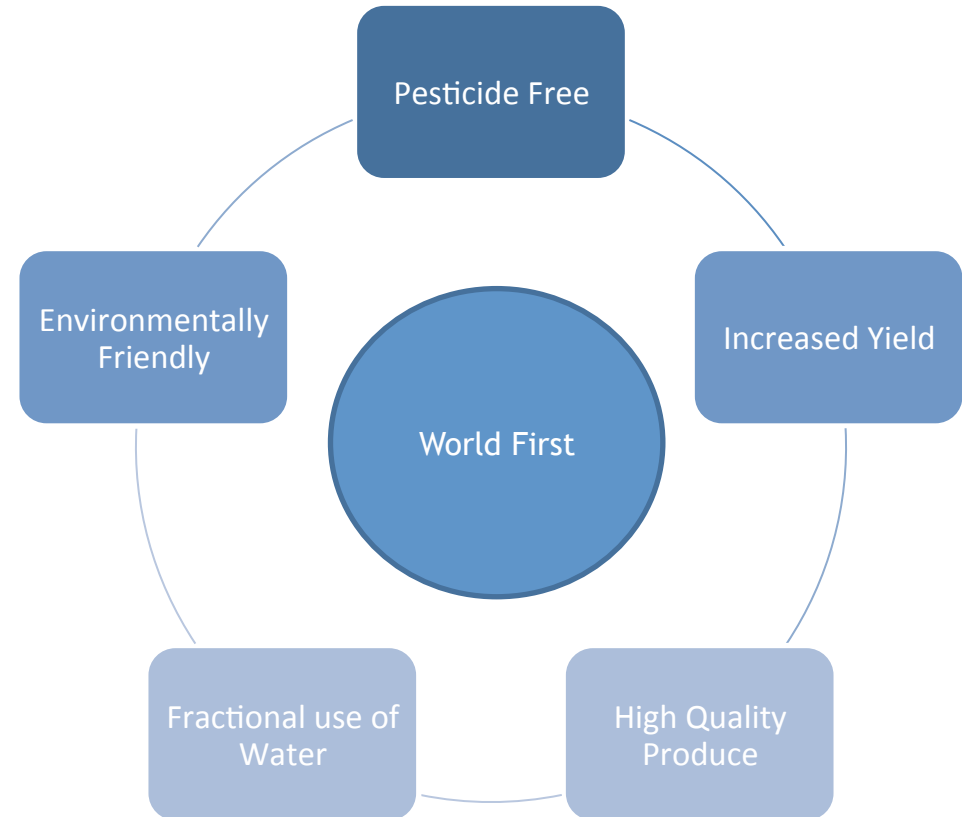
FILM FARMING

A FASTER, BETTER & CHEAPER WAY TO PRODUCE FOOD

Film Farming: A Ground Breaking Technology



- ✓ Film farming is an innovative and rapidly expanding technology that was launched by Mebiol Inc., in 2008
- ✓ Film farming is proven to minimize water and fertilizer usage in agriculture while producing plants of the highest consistent quality
- ✓ Film farming intends to solve pre-existing problems of water shortage, soil deterioration and plant diseases. It's ideal for contaminated land
- ✓ Film farming combines both, the already well developed Hydrogel technology, and the relatively new, polymeric membrane technology.

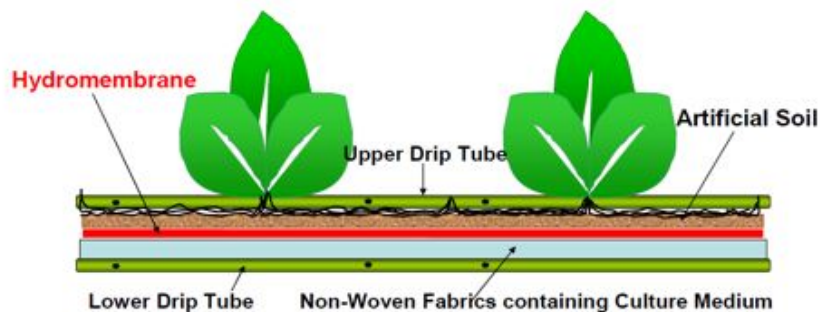


PLANTS GROW WHEN THEY NEED TO

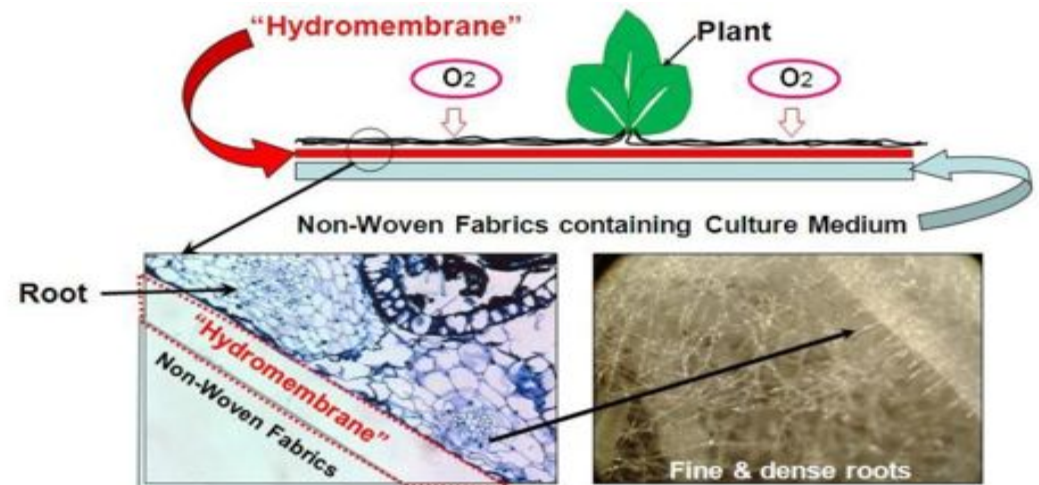
Film Farming: How Does it Work?



- ✓ Seedlings are planted on top of the hydro membrane with drip tubes running both above and below the membrane to allow plants to absorb nutrients and water while bringing the roots as close as possible to these resources.
- ✓ The hydro membrane is physically durable, low in cost and reusable. It has the added advantage of allowing the absorption of nutrients and water while blocking the passage of pathogens, and preventing plant diseases.
- ✓ In comparison with existing hydroponics methods, Film farming not only produces better quality plants but also increases the productivity of the crop. Hydroponic methods only manage to provide one of the above advantages at a time.



Source: Mebiol Inc





- ✓ Food cultivated through the Film farming system not only grows faster, cheaper and pesticide free but also tastes better than the food grown through conventional methods. The nutritional content is also found to be higher
- ✓ An example is tomatoes grown through the Film farming system. The nutritional values, in comparison with tomatoes grown through soil culture & hydroponic systems is demonstrated in the table:

Comparison of Nutrients Content of Tomatoes			
Nutrients	Method		
	Imec	Hydroponics	Soil Culture
Sugar (g/100g)	7.6 - 12.0	4.0	4.0
Glutamic Acid (mg/100g)	408 - 478	157	172
GABA (mg/100g)	124 - 157	28	28
Lycopene (mg/100g)	10.8 - 13.0	3.0	4.3

Source: Mebiol Inc

Figures are subject to the type of crop, environment, cultural method, weather, and amount of sunlight available



The vegetables & fruits we consume today are nutritionally different to the ones that were available 50 years ago. Mainly due to the increased usage of fertilizers & pesticides. The key nutritional advantage of film farming is the production of important nutrients in the food grown. Select amongst these are GABA and Lycopene:

GABA

- ✿ Gamma Amino Butyric Acid, is the chief inhibitory neurotransmitter in the mammalian central nervous system. It is directly responsible for:
 - ✓ Preventing over-firing of the nerve cells
 - ✓ Blocking anxiety & stress related impulses from reaching the motor centers of the brain
 - ✓ Calming people, much like tranquilizers, but without the possibility of addiction
 - ✓ The proper development of physique, and the increased level of Human Growth Hormones, which can cause a reduction in the body excess fat & prevents aging
 - ✓ GABA also enhances the improvement rate of lean muscle mass

Lycopene

- ✿ Lycopene is a powerful antioxidant that can help protect against degenerative diseases. It does this by neutralizing free radicals in the body. High levels of lycopene, in the blood and fatty tissues, correlate with:
 - ✓ Reduced risk of cancer (45% reduced risk of prostate cancer for men, 5 times lower rate of cervical cancer for women)
 - ✓ 50% reduced risk of heart disease
 - ✓ Increase of the ability of their skin to withstand UV radiation damage from sun exposure
 - ✓ A protective effect against stomach, colon, lung and skin cancers



- 50% of the world's population lives in cities
- 800 million people are involved in urban agriculture & contribute to feeding urban residents
- Low income urban dwellers spend between 40% & 60% of their income on food each year
- By 2015, about 26 cities in the world are expected to have population of 10 million or more. To feed a city of this size, at least 6,000 tons (6,600 tons) of food must be imported each day
- 250 million hungry people in the world live in cities



- ◆ With the tremendous influx of world population to urban areas, the need for fresh and safe food has increased. With city farming, developed & developing nations will benefit from:
 - Establishment of local systems to grow & process food & transfer it from farmer to consumer
 - Reduce food related transportation to a minimum while providing fresh food for large communities in almost any climate
 - Increase in entrepreneurial activities & the creation of job opportunities, as well as in food costs reduction & products of better quality
 - Promotion of individual's health & well-being
- ◆ The usage of film farming within the Urban farming will have tremendous impact on the environment by saving water, reducing the usage of fertilizers & pesticides, as well as the promotion of beneficial nutrients within the produce.



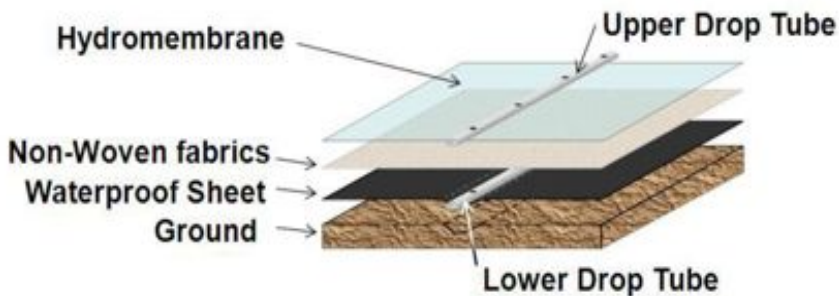
- ◆ There is a new wave and the generation is becoming aware of the healthy & green living, therefore we see a growing market trends in the specialty food, and the reason can be:
 - Transforming to healthy way of living
 - Saving the planet by consuming products that require less or no pesticides or fertilizers, that require less water to grow especially with the existence of the planet water scarcity problems.
 - Shifting to full vegetarian diets
 - Demand of the high quality rich in nutrients produce in spite of its higher price
 - Promotion of individual's health & well-being
- ◆ The usage of film farming provides farmers the tool to satisfy the increasing demand on these specialty foods, at a higher price. This produce is rich in nutrients, grown with less water, fertilizers & pesticides.

OPTIMAL FOOD PRODUCTION

Film Farming: Advantages for the Farmer



- ✓ Perfect protection against replant failure, residual pesticide contamination and salt hindrance
- ✓ The supplied fertilizer is used by crops without loss, leading to an environmentally-friendly and cost-efficient farming solution
- ✓ Perfect balance between productivity and quality



Comparison of Planting Density (Cherry Tomatoes)	
Method	Planting Density (Number/1000 m ²)
Film farming	4000 - 8000
Hydroponics	2000 - 2500
Drip Culture	2000
Bag Culture	2000

Source: Mebiol Inc

- ✓ The waterproof sheet blocks the migration of the contaminants in soil, to the crop
- ✓ The runoff of the nutrient medium supplied from the drip tubes is blocked by the water proof sheet
- ✓ The volumes of nutrient medium supplied by upper and lower drip tubes control the productivity and quality, respectively
- ✓ For video demonstration of the actual product click here (http://www.youtube.com/watch?v=XWUt6hT_8Lo&feature=relmfu)



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FILM FARM SET UP

STEP BY STEP TO A FILM FARM

Time Frame To Build A Farm



60 days

Accumulated time:
60 days

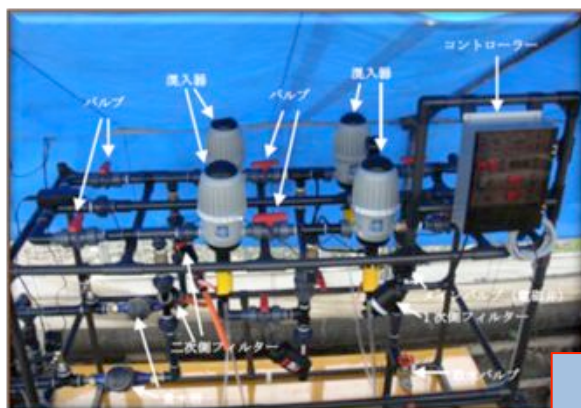
Building the green house



45 days

Accumulated time:
60 days

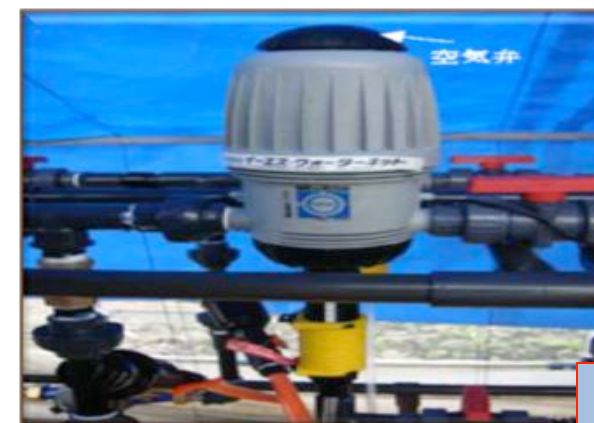
Sowing a plant of tomato to get tomato seedlings



10 days

Accumulated time:
70 days

Installing the watering device of IMEC system



10 days

Accumulated time:
70 days

Installing the mixing device

NB: activities can happen in parallel for some steps

STEP BY STEP TO A FILM FARM

Time Frame To Build A Farm



10 days

Accumulated time:
70 days

Installing the mixture adjuster



3 days

Accumulated time:
73 days

Setting the bed frame with polyvinyl chloride pipes inside a green house



3 days

Accumulated time:
73 days

Laying the waterproof sheet



3 days

Accumulated time:
73 days

Setting the drip tube of lower side

STEP BY STEP TO A FILM FARM

Time Frame To Build A Farm



3 days

Accumulated time:
73 days

Setting the non-woven fabric



3 days

Accumulated time:
73 days

IMEC film



3 days

Accumulated time:
73 days

Laying the IMEC film



3 days

Accumulated time:
73 days

Putting peat moss

STEP BY STEP TO A FILM FARM

Time Frame To Build A Farm



3 days

Accumulated time:
73 days

Setting the IMEC planting panel



3 days

Accumulated time:
73 days

Setting the drip tube of upper side



3 days

Accumulated time:
73 days

Covering the multi film



3 days

Accumulated time:
76 days

Getting ready for the planting

STEP BY STEP TO A FILM FARM

Time Frame To Build A Farm



3 days

Accumulated time:
76 days

Planting the seedlings



110 days

Accumulated time:
186 days

Grown crops, produce ready to be harvested (period of growth depends on the type of crops – For Cherry Tomatoes, the number of days will be 180 days approx.)



Juicy produce, high in nutrients especially in Lycopene & GABA!

Project Summary:
2.5 months farm installation
6 months production cycle

Next full cycle will only be
The Production Cycle + 6 days



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OUR
SECOND TECHNOLOGY

SKYGEL



A UNIQUE WATER SUPPLIER

SkyGel: Technological Breakthrough

- ✓ SkyGel is the pioneer technology that agricel will market in this region through our joint franchise partners in each of our defined markets
- ✓ SkyGel is an innovative horticultural hydrogel for plant growth
- ✓ SkyGel has enormous capability as a water storing agent thereby drastically reducing the amount of water required
- ✓ SkyGel ensures water availability even in dry conditions. This is particularly important in the present age and time where global warming has led to severe weather conditions. This is critically significant for these regions.

SIGNIFICANT RETAIL & WHOLESALE OPPORTUNITY

What the Hydrophilic Booster is?



✓ What Is SkyGel?

It is a polymer that acts as a sponge and holds water (up to 1,000 times its weight) in the form in which it is easily available to plants. Unlike commercial products based on SAP (super absorbent polymer), which inhibit plant growth and have neurological toxicities (e.g., hydrogels based on acrylamide monomers), SkyGel enhances the growth and germination of plants and is 100% eco-friendly.



Source: Mebiol Inc

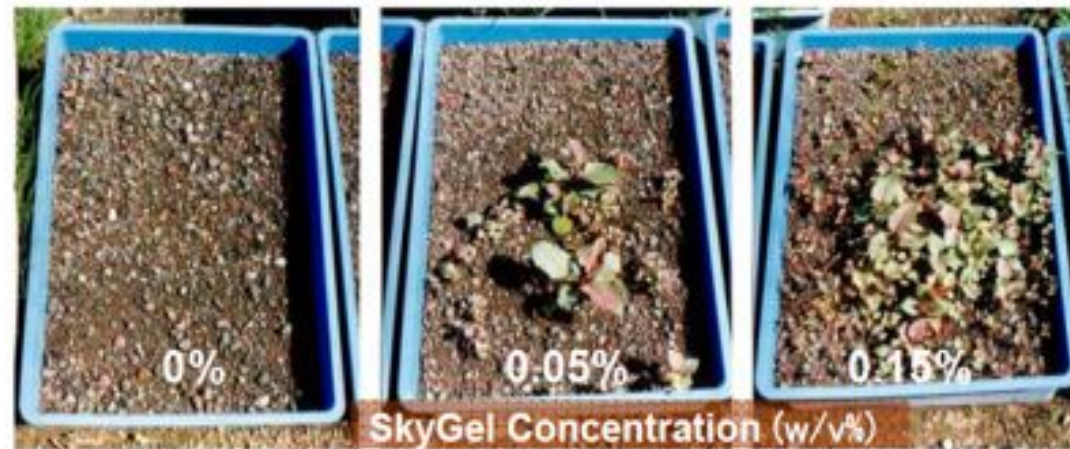
SIGNIFICANT RETAIL & WHOLESALE OPPORTUNITY

The Plant Booster



- ✓ In soil, SkyGel swells to gel particles and stores water and nutrients dissolved in it thus acts as a reservoir of water and nutrients in available form to plants. The stored water and nutrients are directly taken up by the fine root hairs of plants that grow in the gel particles. Resultantly the hydrophilic booster not only makes water available to plants for a much longer duration, but also prevents losses through percolation, evaporation and surface runoff.

For the field test in Japan, it has been observed with different levels of concentration of SkyGel, the effect on the growth of the seedlings:



Source: Mebiol Inc

SIGNIFICANT RETAIL & WHOLESALE OPPORTUNITY

Why Hydrophilic Booster?



✓ Why SkyGel?

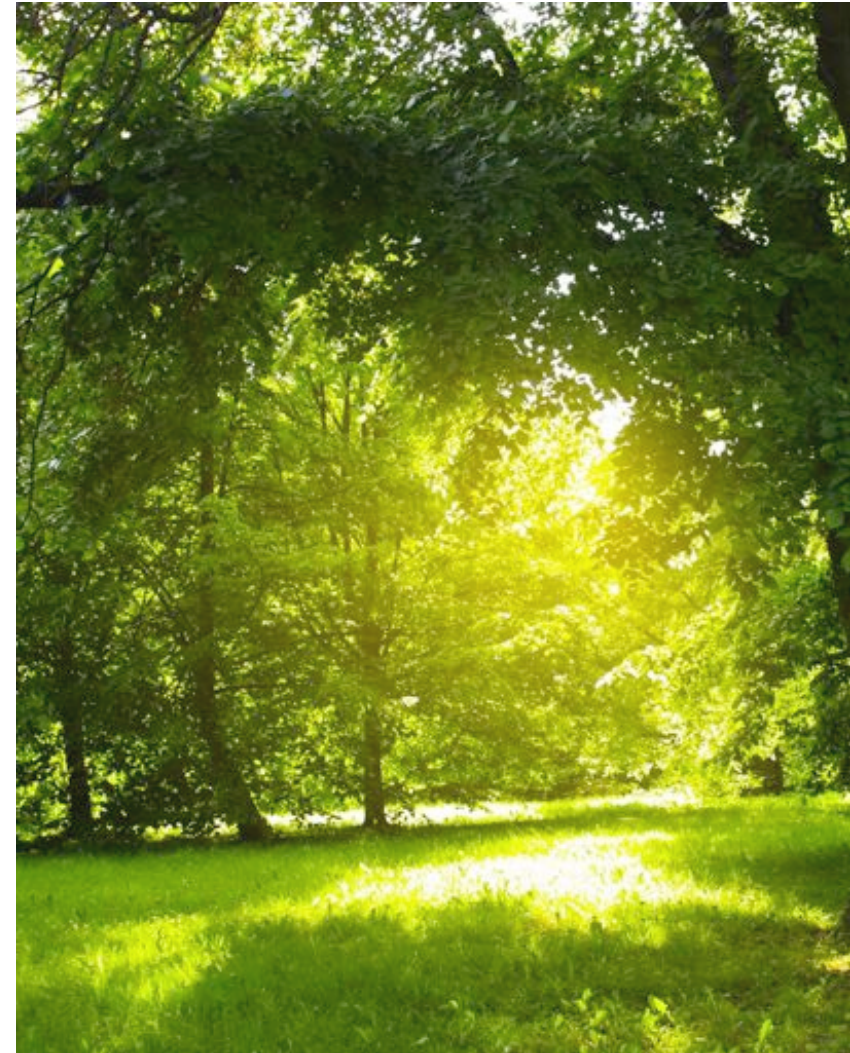
- The Hydrophilic booster presents an extremely cost-effective solution for efficient water and nutrient management in soils:
- It acts as a water reservoir thus reduces the frequency of irrigation by more than a week.
- It reduces the water and nutrient loss through percolation, runoff and evaporation thereby increasing water use efficiency in addition to reducing labor and maintenance costs associated with the watering and fertilizing plants.
- It has a long-lasting effect and has quick rewetting ability in the soils even after completely drying out.
- It advances and enhances seed germination and improves the survival rate of plants during establishment.
- It optimizes soil conditions for root growth thereby results in quicker development of seedlings, vigorous growth and increased crop yield.
- It makes cultivation of crops possible even in extreme conditions e.g. in hot arid climates with low soil moisture and poor soil fertility.
- It overcomes the inhibitory effect of compaction on growth of roots thereby helping in better growth of plants.
- It is environmentally friendly and compatible.

SIGNIFICANT RETAIL & WHOLESale OPPORTUNITY

Advantages



- ✓ Decreases water consumption by up to 90%.
- ✓ Increases the growth and yield by up to 57%.
- ✓ Increases plant vigor.
- ✓ Enhances and advances seed germination.
- ✓ Helps in reducing diseases and prevents soil erosion, which in turn prevents pollution of water bodies like lakes, rivers etc.
- ✓ Reduces leaching of water and fertilizers thereby reduces labor and maintenance costs associated with watering and fertilizing plants.
- ✓ Has a long lasting effect and has ability of repeated water absorption thus makes it very cost effective for long-term maintenance.



HYDROPHILIC BOOSTER

Pakistan Tests - Effects



- ✓ Effect of SkyGel on Horticulture and ornamental nursery plants in Pattoki Pakistan in June 2009

Quantity	Plants Grown	Results
Mango, Jamun, Erokaria ornamental plants	20gm/plant	Weekly irrigation weekly instead of irrigating twice a day in hot summer.
Poni per	20gm/plant	Plants found more vigorous and strong and fortnightly irrigation in hot summer.
Raat ki Rani, China Murvi	10gm/plant	More vigorous growth of plants and efficient water usage
Sicus, Rose, Grape, Large Stonnia, Isokaria, Phycus, Golden Star, Sex Palm, Golden palm, Brassia & Bismarkia Palm	10gm/plant	Vigorous growth of plants and Weekly irrigation instead of daily.
E-phobia, Euka and Phanax palm	5gm/plant	Weekly irrigation instead of daily.
Euka	5gm/plant	Vigorous growth of plants and Weekly irrigation instead of daily.

- ✓ Effect of SkyGel on the growth and yield of Potato and Maize in heavy loam and sandy loam soils of Pakistan

Plants Grown	Results
Potato	Uniform growth, uniform crop stand, more leaf area index, uniform tuber size so more market value and 20% more yield.
Maize	Uniform growth, uniform crop stand, more leaf area index, high quality produce and 25% more yield.

Net Results: 30-55% increase in yield, uniform crop stand , more leaf area index, high quality produce, 85-90% water saving

BEST IN CLASS PLANT BOOSTER

SkyGel: Quality Comparison



The test tube cultures below show a comparison of plants grown in different mediums. The first test tube from the left shows a plant grown in SkyGel while the other test tubes display plants grown in other commercial hydrogels.



Source: Mebiol Inc

ENHANCES URBAN & RURAL GREENERY

SkyGel: Application & Usage for Masses



Selected usage of SkyGel:

Roof planting



Slope Planting





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A COMPANY OVERVIEW





- ✓ agricel is a UAE based exclusive master distributor of Film farming and SkyGel products and services
- ✓ agricel is focused to address the two most pressing issues in our target markets which are water conservation and sustainable, high quality, nutritious food production
- ✓ The Management of agricel has deep connectivity across our target markets. They have extensive knowledge and experience. An influential advisory board has been assembled. Key positions at board level have been filled
- ✓ It is well documented, the region has extensive and sustainable demand for the products and services agricel offers
- ✓ A full team has been recruited in the UAE and in Japan to support all our regional franchise partners
- ✓ The business is focused on providing superior service and customer care to our country franchise partners



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THE BUSINESS MODEL



IMEC



SkyGel



SkyGel LITE



SERVICES





- ✓ The company has a strategy to focus on its two main products: Film farming and SkyGel.
- ✓ Film farming has been successfully used in commercially viable farms in Japan, China and Australia. agricel intends to execute a similar strategy in its target markets.
- ✓ Establish a distribution network across the region for both Film farming & SkyGel, as well as strategic relationships with farm management companies.
- ✓ Assessment, feasibility, maintenance, support and technical services in the preparation and setup of both SkyGel sites and Film farming farms.
- ✓ In the medium term agricel will establish manufacturing facilities in the region to produce SkyGel & Film farming films.

BUSINESS STRATEGY

(cont'd)



- ✓ Scarcity of resources, like water and soil, in the region call for alternatives that can help promote agriculture.
- ✓ SkyGel is already being widely used in roof and slope planting businesses. The company now seeks to expand the technology in the direction of agriculture and urban greening businesses.
- ✓ The spread to agriculture entails much larger scale use of the product and therefore much larger revenues.
- ✓ The product has already been evaluated for increasing cherry tomatoes productivity in the UAE desert as well as the produce increase in nutrients.





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COMMERCIAL VIABILITY



FACTORS FOR SUCCESS

Compelling Business & Environmental Issues



- ✓ **CLEAN FOOD:** The growing awareness regarding the dangers of pesticide-polluted & GM food, gives rise to a need for healthier food.
- ✓ **FRACTIONAL WATER USAGE:** Up to 90% water is saved using SkyGel & Film farming.
- ✓ **ENVIROMENTALLY EFFICIENT:** Both products are not only cost effective and efficient but are also environment friendly as they reduce the utilization of water and pesticides, contributing to a reduction in the carbon foot print itself.
- ✓ **INCREASED YIELD:** Up to 57% increased productivity using these products.





FACTORS FOR SUCCESS

Compelling business & environmental issues

The commercial viability of SkyGel can be assessed by using the example of a golf course:



- . A golf course in the UAE uses on an average 204,076,000 gallons of water every year. Based on this water consumption pattern, the annual cost of water is estimated to be USD 2,556,215 at USD 0.0125/ gallon.
- . With results of numerous tests showing that SkyGel reduces the water requirement up to 70% of the initial requirement, it is be estimated that the use of SkyGel in the golf course can result in savings of about USD 1,789,350 annually.

VIDEO LINKS



- ✓ Tedex Japan: http://www.youtube.com/watch?v=XWUt6hT_8Lo&feature=relmfu
- ✓ Desert Farming: http://cgi4.nhk.or.jp/eco-channel/en/movie/play.cgi?movie=e_tech_20091008_0087
- ✓ Growing Vegetables: http://cgi4.nhk.or.jp/eco-channel/en/movie/play.cgi?movie=e2599073_20080422_0006
- ✓ NHK News Story: <http://www.youtube.com/watch?v=CBRrcrxRPls>
- ✓ Agriculture revolution: http://cgi4.nhk.or.jp/eco-channel/en/movie/play.cgi?movie=e_tech_20091008_0085
- ✓ Hydrogel for Greener Cities: http://cgi4.nhk.or.jp/eco-channel/en/movie/play.cgi?movie=e_tech_20091008_0086



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