

La Agroindustria hacia Alimentos más Saludables

Seminarios de Ciencia Aplicada para el Desarrollo Regional
Tercera Versión

Explorando desafíos de Innovación hacia el año 2050
Ciencia y Tecnología para las actividades Agroalimentaria y Pecuaria

Francisco J. Rossier M., PhD
Rancagua, 13 de Diciembre de 2017



***Es 1967 y desde la comodidad
de su sillón enciende el
televisor para ver una nueva
película llamada "1999 A.D."***

...



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WSJ. MAGAZINE | FEATURE

Kimbal Musk Says Food is the New Internet

Former tech entrepreneur Kimbal Musk's ambitions for innovation in sustainable farming are as grand as his brother Elon's for space travel and electric cars



URBAN COWBOY | Kimbal Musk at Koberstein Ranch in Colorado. "He's got good judgment overall and has been put through the ringer a few times," says his brother, Elon. PHOTO: MORGAN RACHEL LEVY FOR WSJ. MAGAZINE

By Jay Cheshes

2 COMMENTS

May 25, 2017 10:52 a.m. ET

ON A BRISK WINTER morning, Kimbal Musk is an incongruous sight in his signature cowboy hat and monogrammed silver K belt buckle—his folksy uniform of the past few years—as he addresses a crowd outside a cluster of shipping containers in a Brooklyn parking lot. Inside each container, pink grow lights and fire hydrant irrigation feed vertical stacks of edible crops—arugula, shiso, basil and chard, among others—the equivalent of two acres of cultivated land inside a

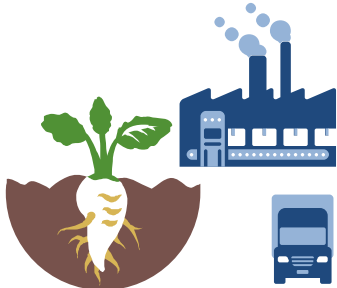
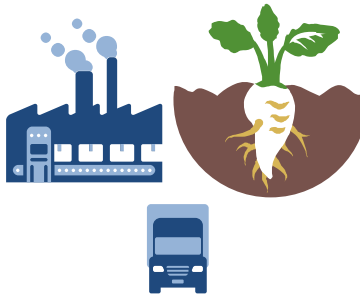
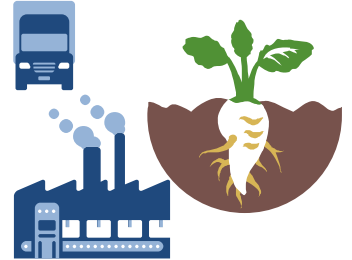
climate-controlled 320-square-foot shell. "This is basically a business in a box," Kimbal says, presenting his latest venture to its investors, friends and curious neighbors.

Square Roots, his new incubator for urban farming, aims to empower a generation of indoor agriculturalists, offering 10 young entrepreneurs this year (chosen from 500 applicants) the tools to build a business selling the food they grow. It will take on and mentor a new group annually, with more container campuses following across the country. "Within a few years, we will have an army of Square Roots entrepreneurs in the food ecosystem," he says of the enterprise, launched last November with co-founder and CEO Tobias Peggs—a British expat with a Ph.D. in artificial intelligence—across from the Marcy Houses, in Bedford-Stuyvesant (where Jay Z, famously, sold crack cocaine in the 1980s).

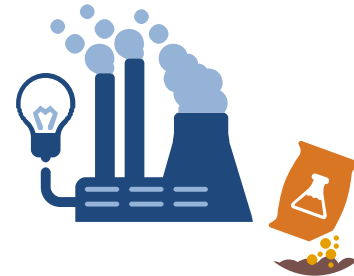
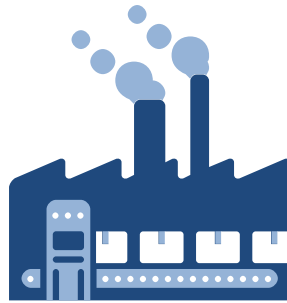


Entrepreneurial drive runs in the family for Kimbal, 44, a close confidante of his brother, Elon, and a board member (and major shareholder) at Tesla and SpaceX. "If something happens to me, he can represent my interests,"

Cosas que pasan en 40 o 50 años



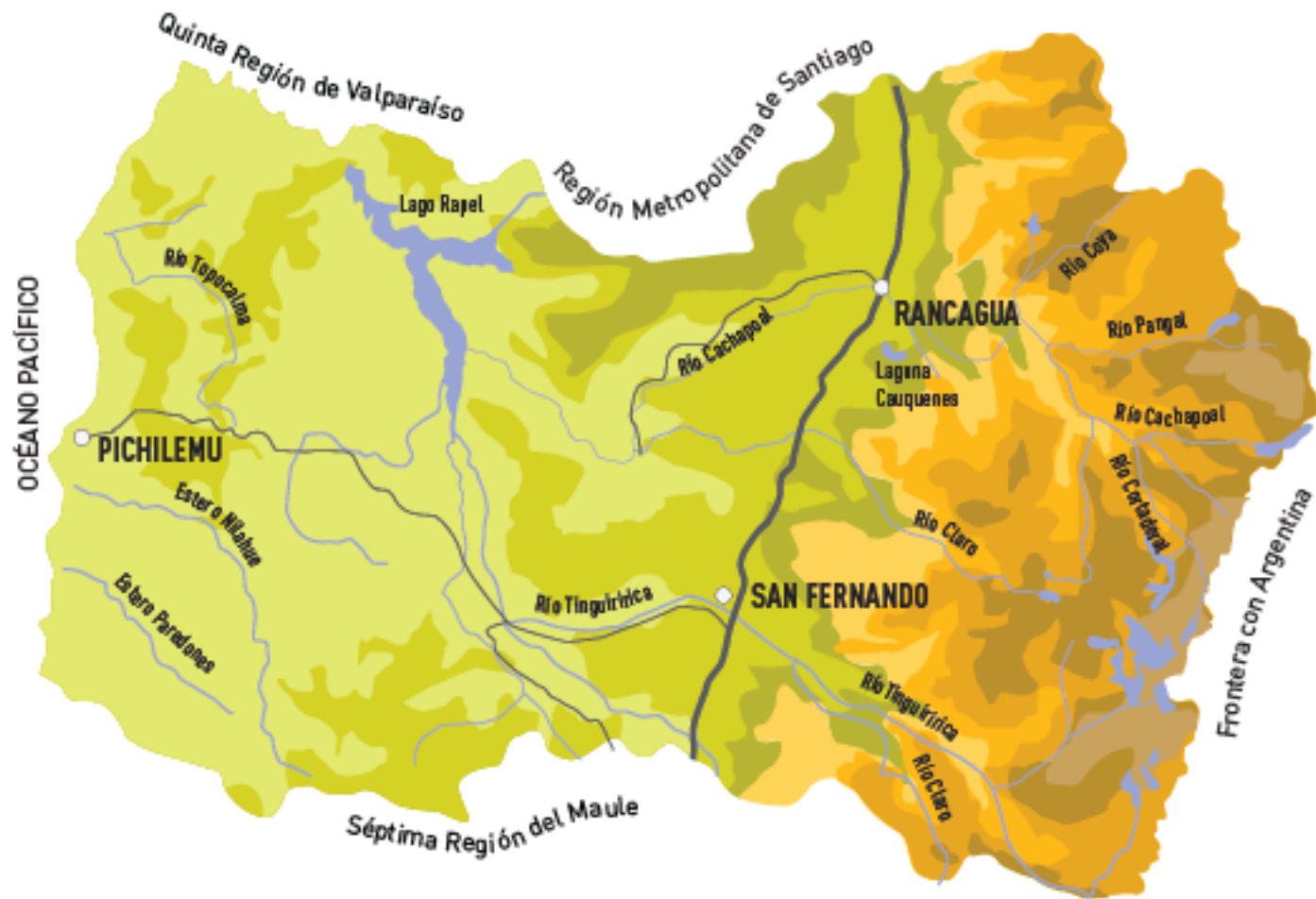
Cosas que pasan en 40 o 50 años



Cosas que pasan en 40 o 50 años



La Región de O'Higgins





2014

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2014

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Tres formas de agregar valor



(1) **Formas nuevas de producir:** La producción de un producto de una manera tal que aumenta su valor, como puede ser los productos de comercio justo u orgánicos.



(2) **Diferenciación por segregación física:** La segregación física de un *commodity* agrícola o producto de una manera tal que resulta en el aumento del valor, como pueden ser los productos con denominación de origen o vinculadas a un concepto de *terroir*.



(3) **Transformación:** Un cambio en el estado físico o forma del producto, como puede ser la producción de un snack a partir de una fruta, o heparina a partir de subproductos cárnicos.

"La Saludable"



"El Sustentable"



"El socialmente consciente"



"El Animal Lover"



"La económica"



"La con poco tiempo"



"La hedonista"



"El cambiante"



01. ETIQUETAS LIMPIAS

02 REEMPLAZO DE LA CARNE

03 ENDULZANTES NATURALES

04 COCINA MUNDIAL

05. NUTRICION PERSONALIZADA

06 UN MUNDO SOFISTICADO

07. Capturar el momento

08. LOS REYES DE LA CASA DECIDEN

09 SEMILLAS DE CAMBIO

10 BORDES DIFUSOS

STRONG GROWTH FOR VEGAN NPD WORLDWIDE

CAGR % for new products with a vegan positioning by region (2011-2016)



LATAM.....	+132%
EUROPE.....	+50%
AUSTRALASIA.....	+45%
NORTH AMERICA.....	+34%



Sobre envases:



SimpliSqueeze®
by Aptar



SQUEEZE & DRINK



NO LEAKAGE WHEN
FALLS DOWN



NO LEAKAGE WHEN
UPSIDE DOWN



MixPack DuPont

Presión



Dos compartimentos

Sello rompible
(entre compartimentos)



Válvula re-sellable

Sello perimetral
permanente

Stand-up pouch

Pasteurización por Alta Presión & Liofilización



HPP Hiperbaric 55

Si se combina con temperatura moderada puede esterilizar



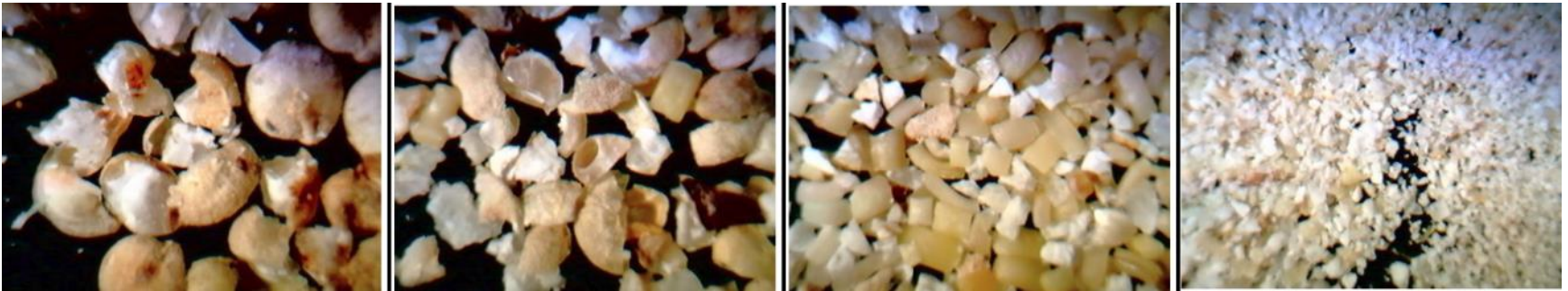
Liofilizador ATLAS CONRAD
GEA Niro.

Acelerable por medio de ultrasonido de contacto, aplicado ya en vegetales.

Quínoa y sus fracciones: proteína nativa

Quínoa: 16,8% proteína

Proteína: 12% 12% 31% 14%



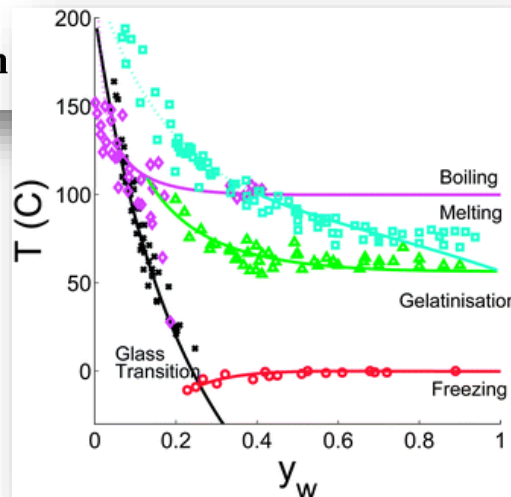
Rendimiento: 16% 6% 60% 18%



US 20020086097A1

(19) **United States**
(12) **Patent Application Publication**
Bommel

Cargill B.V.
Criogenic milling



Finalmente:
Separación electrostática
arabinoxylanos y β -glucanos,
y proteínas

Más allá de la industria cárnica



OUR INGREDIENTS TO SOLVE YOUR MEAT PUZZLE



TEXTURE & YIELD IMPROVEMENT

- SPLIT PEPTIDE 95
- GEL 5
- GEL 5
- BONE PROTEIN 95

TEXTURE & YIELD IMPROVEMENT

- GREASE PROTEIN 83
- GREASE PROTEIN 83
- GREASE PROTEIN 83
- GREASE PROTEIN 83

COLORING

- HARIMEX PP
- HARIMEX PB
- HARIMEX CP
- HARIMEX CB

COLORING

- BOULLONNEX P
- HEMOCOLON POWDER S2
- HEMOCOLON POWDER S2

TEXTURE & YIELD IMPROVEMENT

- FUNCTIONAL POULTRY PROTEIN C
- FUNCTIONAL POULTRY PROTEIN C
- PLASMA PROTEIN
- PLASMA PROTEIN

FRESH MEAT BINDING

- PLASMA POWDER PG
- PLASMA POWDER PG
- FIBRIMEX
- FIBRIMEX

PROTEIN ENRICHMENT

- HYDRO-P
- HYDRO-P PREMIUM
- HYDRO-P
- GLOWBOOST ROP

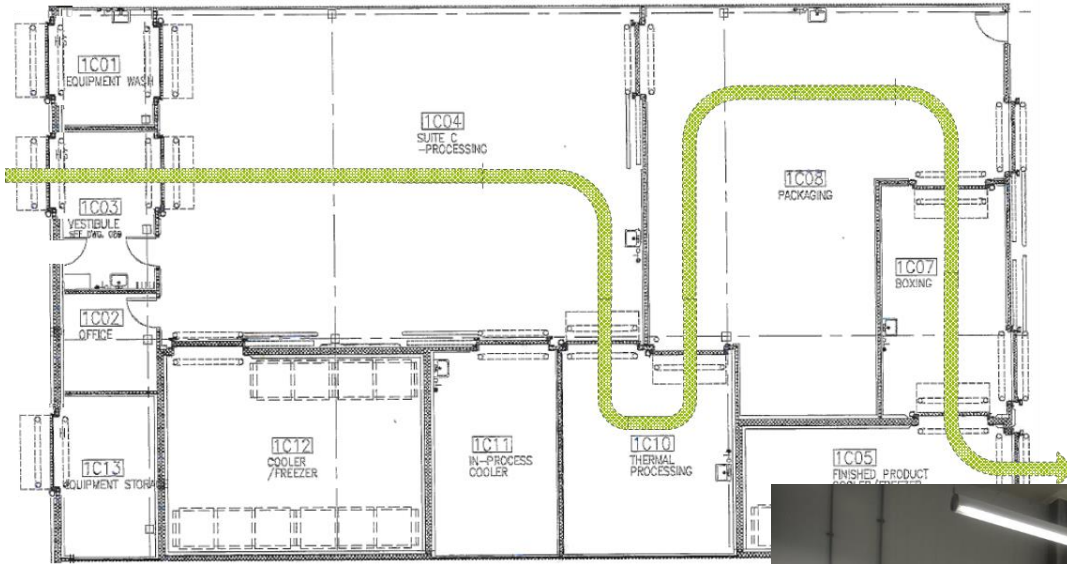
CALCIUM ENRICHMENT

- CALBON H

Otro país con alma alimentaria (y minera)



Otro país con alma alimentaria (y minera)



Alberta

Food Processing
Development Centre

Food Science and
Technology Centre

Consumer Product
Testing Centre

Agrivalve Processing
Business Incubator



Integración productiva total



Transforma Alimentos:

Una Alianza Público-Privada





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