

PORT OF NEWPORT WORK SESSION AGENDA

Tuesday, April 26, 2016, 12:00 noon
South Beach Activities Room
2120 SE Marine Science Drive, Newport, OR 97365

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- I. Call to Order 12:00
- II. DulsEnergy Seaweed Lease Opportunity (discussion)
 - A. Pursuit of Infrastructure Grants for Water Intake..... 12:01
- III. Adjournment 12:30

Regular meetings are scheduled for the fourth Tuesday of every month at 6:00 p.m.

The Port Newport South Beach Marina and RV Park Activity Room is accessible to people with disabilities. A request for an interpreter for the hearing impaired or for other accommodations for persons with disabilities should be made at least 48 hours in advance of the meeting to Port of Newport Administration Office at 541-265-7758.

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WORK SESSION

DATE: 4/26/2016
RE: DulsEnergy Seaweed Manufacturing Lease Opportunity
TO: Port of Newport Board of Commissioners
ISSUED BY: Kevin Greenwood, General Manager

BACKGROUND

Port staff has had a number of meetings with Chuck Toombs, CEO, of DulsEnergy about the possibility of leasing the 2-4 acres of land located at the site of the now-closed Yaquina Bay Fruit Processing. DulsEnergy is best known for the attention their “bacon flavored seaweed” received last fall, including a segment on the NBC TODAY show. Toombs full day job is as a marketing professor at OSU in Corvallis and has developed quite a market for Dulse-centered food products, including chips, salad dressings, chutneys, etc. A limited supply of Dulse products has been produced at Hatfield and at the Food Innovation Center in Portland. Hatfield was a convenient location for incubating this product as they have a permitted bay water intake and holds the patent on this strain of seaweed jointly with Trident foods.

On January 8th, I brought the Governor’s Regional Solutions team to red-flag any issues. Commission Chuck sat in the meeting. Discussion revolved on DulsEnergy gaining a permanent 500gpm intake/outfall. DEQ was not as concerned about the outfall as it would be viewed as an agricultural product which has a lesser regulatory threshold. Land-use is a perfect fit. Biggest obstacle will be the Fish & Wildlife (ODFW) review for the installation of an intake and the affect it will have on eel grass and other habitat.

Rick Fuller and I met with Hatfield Marine Science Center, City of Newport Community Development and DulsEnergy on April 20th to discuss HMSC’s willingness to allow the Port to tap into their 6” intake and extend a 3 or 4” water line from the north side of the visitor’s center to the site Yaquina Bay Fruit Processing site for the purpose of growing dulse. Dr. Cowen agreed generally to a 3-year MOU, with a 2-year option, to allow the Port to access up to 150 gallons per minute (gpm) from their current intake. (At peak, HMSC can take 900 gpm and they’re currently using 25% of their allowed intake.) The MOU would also allow for the permitted outfall of the affluent as well. HMSC is required to charge a fee for the access by the state and those costs would be passed through to the tenant.

REQUEST FROM DULSENERGY

I requested that Mr. Toombs present a number of items to the Commission today following this general outline:

1. Business Plan
 - a. Five year operational proforma
 - b. Market analysis
 - c. Jobs and economic output to the community
2. Capital Needs – preliminary costs and design
 - a. Short term

- b. Long term
 - c. Strategies for pursuing permits/funding for capital investments
3. What would DulsEnergy like from the Port?
- a. Length of lease
 - b. Acreage amounts
 - c. Incubated annual

NEXT STEPS

I am recommending that the Commission assign two liaisons to participate in the various negotiations as there will be a number of documents that will need to be approved by the Port Commission.

1. Memo of Understanding between the PON and Hatfield Marine Science Center for access to their permitted water intake and outfall.
 - a. 3-year agreement, with 2-year option.
 - b. 150 gpm of sand filtered bay water
 - c. 150 gmp of same outfall
 - d. Fee schedule
2. Easement for the distribution line between the PON and the City of Newport for running the intake across Hatfield Marine Science Drive.
3. Lease for the fruit processing property/north NOAA lot

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Oregon Dulse

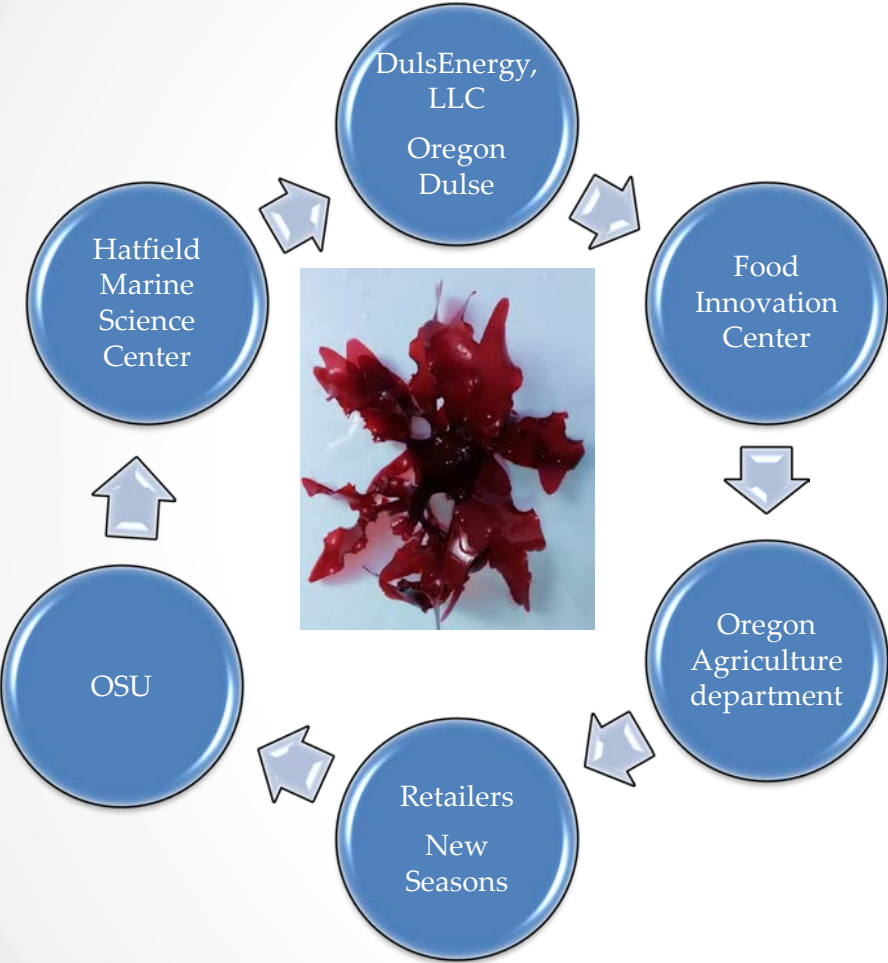
The future of fine food

Oregon Dulse

- Business History
- Dulse's Benefits
- The Patent
- Three Phases Business Plan
- Production and sales forecast
- Output to the local community
- Challenges

Business History

It is about the collaboration among all.



Where are we today

- Products
 - ✓ Salad Dressing in New Seasons
 - ✓ Spice
 - ✓ Chips
- Retailers



Tomorrow – the future

- Multiple Grow Locations Along the Coast Line of Oregon
- Oregon Champagne (Dulse)



Why Dulse?

- The health benefits: Dulse is an excellent source of food that fulfills dietary requirements.
- **1) Mighty Vitamins and Minerals** – Specifically Vitamins B6, A, Iron, Potassium, Phosphorus, and Manganese
- 2) Helps heal poor digestive systems
- 3) Rebuilds and Maintains All Glands in the Body
- 4) Cleanses the Body of Heavy Metals
- 5) Increases Metabolism and aids in weight loss
- 6) Also High in Calcium, Fiber, and Protein
- 7) Supports healthy Brain function
- 8) Very High in Iodine for healthy Thyroid Function
- 9) Great for adding flavor to cooking
- 10) Heals and enhances the Liver

Dulse is an excellent source of food that fulfills dietary requirements.

- **Mighty Minerals**

- Dulse is packed with valuable minerals, including iron and potassium. A 3.5-ounce serving of fresh dulse seaweed provides approximately 33 milligrams of iron and 1,720 milligrams of potassium, which is more than 100 percent of the daily values set by the Food and Drug Administration based on a 2,000-calorie-a-day diet. Iron helps red blood cells and muscle cells carry oxygen throughout your body and is needed for proper chemical reactions. Potassium plays an important role in balancing body fluids, helps your heart maintain a steady beat and is needed for proper muscle contraction.

- **Omega-3 and Omega-6**

- Polyunsaturated fatty acids help regulate many of your body's functions, such as blood clotting and blood pressure, and aid in proper development and functioning of your brain and nervous system. They also play an important role in regulating inflammation. A September 2022 article by Sinead Lordan et al., published in "Marine Drugs" noted that because red and brown algae are particularly rich in omega-3 and omega-6 fatty acids, they may be an effective addition as part of a balanced diet.

- **Protein Content**

- Proteins not only help create new cells, but also play a vital role in the repair and maintenance of your body. A 3.5 -ounce serving of fresh dulse provides 21.5 grams of protein, which is 43 percent of the daily value set by the FDA. An article published in "The Journal of Nutritional Biochemistry" in June 1999 noted that dulse may be a potential protein source in the human die

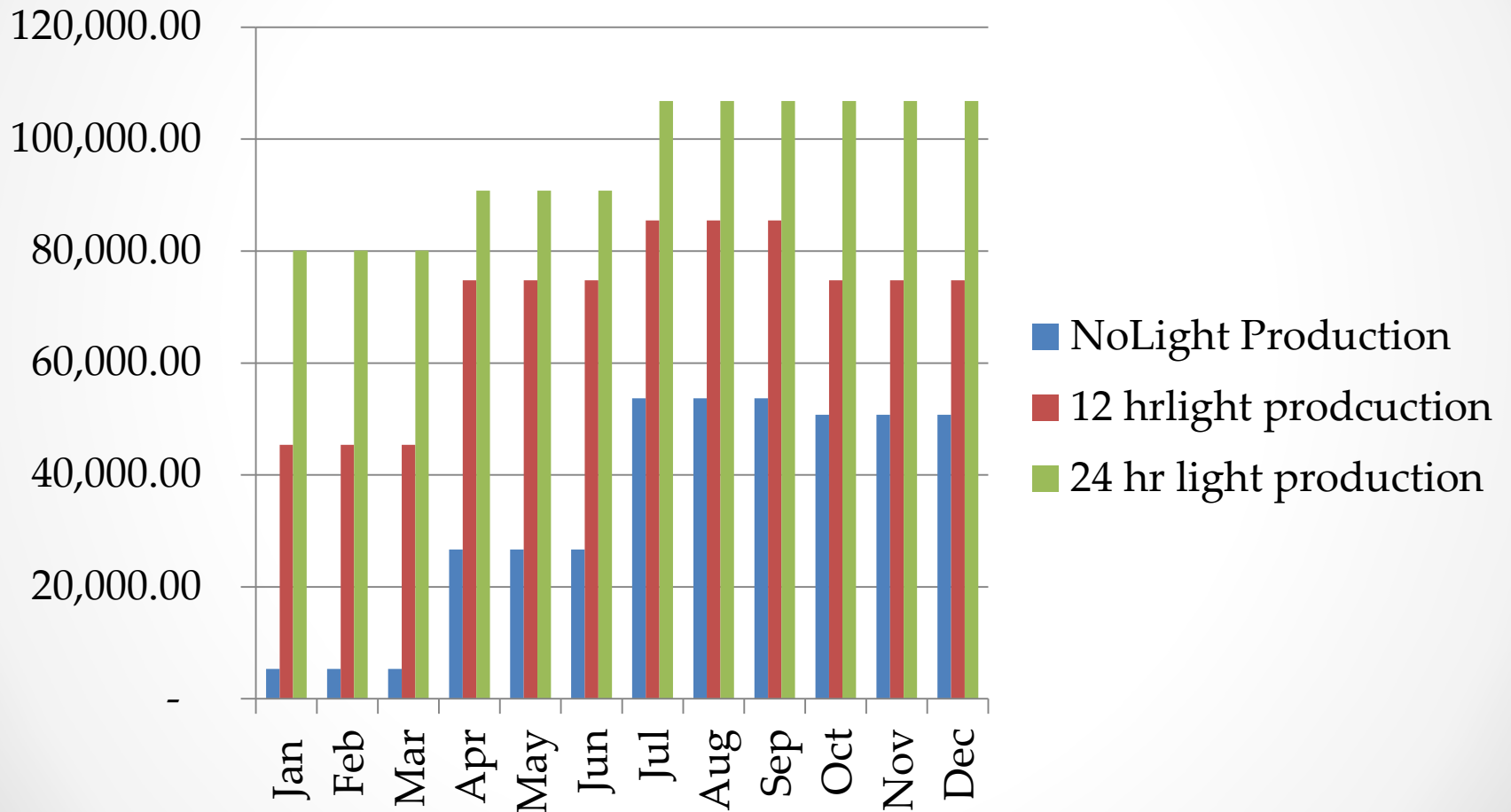
<http://www.livestrong.com/article/418798-the-benefits-of-dulse-seaweed/>

THE PATENT

- PATENT NO.: US 6,258,588 B1
- DATE OF PATENT: JUL. 10, 2001
- THE DULSES HAVE A SPECIFIC GROWTH RATE OF AT LEAST ABOUT 8% PER DAY, AND GENERALLY ABOUT 11.3% UNDER THE WORKING CONDITION.

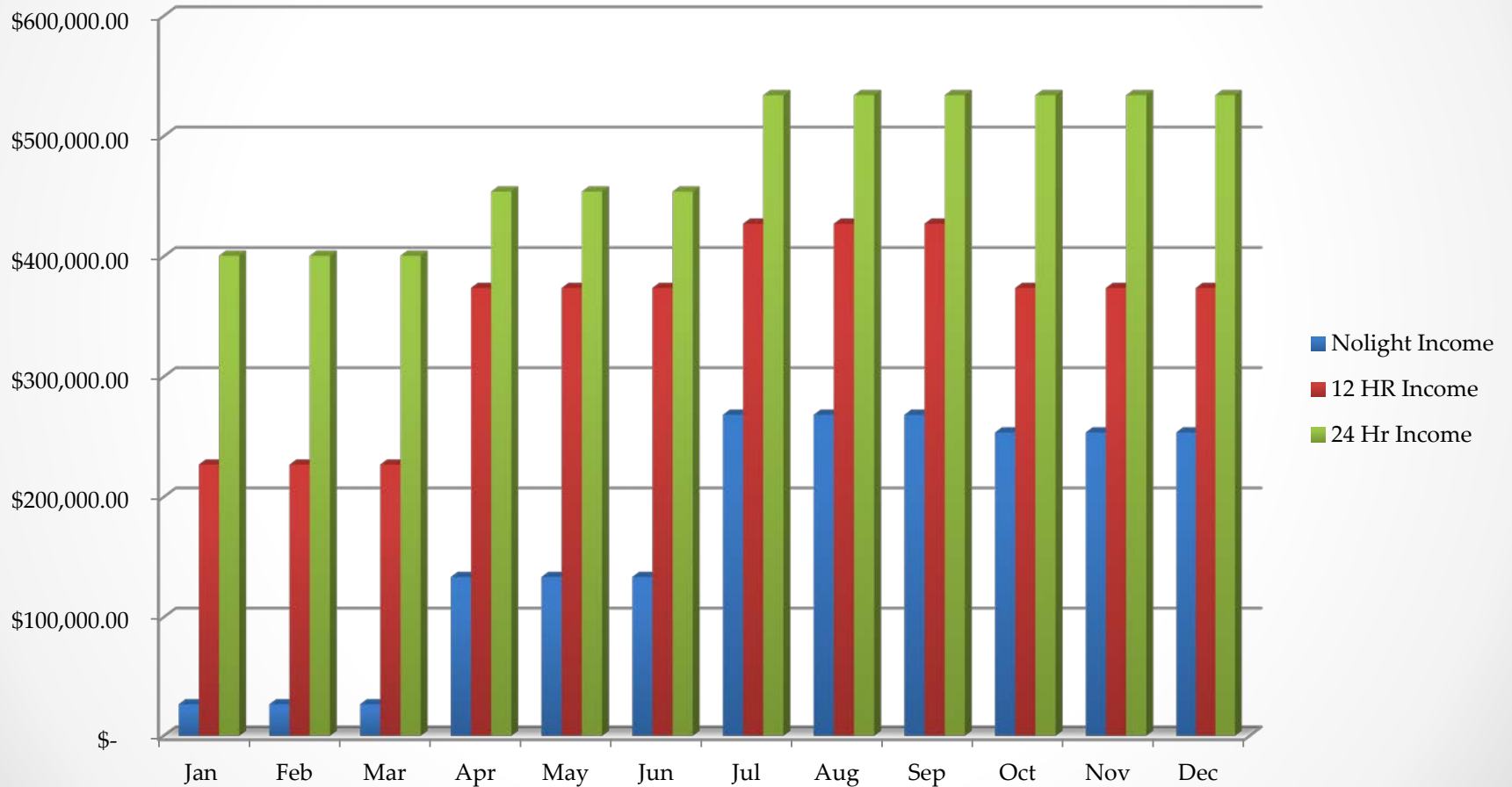
DULSE PRODUCTION PER ACRE

BASED UPON FORD EVANS CHRIS LANGDON 2000 PUBLISHED REPORT



INCOME FORECAST

BASED ON THE 2004 RESEARCH PRODUCTION



Today's Production

- 4000/ 130 liter tanks = 65/ 8000 tanks
- In 6 weeks period, $8 \text{ lb} * 4000 * 2 = 64000 \text{ lb}$ dulse
- In 6 weeks, $65 * 140 \text{ lb} = \mathbf{9100}$ Lb dulse
- With same amount of sea water usage, smaller tanks produce dulse 7 times higher than large tanks.

THE TEAM TO WIN



3 phases business plan

- Phase 1- recreate lab environment in a large scale facility
 - 36 month operation time frame
 - 4000 130 liter tanks, targeted to generate \$1MM-\$1.9MM annual income
 - 10 8000 liter tanks, with goal to develop a practice that dulse can grow in commercial scale tanks with desirable growth rates
 - Costs higher than larger tanks facility
- Phase 2 - expand into a full function commercial farming facility
 - 300 8000 liter tanks- target to generate \$20MM annual income
 - 24 month operation time frame
- Phase 3- Build multiple locations along Oregon coasts
 - Stabilizing \$5MM per acre operation
 - Increasing locations as desired

Phase 1 overview

- Start up costs is about \$800K
- First Year Revenue \$1MM
- Labor intense- employments
- Experimenting on large tanks
- Developing new products
- Increasing market awareness



Oregon Dulse 5 Year Operating Proforma

		incom Increase		40.00%	
		Expense Increase:		20.00%	
	Year 1	Year 2	Year 3	Year 4	Year 5
Income					
Dulse sale	\$1,000,000	\$1,400,000	\$1,960,000	\$15,000,000	\$21,000,000
Gross Income	\$1,000,000	\$1,400,000	\$1,960,000	\$15,000,000	\$21,000,000
Errors (10%)	\$100,000	\$140,000	\$196,000	\$1,500,000	\$2,100,000
Effective Gross Income	\$900,000	\$1,260,000	\$1,764,000	\$13,500,000	\$18,900,000
Expenses					
Rents	\$6,000	\$7,200	\$8,640	\$90,000	\$126,000
Administrition	\$24,000	\$28,800	\$34,560	\$360,000	\$504,000
Marketing	\$48,000	\$57,600	\$69,120	\$720,000	\$1,008,000
Nutrition Costs for Dulse	\$9,100	\$10,920	\$13,104	\$136,500	\$191,100
Operations & Maintenance	\$60,000	\$72,000	\$86,400	\$900,000	\$1,260,000
Payroll Expenses	\$360,000	\$432,000	\$518,400	\$5,400,000	\$7,560,000
Electricity	\$125,000	\$175,000	\$245,000	\$1,875,000	\$2,625,000
Insurance Expenses	\$3,600	\$5,040	\$7,056	\$54,000	\$75,600
Local taxes	\$6,000	\$18,000	\$30,000	\$90,000	\$126,000
Operating/Debt Service Reserve	\$70,000	\$84,000	\$100,800	\$1,050,000	\$1,470,000
Dulse grow study costs	\$72,000	\$86,400	\$103,680	\$1,080,000	\$1,512,000
Total Expenses	\$783,700	\$976,960	\$1,216,760	\$11,755,500	\$16,457,700
Net Operating Income	\$116,300	\$283,040	\$547,240	\$1,744,500	\$2,442,300
Debt Service					
Loan Payment (10%)	80,000	80,000	80,000	80,000	80,000
Debt Coverage Ratio	1.45	3.54	6.84	21.81	30.53

	watts	Watts	rate		
<i>Port of Newport Commission Work Session</i>	60	1000	0.05	24	<i>19 of 25</i> 4000
	\$103,680.00				
	\$200,000 Capital Financing				

MAJOR START-UP COSTS

Leasehold improvements	\$200,000.00
Capital equipment	\$475,707.00
Location/administration expenses	\$19,300.00
Electricity	\$120,000.00
Working capital	\$60,000.00
Total Startup Expenses	\$875,007.00

How to fund the capital

- Grants
- Investors
- ?

Market Development (1)

PRODUCTS	TOTAL AVAILABLE	5TH YEAR	TOTAL EXPECTED	%	IMPUTED DULSE		SALES	DULSE
	MARKET (1)	SHARE (2)	SALES	DULSE (3)	SALES (\$)		(LBS.)	DPI
SALAD DRESSING	\$6,900,000,000	5%	\$345,000,000	6%	20,700,000 W		4,140,000	0.06
PET FOOD (OEM)	\$21,200,000,000	1%	\$212,000,000	6%	12,720,000 D		3,634,286	0.06
CHIPS	\$13,600,000,000	4%	\$544,000,000	10%	54,400,000 W		10,880,000	0.10
TRAIL MIX	\$7,200,000,000	5%	\$360,000,000	20%	72,000,000 W		14,400,000	0.20
SPICE BLENDS	\$3,400,000,000	3%	\$102,000,000	75%	76,500,000 D		21,857,143	0.75
SUPPLEMENT S	\$27,600,000,000	1%	\$276,000,000	90%	248,400,000 D		70,971,429	0.90
FRESH	\$200,000,000	75%	\$150,000,000	100%	150,000,000 W		30,000,000	1.00
FRESH FROZEN	\$200,000,000	75%	\$150,000,000	100%	150,000,000 W		30,000,000	1.00
TAV	\$80,300,000,000		\$2,139,000,000		784,720,000		156,944,000	

Market Development (2)

5TH YEAR CORPORATE SALES	\$2,139,000,000						
AVERAGE WHOLESALE PRICE (WET)	\$5.00						
AVERAGE WHOLESALE PRICE (DRY)	\$35.00						
DULSE DEMAND 5TH YEAR (LBS.)	342,826,857						
PRODUCTION PER ACRE (POUNDS)	1,000,000						
ACRES NEEDED IN OREGON	343						
OTHER FACTS							
YEARLY WORLD DULSE PRODUCTION (LBS.)		700,000					
YEARLY WORLD SEAWEED PRODUCTION (LBS.)		16,000,000,000					
REFERENCES :							
1. MINTEL MARKET RESEARCH							
2. DULSENERGY CALCULATION							
3. DULSENERGY CALCULATION							
4. DULSE PRIORITY INDEX							

Output To The Local Community

- Provide employment
- Contribute to the local tax revenue
- Allow OSU/Hatfield research center's 16 years study to a good use
- Provide healthy products for human consumption
- Improve environment-Carbon offset
- Put New Port and Oregon on the world economic map for creating sound businesses and future of aquaculture in states

CHALLENGES

- Stabilizing Dulse's growth rate in large scale tanks.

Seeking assistance from the Port of New Port

- 4 areas and 5 year lease with flexible payments structure
- Ocean water use and discharge permits
- Ocean water access infrastructure
- Capacity of Electricity on the proposed land
- Working Capital Funding