food dehydrators sun dried solutions—Ahmed Abdallah—patents_designer@hotmail.com

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ECO food dehydrators

sun dried solutions—Ahmed Abdallah—patents_designer@hotmail.com

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• ECO is the only Arab food dehydrators provider to enable farmers for the first time turning fruits and vegetables surplus that usually go to waste into powdered fruit drinks and powdered tomato sauce in just hours, to generate 30 times more income, while increasing food security, creating employment, preserving environment and conserving natural resources.

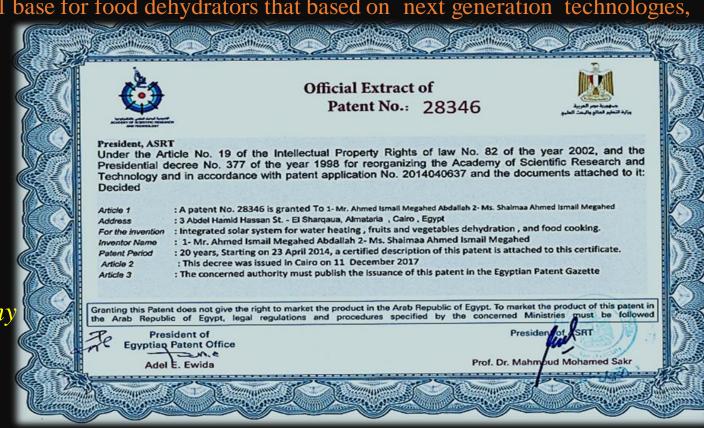
ECO mission:- is to build the first Arab/African industrial base for food dehydrators that based on next generation technologies,

market trends and specifically tailored for small farmers

ECO vision:- is to be a star and future Arab/African Market leader of food dehydrators, and to extend ECO activity overseas where huge potential and wide market gab.

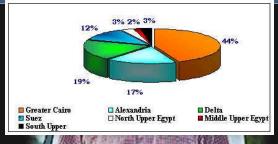
ECO sector: agribusiness

ECO products granted a patent from Egypt academy for scientific research and technology, the Second one is in process



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Problems:-, harvest loss, unemployment,









high transport cost and unavailability of appropriate food processing tools force Small holder farmers to leave their crops in fields for land fertilization when cost of transport exceed market value, as a result Up to 35% of Egyptian crops go to waste, that forms great loss for farmers income who already suffer of poverty and food insecurity, and many of natural resources as water, land and fertilizers that go to produce food that no one consumes, while harming environment due to green house gases emission from waste crops, the problem increases due to continues increase in fuel prices, in the same time Egypt suffers of high rate of unemployment specifically in rural areas (employment rate in upper Egypt is only 2-3%), and food prices raised in 2017 by up to 40% to exceed purchasing power of low income families.

Despite Food dehydrators can form solutions for aforementioned problems:-

NO food dehydrators industry Exist in Egypt

NO food dehydrators industry exist in all over Arab countries

Only **ONE** food dehydrators provider all over Africa

Only 15 food dehydrators providers control huge global markets and ECO is the 16th

Huge potential need of food dehydrators + wide market gab of its industry= successful business opportunity= ECO

ECO is to bridge the wide market gab and

Fulfill the huge potential need of food dehydrators

in Egypt, Africa, and Arab countries,

ECO targets to differentiate its products technically to penetrate global markets

Solution: ECO medium commercial scale food dehydrator



BASED ON NEXT GENERATION TECHNOLOGY we specifically tailored ECO medium

commercial, 2 zones, 20 stainless steel tray to help farmers turning crops surplus that usually go to waste into top quality, healthy dehydrated fruit slices, and powdered fruit drinks in just hours, while extending perishable crops shelf life for several months with no need for cold storage or chemical preservatives for later consumption, sell or export, ECO also can reduce crops bulk and weigh by up to 20 times from cheaper transport and storage below are actual photos for ECO medium commercial scale also mango drink powder /dehydrated fruit slices that actually produced by ECO-----12KG of fresh Mango produces only one kg of

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Solution: ECO 2 zones small commercial and family scale mobile food dehydrators



ECO food dehydrator small commercial scale provided with 2 zones each with separate control,10 trays,17kg capacity per load, it can form in house income creation opportunity for unemployed in food processing, it suites rural women who suffer of social norms that prevent them from working outside their homes, ECO family scale food dehydrator is a kitchen friendly machine with 9 stainless steel trays,8 kg capacity/load to help families secure more nutrient healthy, chemical preservatives free fruit snakes and powdered drinks, it can reduce food expenses by enabling families dehydrate crops in low price harvest season to be consumed in high price off season, photos are for both models also tomato sauce powder, fruit drinks and snakes that actually produced by ECO

• Technology and technical advantages

ECO is not just a food dehydrator ,it's a whole system for fruits and vegetables preservation and storage that can serve with minimum amount of conventional energy, it consist of 5 unites that based on innovation, market trends and appropriate technology ,and can serve mainly by Solar energy:

Technical advantages: - user is not in need to open dehydrator door to examine food dryness, ability to achieve set temperature in shorter amount of time, ability to dehydrate 2 kin and vegetables in same amount of time, even drying with no need to move trays, up to 80% energy savings, possibility to storage dehydrated food for several months naturally while keeping natural color, enzymes and vitamins,



ECO outsourcing partners

Industry Analysis and Market size

ECO targets both of local and global markets, hereunder figures indicate that the potentiality of global revenue markets, application segments, forecast growing, average growth between 2017-2027 all are promising-

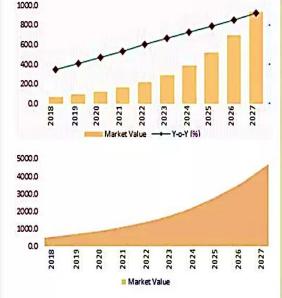


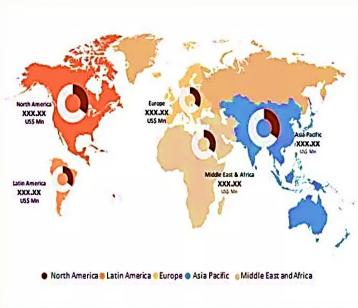




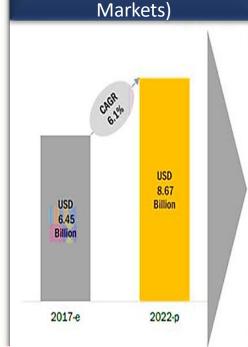


Global Market Snapshot





Global fruits and vegetables equipment market size was valued at US\$ 6.45 billion in 2017 and projected to reach 8.67 billion US\$ by 2022 (Source Markets and



At the first phase of implementation ECO target local market, (10 million) of small holder farmers who seek appropriate food processing tools to preserve their crops to reduce their bulkiness thus transport cost to be able to access high price distant markets, 12 million of unemployed specifically rural women who seek in house income creation opportunity, middle class families (33 million) who suffer of sudden increase in food prices and seek to reduce food expenses, and upper class families who prefer to process their food at home due to health concerns, ECO will focus on selling its mass market family scale food dehydrator in location where upper class people live to gain quick cash, and market penetration, then it will focus on upper Egypt where high percent of, unemployed and 50% harvest loss, it will make use of wide market gab of food dehydrators to extend its activities to global market with collaboration of foreign companies/business partners, while in the second face it will make use of wide market gab of dehydrated fruits and vegetables, its assets and team wide experience in food dehydration to implement a sister company for food dehydration



Tomato naturally sun drying and tomato dehydration by ECO

traditional sun drving salt should be added to prevent spoilage, no control in final moisture content thus Each 10 Kg of fresh tomato produces one kg of dried tomato that consists of 50% tomato and 50% water and salt thus 50% of packaging, storage, transport and shipping costs go to water and salts not exactly tomato, the dried produce be contaminated by dust , rain , birds , rates---dried produce should pass by several additional processing steps as sanitation and evaporation, thus it should be packaged stored and transported several times, it also should be preserved in olive oil before be ready to sell that increases production cost comparing with ECO sun dried tomato should be stored in cold storage that increases production cost, and negative impact on environment Tomato is need for one to 2 weeks to be naturally dried, ideal weather conditions should be available, if not, and tomato may be spoiled



sun dried tomato losses most of its nutrient contents, it became of pale yellow color due to long exposure to sun rays that destroys the natural, healthy material

that provide tomato with dark red color

each one kg of fresh tomato is in need for one square meter of land

ECO solar electric food dehydrators no need to add sat, each 20 kg of fresh tomato produces only one Kg of pure 100% tomato powder, free of chemical preservatives that reduces cost of packaging, storage transport, and shipping by up to 50% comparing with traditional sun drying method dehydration process be done in top hygienic conditions Tomato powder that produces by ECO is a ready to use product that can be packaged and sold directly to consumer as top quality tomato sauce with no need for additional processing steps that reduces negative effect on environment and production cost dehydrated tomato by ECO storable in ambient temperature for several months with no need for cold storage The appliance can turn tomato into powder in just hours that enables farmers to

quickly preserve their crops before rot can

be occurred, when no enough solar energy

it can switch to electric mode to avoid



ECO enables farmer to produce hygienic, globally competitive, pure, nutrient, powdered tomato that meet international market quality standards, while its favorable dark red color, and

most of vitamins and natural enzymes, that can be sold 10 times in price than sun dried tomato please refer to photo the appliance is in need for only 3 square meters to dehydrate up to 100Kg of tomato ECO food dehydrators

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Team and Capabilities













ECO team granted 8 international awards/ from EU-UNDP-UK-Brussels, Austria, Egypt, Nigeria ---it represented Egypt, in Switch Med Spain UAE innovation fair Ahmed: Team leader, CEO, and technician member, BSc of agriculture, 2 patents owner, shareholder, 20 years experience in food dehydration, he attended up to 15 program in entrepreneurship and granted a diploma from EU, responsible about designing, patenting, manufacturing, and examining ECO products, also customer service, sales and marketing

- -Tarek:- BSc of arts, 8 years experience in sales and marketing, CEO assistance, product finishing
- -Abeer:- founder 8 years experience in examining dehydrated fruits and vegetables ,she is to examine shelf life, taste, natural color ,best re-dehydration time and method , quality,--of dehydrated food , also sales and marketing
- -shaimaa: -BSC of commerce, 4 years experience in sales and marketing (Carrefour hypermarkets----), patent owner (partner)
- -Samar:- Founder BSC of arts:- sales and marketing