

June 2, 2005

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Nutrition 21, Inc.  
www.nutrition21.com

NXXI NASDAQ SC \$0.94

Recommendation: BUY

#### Stock Data

|                       |               |
|-----------------------|---------------|
| 52 Week Range         | \$1.40-\$0.29 |
| Daily Vol (3 mo avg)  | 150,000       |
| Market Capitalization | \$36 mm       |
| Shares Outstanding    | 38.1mm        |
| Diluted Shares        | 48mm          |

#### Financials

|                  |           |
|------------------|-----------|
| Sales (ttm)      | \$11.6mm  |
| Net Income (ttm) | (\$6.0)mm |
| Current Ratio    | 3.4:1     |
| Cash             | \$10.8mm  |

#### Valuation

|                |      |
|----------------|------|
| Price/Earnings | NM   |
| Price/Book     | 2.4x |
| Price/Sales    | 3.2x |

| <u>FY June</u> | <u>Rev</u> | <u>EPS</u> |
|----------------|------------|------------|
| 2004A          | \$10.2mm   | (\$0.16)   |
| 2005E          | \$11.2mm   | (\$0.17)   |
| 2006E          | \$15.3mm   | (\$0.21)   |
| 2007E          | \$25.0mm   | (\$0.03)   |

See last 2 pages of report for important disclaimers.

## Nutrition 21, Inc.

### *Nutritional Biosciences Company*

Nutrition 21 is focused on the development and commercialization of innovative chromium-based products for use in improving the structure and function of the body, and in the prevention and treatment of metabolic diseases such as diabetes, insulin resistance, obesity, depression and cardiovascular disease.

- **Recommendation: We are initiating coverage of Nutrition 21 with a Buy recommendation.**
- **Nutrition 21 holds 36 patents for nutrition products including 22 for chromium compounds and their uses.**
- **Clinical studies show that chromium picolinate may: reduce abnormally elevated blood sugar levels, reduce the risk of insulin resistance, reduce the risk of type 2 diabetes, and reduce cardiovascular disease associated with type 2 diabetes.**
- **The Company, in conjunction with XLHealth Corporation has completed a 453 patient multi-center pivotal trial.**
- **As the science continues to unfold we expect that the market for chromium picolinate will expand significantly. Potential uses could range from an adjunct therapy for type 2 diabetics to an additive in foods and beverages as a means of improving the glycemic index.**

## Business Summary

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New York-based Nutrition 21, Inc. (Nutrition 21) is a nutritional biosciences company dedicated to the research, development and commercialization of innovative chromium-based products for use in improving the structure and function of the body, and in the prevention and treatment of metabolic diseases such as diabetes, insulin resistance, obesity, depression and cardiovascular disease. The function of insulin, the body's master metabolic hormone, is in part dependent on chromium that must be supplied through diet or supplementation. The Company markets Chromax® chromium picolinate, which is the most studied form of the essential mineral chromium. In 2002 Chromax was affirmed as GRAS (Generally Recognized As Safe) after undergoing an extensive safety review. Nutrition 21 holds 36 patents for nutrition products, 22 for chromium compounds and their uses. Nutrition 21's Chromax chromium picolinate is a form of the essential mineral chromium developed by the USDA and licensed to the Company. The Company currently licenses chromium picolinate to vitamin and supplement manufacturers and marketers for use in human and animal nutritional products at doses typically between 50-400 mcg under its Chromax trademark. Finished products that incorporate chromium picolinate are marketed to enable consumers to meet their requirements for essential dietary chromium needs, and are regulated by the FDA under the Dietary Supplement Health and Education Act (DSHEA).

Nutrition 21's other core product is Diachrome®, a nutritional supplement specifically formulated for people with diabetes. Diachrome is a patented combination of chromium picolinate and biotin. The Company, in conjunction with XLHealth Corporation, has just recently completed a 453 patient multi-center pivotal trial to evaluate the effects of Diachrome on glycated hemoglobin, fasting plasma glucose, cholesterol, and triglyceride profiles in patients with type 2 diabetes. XLHealth is a nationally recognized disease management firm managing chronically ill patients for the Centers for Medicare and Medicaid Services (CMS) and private Medicare Advantage markets. The trial is the largest U.S. study of the health benefits of a chromium-based intervention for diabetes. Preliminary data further confirms the safety and benefits of Diachrome in managing blood sugar and cholesterol levels as an adjunct to pharmaceutical treatments for people with type 2 diabetes. The Company has provided scientific updates on the data at two recent conferences. A full published report of the final data is expected by January 2006.

The scientific literature makes it clear that chromium picolinate has glucose regulatory activity in healthy and diseased populations. The scientific literature shows that poor chromium status is a factor contributing to the incidence of: abnormally high blood sugar levels; type 2 diabetes; retinopathy, kidney disease, and cardiovascular disease when caused by abnormally elevated or high blood sugar levels.

Chromium picolinate has a reasonably well understood Mechanism of Action: chromium appears to increase insulin sensitivity by accelerating the clearance of glucose plasma in the presence of a fixed amount of insulin. It also inhibits an enzyme that deactivates the phosphorylated insulin receptor.

## Company Evolution

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Nutrition 21 revenue has trended downward over the past five years; revenue was \$32 million for the FY June 2000 vs. an estimated \$11 million for the FY June 2005. The decline in revenue was largely a function of three factors: 1) the Company's composition of matter patent expired in 2000; 2) ingredient sales in certain body shaping and weight-loss products dried up, and 3) a product line was discontinued. The expiration of the composition of matter patent forced Nutrition 21 to reduce prices. Nutrition 21 benefited from the wave created by Ephedra-based products such as Hydroxycut. The relatively unregulated market for these types of weight loss and body shaping products really began surging in the late 1990s. Chromax was an ingredient in a number of these products and Nutrition 21 realized as much as \$4 million annually just from this category. In the late 1990's the Company acquired the Lite Bites® family of diet products. Lite-Bites generated peak annual revenue of \$7 million in 2000. The Ephedra-based revenue vanished when most of these products were pulled from the market. The Company discontinued the Lite Bites product line in FY2003 because it was never profitable.

Even though demand for chromium picolinate was still strong in 2000, it was becoming increasingly clear to the Company that this nutritional food and supplement market was changing. The FDA and the FTC were challenging the advertising claims being made by many of these products. Anecdotal evidence and early clinical data suggested that the therapeutic value of chromium picolinate was significant. Management realized, however, that it lacked the full scale clinical data necessary to aggressively drive growth long-term.

The Company's growth strategy moving forward is two pronged; Chromax is consumer-oriented and Diachrome is physician-oriented. Current annual revenues of \$11 million are all Chromax related. The growth in the consumer market is dependent on the Company building branded products for Chromax and continuing to incorporate chromium picolinate in other foods and multi-vitamins. Nutrition 21's revenue growth would likely be substantially enhanced if the FDA allows chromium picolinate to expand its health claims. In December 2003, Nutrition 21 petitioned the FDA to allow it to make certain qualified health claims (QHCs) with respect to chromium picolinate. These health claims include: chromium picolinate may reduce the risk of insulin resistance; chromium picolinate may reduce the risk of cardiovascular disease when caused by insulin resistance; and chromium picolinate may reduce the risk of type 2 diabetes. The FDA has requested several extensions regarding these qualified health claims. The latest date for a response from the FDA is mid-June 2005. While we believe that Nutrition 21 can reach profitability strictly from consumer-oriented sales, we expect that the longer-term growth driver will be Diachrome. We view the Company's anticipated marketing ramp on the consumer side as being helpful to near-term growth. Perhaps more importantly, we view this marketing as key component to the overall education of both consumers and physicians.

Potential uses for chromium picolinate could range from an adjunct therapy for diabetes to an additive in foods and beverages as a means of improving the glycemic index. We view Nutrition 21 as potentially 2-3 years away from very dynamic growth. In the interim, we believe that the consumer-side of the business could drive annual revenues to north of \$25 million.

## Investment Thesis

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Over the past 4+ years the Company has performed critical clinical studies necessary to further establish the scientific basis for the efficacy of chromium picolinate. This clinical approach is not dissimilar to the strategy that products such as Glucosamine / Chondroitin and DHA and ARA went through, prior to sales ramping quickly. For example, the estimated U.S. market for Glucosamine/Chondroitin was \$160 million in 1997 and quickly grew to an estimated \$739 million in 2003 -- largely because of the substantial body of clinical evidence supporting its efficacy. Martek Biosciences, which markets products based on two essential fatty acids commonly known as DHA and ARA, saw revenues grow from \$18 million in 2001 to \$184 million in 2004 -- after receiving positive clinical feedback. During that same period, the estimated U.S. market for Chromium Picolinate increased only from \$63 million to \$90 million. As the science continues to unfold we expect that the market for chromium picolinate will expand rapidly. Chromium plays an essential role in the function of insulin. Insulin plays an essential role in maintaining appropriate blood glucose levels. The studies on diabetes make it very clear that if blood sugar is not controlled, the risk of complications rises -- blindness, kidney failure, heart disease and loss of limb are some of the results. Significantly, it is becoming increasingly understood that maintaining proper blood glucose levels is critical to the long-term health of both diabetics and non-diabetics. Interestingly, chromium appears to play a critical role in not just physical health but mental health as well. It has become clear that there are many connections between chromium status, insulin sensitivity, and the central nervous system. Clinical studies demonstrate beneficial effects of chromium picolinate in atypical depression, PMS, refractory mood disorders, and dysthmic disorder.

*Nutrition 21 made the decision 4+ years ago to aggressively expand the clinical data surrounding chromium picolinate. A recently completed 453 patient study for Diachrome could be a key driver in physician acceptance.*

The Diachrome study, which was done in conjunction with XLHealth, is targeted at patients with type 2 diabetes. According to Paul Serini, executive vice president of XLHealth, "based on the positive trial results we have seen thus far and the apparent benefits to our diabetic patients' health and medical spending, XLHealth is investigating ways the Diachrome product can be incorporated on a broad scale into the work we do with CMS and Medicare Advantage patients". On March 21, 2005 Nutrition 21 and XLHealth announced an agreement in principle on a program that will make Diachrome available to physicians for people with diabetes participating in the Center for Medicare and Medicaid (CMS) sponsored Chronic Care Improvement Program (CCIP) in Tennessee. Tennessee ranks 2<sup>nd</sup> in the nation in the number of persons diagnosed with diabetes and spends approximately \$3.6 billion annually on directly and indirectly associated health care costs. As many as 20,000 patients could be purchasing Diachrome as part of the Tennessee program.

On May 2, 2005 the Company presented data on the XLHealth Diachrome study at the American Heart Association's 6<sup>th</sup> Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology. The study, which evaluated 368 patients (a subset of the overall 453 patient study) over 12-weeks, was a randomized double-blind, placebo-controlled multi-center study that showed daily supplementation with Diachrome significantly reduced cardiovascular disease risk factors in people with type 2 diabetes. "The results are impressive since glucose lowering medications do not commonly reduce bad cholesterol levels, and frequently raise them as a side effect. The ability for Diachrome to reduce non-HDL cholesterol levels, a known cardiovascular risk factor, is very important in this population because heart disease is the leading cause of death in patients who suffer from diabetes," said lead researcher Cesar Albarracin, M.D., Medical Director of Alpha Therapy in Corpus Christi, TX. "The findings from these studies suggest that Diachrome can serve as a safe and effective adjunct therapy to diet and prescription medications in lowering both blood glucose and cholesterol levels."

One of Nutrition 21's primary goals is to get Medicare reimbursement for Diachrome. The next likely step is for XLHealth to conduct a longer-term study by incorporating Diachrome into the daily regimen of a large percentage of the 10,000 Medicare patients it is working with. We expect this to happen by January 2006. (Nutrition 21 would get paid to supply the Diachrome to the patients.) The key to mass adoption of Diachrome is to get doctors exposed to it so that they can fully understand the benefits. The XLHealth relationship provides the perfect platform to enroll and educate doctors. Adoption of Diachrome by the physician community would be a very significant driver of long-term growth for Nutrition 21.

The data that will drive the growth of Nutrition 21 continues to be released. We expect that the full data from the XLHealth trial will be ready for a prominent peer-reviewed publication by January 2006. While we view Diachrome as the key growth driver over the next 3-5 years, a number of wildcards remain. For example, it is possible that Nutrition 21 could partner with a major pharmaceutical company and incorporate chromium picolinate with an existing drug. Drugs targeted at diabetes or depression would seem to logical targets.

## Potential Near-Term Catalysts

Nutrition 21 will continue to publish and present clinical data regarding Chromax and Diachrome. The FDA is expected to respond to the Chromax Qualified Health Claims petition in June. (The FDA has already pushed its response date back three times and potentially could do so again.) A positive response from the FDA would likely provide a strong stimulus for Chromax sales. Nutrition 21 intends to develop Chromax as premium standalone brand while continuing to expand its ingredient and private label sales. The 453 patient Diachrome study has been completed and the Company, along with XL Health, has recently received the data. While the full details of the study will likely not be released until Q4 '05, Nutrition 21 will present preliminary data at several conferences over the next few months. The Company has already announced positive preliminary results. The goal is to establish Diachrome as a first line medical nutritional therapy for type 2 diabetes.

### Projected Timeline

| Event  | Projected Date                   |
|--|----------------------------------|
| Present preliminary data from the 453 patient Diachrome study at additional conferences, including the American Diabetes Annual Scientific Sessions in June. | June 2005                        |
| FDA decision on Qualified Health Claims (QHCs)   | June 2005 (subject to extension) |
| Begin rollout of premium standalone brand of Chromax   | September 2005                   |
| Receive determination from XLHealth regarding inclusion of Diachrome as a first line medical nutritional therapy for Medicare patients with type 2 diabetes. | September 2005                   |
| Begin XLHealth longer term Diachrome study.  | January 2006                     |
| Full details of the 453 patient Diachrome study released in peer-reviewed publication.   | January 2006                     |

| <b>Earnings Model (000s)</b> |                            |                           |                           |                           |                        |                         |                         |                         |
|------------------------------|----------------------------|---------------------------|---------------------------|---------------------------|------------------------|-------------------------|-------------------------|-------------------------|
|                              | 12 Mos<br>Jun-04<br>Actual | 3 Mos<br>Sep-04<br>Actual | 3 Mos<br>Dec-04<br>Actual | 3 Mos<br>Mar-05<br>Actual | 3 Mos<br>Jun-05<br>Est | 12 Mos<br>Jun-05<br>Est | 12 Mos<br>Jun-06<br>Est | 12 Mos<br>Jun-07<br>Est |
| <b>Revenue</b>               | 10,232                     | 2,741                     | 3,653                     | 2,394                     | 2,250                  | 11,038                  | 15,300                  | 25,000                  |
| <b>Cost of Goods</b>         | 2,119                      | 610                       | 672                       | 658                       | 608                    | 2,548                   | 3,145                   | 4,650                   |
| <b>Gross Profit</b>          | 8,113                      | 2,131                     | 2,981                     | 1,736                     | 1,643                  | 8,491                   | 12,155                  | 20,350                  |
| <b>Operating Exp</b>         |                            |                           |                           |                           |                        |                         |                         |                         |
| SG&A                         | 9,088                      | 2,159                     | 2,228                     | 2,224                     | 3,000                  | 9,611                   | 14,000                  | 15,000                  |
| R&D                          | 2,382                      | 609                       | 504                       | 770                       | 700                    | 2,583                   | 2,500                   | 2,500                   |
| Deprec & Amortiz             | 2,497                      | 584                       | 548                       | 596                       | 550                    | 2,278                   | 2,200                   | 2,200                   |
| Other                        | -                          | -                         | -                         | -                         | -                      | -                       | -                       | -                       |
| Total Operating Exp          | 13,967                     | 3,352                     | 3,280                     | 3,590                     | 4,250                  | 14,472                  | 18,700                  | 19,700                  |
| <b>Operating Profit</b>      | (5,854)                    | (1,221)                   | (299)                     | (1,854)                   | (2,608)                | (5,982)                 | (6,545)                 | 650                     |
| Other Income                 | 21                         | (2)                       | 17                        | 2                         | -                      | -                       | -                       | -                       |
| Interest Expense             |                            |                           |                           | 6                         | 500                    | 506                     | 2,000                   | 2,000                   |
| <b>Pre-Tax Income</b>        | (5,833)                    | (1,223)                   | (282)                     | (1,858)                   | (3,108)                | (6,488)                 | (8,545)                 | (1,350)                 |
| Taxes                        | 68                         | 4                         | 5                         | 10                        | -                      | -                       | -                       | -                       |
| <b>Net Income</b>            | (5,901)                    | (1,227)                   | (287)                     | (1,868)                   | (3,108)                | (6,488)                 | (8,545)                 | (1,350)                 |
| <b>Earnings Per Share</b>    | (\$0.16)                   | (\$0.03)                  | (\$0.01)                  | (\$0.05)                  | (\$0.08)               | (\$0.17)                | (\$0.21)                | (\$0.03)                |
| Avg Weighted Shares          | 36,767,826                 | 37,991,988                | 37,992,000                | 38,046,671                | 39,000,000             | 38,257,665              | 40,000,000              | 48,000,000              |

**Assumptions:**

The majority of the revenues over the next two fiscal years are derived from chromium picolinate being sold from private label agreements, as an ingredient, and from the Chromax standalone brand. We have assumed modest penetration of the multi-vitamin category (where chromium picolinate replaces other forms of chromium), with revenues reaching \$3 million in FY 2007. Projections do not include any potential alliances with a major soft drink or snack food company. Diachrome revenues are projected to reach \$2 million in FY 2007, primarily from the XLHealth studies with Medicare. Gross margins on all products, with the exception of the animal market, approach 85%. Revenues from the animal market remain constant at \$2 million, with associated gross margins of 50%. From a cash flow perspective, we expect Nutrition 21 to be cash flow positive in FY 2007. The projected interest expense of \$2 million for fiscal years 2006 and 2007 relates to the recent \$9.6 million financing. The actual cash portion of the interest expense is roughly \$576,000 annually, the balance reflects an allocation of the associated warrants.

## Company and Market Overview

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The function of insulin, the body's master metabolic hormone, is in part dependent on chromium that must be supplied through diet or supplementation. The 2003 annual US retail market for stand-alone chromium mineral supplements was estimated to be \$106 million based on retail sales data provided by the Nutrition Business Journal. More than 80% of US chromium supplements are formulated with the Company's Chromax chromium picolinate, while the rest contain chloride, polynicotinate or other forms. Research has shown that the bioavailability of chromium picolinate is substantially higher than these other forms. The opportunity to significantly expand the size of the chromium picolinate market will be a function of the clinical data.

Nutrition 21 holds 36 patents for nutrition products, 22 for chromium compounds and their uses. Nutrition 21's Chromax chromium picolinate is a form of the essential mineral chromium developed by the USDA and exclusively licensed to the Company. Since 1997, the Company's primary business has been to develop and market proprietary ingredients to the vitamin and supplement market for both human and animal applications. Currently, Chromax chromium picolinate is the Company's primary ingredients product. The Company's ingredient customers distribute Chromax as a stand-alone chromium supplement either using the Chromax name under license from the Company, or under their own private labels. Nutrition 21 sells and licenses Chromax to customers who incorporate it and other of the Company's ingredients into over 900 finished multi-ingredient products. These include vitamin/mineral formulas, weight loss and sports nutrition supplements, baked goods, beverages, and other products. These products are sold by the Company's customers under a variety of brands throughout the world through natural/health food stores, supermarkets, drug stores, and mass merchandisers, and also through direct sales and catalogue sales.

The alliance with XLHealth was formed to conduct a study to validate the benefits of Diachrome as a nutritional adjunct therapy to diabetes care in large populations with diabetes. XLHealth is managing a 4-year Medicare demonstration pilot project, the focus of which is to develop treatment protocols for the Medicare diabetic population. Diabetes affects about 18 million Americans and is projected to affect 23 million within the next decade. Current annual direct and indirect costs associated with diabetes are estimated at \$105 billion and nearly 25% of all Medicare expenditures are attributed to diabetes care. A preliminary economic analysis generated by Thomas Jefferson University's Department of Health Policy at Jefferson Medical College, Philadelphia, PA, has already indicated that significant healthcare savings of \$405 to \$729 per person per year could result from the use of Diachrome as an adjunct nutritional therapy for people with type 2 diabetes. If Diachrome were adopted as a supplemental adjunct to existing treatment regimens by 5% of the current diagnosed diabetes population, total annual US public healthcare savings of \$375 million to \$674 million could be anticipated. Supplying this same segment of the diagnosed US population with a 12-month supply of Diachrome, priced at approximately \$12.50 per patient per month would generate approximately \$135 million in retail sales.

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## Research Summaries

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Diabetes & Insulin Resistance. Since 1965, over 369 studies have looked at chromium in diabetes and insulin resistance. According to a review by Richard A. Anderson, Ph.D., by 1998 over three dozen studies had already been reported on the effects of chromium supplementation, especially as the studies relate to chromium picolinate and people with type 2 diabetes. “Essentially all of the studies employing the more bio-available chromium picolinate have reported positive effects, while there have been varying effects when other forms of chromium have been used,” wrote Anderson. Improvements in glucose, insulin and blood fats have been shown, with increasing effects corresponding to increasing dosage.

Cardiovascular. According to an April 2002 scientific presentation, “functional chromium deficiency in people with cardiovascular disease may be directly related to a relative lack of chromium in the diet.” Chromium supplementation helps in reducing the risk of early onset of coronary heart disease by reducing the associated risk of complications. After more than three decades of chromium research, supplementation studies have consistently demonstrated significant effects on blood-fat metabolism in humans, which is discussed in numerous studies dating back to 1966. Chromium’s average improvement in total cholesterol levels (3 percent) can provide a 15 percent reduction in the incidence of coronary heart disease (CHD); a parallel decrease in LDL (or “bad”) cholesterol and an increase in HDL (or “good”) cholesterol can reduce the risk of CHD by two to three percent.

Obesity. At least 28 studies since 1971 have looked at chromium supplementation in reference to cholesterol and lipid metabolism. Double-blind, placebo-controlled studies have demonstrated that, as part of a healthy diet and exercise program, chromium supplementation can help reduce body fat, increase or maintain lean body tissue (i.e., muscle) and can lead to weight loss. Chromium picolinate supplementation led to increased lean body mass in obese patients on very-low-calorie-diets (1997) and in overall body composition in non-dieting obese subjects (1998, 1996).

Depression. A number of recent studies have uncovered key insights into the beneficial role chromium picolinate supplementation plays in the metabolic and biochemical pathways of depressive illness. Building on pioneering research by the University of North Carolina’s Dr. Malcolm McLeod, Duke University’s Dr. Jonathan Davidson recently published his findings in which chromium supplementation in 15 patients with atypical depression yielded significant improvement in such behaviors and symptoms as overeating, hostility/interpersonal sensitivity, fatigue, depression. In fact, chromium picolinate supplementation brought on a 60 percent rate for full remission of symptoms.

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## Recently Completed and Ongoing Studies of Chromium Picolinate

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Nutrition 21 continues to provide funding for clinical studies of its products to evaluate efficacy and mechanism of action. The following summarizes certain of these studies.

- On May 2, 2005, the Company presented results from the Diachrome study at the American Heart Association's 6<sup>th</sup> Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology. The study showed that Diachrome significantly reduced cardiovascular disease risk factors in people with type 2 diabetes. The findings suggest that Diachrome can serve as a safe and effective adjunct therapy to diet and prescription medications in lowering both blood glucose and cholesterol levels.
- In April 2005, the results of a study conducted by the Ohio State University Department of Nutrition compared the absorption of four different types of nutritional chromium at the dose of 200 mcg, in the form of: Chromax chromium picolinate, chromium chloride, chromium niacin amino acid chelate and chromium nicotinate. The researchers found that women who consumed chromium supplements absorbed a significantly higher amount of chromium picolinate, as compared with the other three types of chromium.
- In March 2005 a presentation entitled "Beyond low-carb; chromium, glucose metabolism and glycemic response" was given at Nutracon. An overview of recent studies showing chromium picolinate's role in reducing the glycemic response, reducing carbohydrate cravings, and improving carbohydrate metabolism.
- In a study done at Harvard University, published in "Diabetes Care" in September/October 2004, low chromium status was associated with increased risk of coronary heart disease.
- In a white paper published in October, 2004 entitled "The role of chromium picolinate in weight loss", chromium picolinate was shown to improve carbohydrate metabolism in people who have diabetes or who are overweight and have impaired blood glucose metabolism.
- In a study completed in late 2004 entitled "Nutraceutical resources for diabetes prevention- an update", the significant role of chromium picolinate in preventing type 2 diabetes was further established.
- In a study completed in 2004, the Company gave a \$900,000 research grant to Comprehensive Neuroscience, Inc. to conduct a clinical study on "*The Effects of Chromium Picolinate in Atypical Depression.*" The study was a double-blind placebo-controlled trial of Chromax chromium picolinate with depression and symptoms including carbohydrate cravings, weight gain and tiredness. Results from this study suggest that chromium picolinate exerts antidepressant effects in people with carbohydrate craving and reduces their carbohydrate craving.

- In a study completed in 2003, the Company supplied Chromax chromium picolinate to the University of Vermont for a clinical study that was funded by the American Diabetes Association. The study is entitled “*Evaluation of the Effect of Chromium Picolinate in People with Type 2 Diabetes*”, and was designed to evaluate the effect of Chromax chromium picolinate on insulin sensitivity in people with type 2 diabetes. The study reported that chromium picolinate supplementation improved the glycemic control in people with type 2 diabetes through enhancement of insulin action in cellular signaling.
- The Yale School of Medicine is currently undertaking a clinical study funded by the NIH that is evaluating “*Chromium Effects in Impaired Glucose Tolerance*”. This study focuses on the effects of chromium picolinate on both measures of glucose tolerance (glucose, insulin, OGTT) and brachial artery endothelial function, and is designed to generate dietary chromium recommendations for reducing the risk of diabetes and associated diabetes.
- The Pennington Biomedical Research Center is currently conducting a study funded by the NIH that is entitled “*Chromium and Insulin Action.*” The study focuses on the effects of chromium picolinate on glucose homeostasis, and is designed to generate dietary chromium recommendations for reducing the risk of diabetes and associated diseases.
- The University of Pennsylvania is currently conducting a clinical study funded by the NIH that is entitled “*A Double Blind Randomized Controlled Clinical Trial of Chromium Picolinate on Clinical and Biochemical Features of the Metabolic Syndrome.*” This study is evaluating the effect of daily supplementation with chromium picolinate in insulin sensitivity in individuals with metabolic syndrome, and on glucose tolerance tests, HDL-C, triglycerides, body composition, BMI and blood pressure. The study will also provide the first human data on the effects of oxidative stress and inflammation, which are major risk factors in the progression of diabetes and cardiovascular disease.

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## Safety of Chromium Picolinate

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Several researchers have questioned the safety of chromium picolinate. In 1995 and 2002 a research group headed by Dianne Stearns, Ph.D. (Dartmouth College and Northern Arizona University) administered chromium picolinate in a laboratory to Chinese hamster ovary cell lines, and in 2003 another research group headed by John Vincent, Ph.D. (University of Alabama) administered chromium picolinate to fruit flies. Both reported safety concerns. Nutrition 21 engaged an independent contract research organization, BioReliance Corporation, and replicated the studies conducted by Stearns using Chromax chromium picolinate following internationally accepted procedures. Chromax chromium picolinate was found to be safe. On December 14, 2004, **the UK Foods Standard Agency (FSA) announced that consumers can be confident that chromium picolinate is a safe dietary supplement, revising earlier recommendations.** The FSA update stems from conclusions reported by the Committee on Mutagenicity (COM), which conducted a year-long comprehensive scientific review of chromium picolinate's safety. As part of the review, the COM requested a duplication of the Stearns study. "The replication studies, conducted by an independent laboratory, tested commercially available Chromax chromium picolinate and showed no genetic damage," according to Ronald S. Slesinski, PhD, DABT, president-elect of the Regulatory & Safety Specialty Section of the Society of Toxicology. **"Chromium picolinate is one of the safest dietary supplements on the market today."**

Other studies which further confirm the safety of chromium picolinate include:

- The United States Government, acting through the National Institutes of Health – National Technology Program ("NTP"), has independently evaluated the safety of chromium picolinate with a government approved test. In 2002, the NTP did not find any safety concerns with chromium picolinate, even at high doses.
- In 2002 a group of experts consisting of Richard Anderson, Ph.D. (senior scientist USDA chromium expert), Walter Glinsman, MD (former director from the FDA), and Joseph Borzellca, Ph.D. (professor emeritus of pharmacology and toxicology from Virginia Commonwealth University) reviewed all existing studies of chromium picolinate and found no safety concerns.
- In 1997 United States Department of Agriculture ("USDA") researchers published results of a high dose chromium picolinate study, concluding that chromium, picolinate is safe.

## Comparables

| Company                      | Symbol | Recent Price | Market Cap Mill | TTM Rev Mill | Rev Mult | TTM Inc Mill | PE Mult |
|------------------------------|--------|--------------|-----------------|--------------|----------|--------------|---------|
| <b>Martek Bioscience</b>     | MATK   | \$37.89      | \$1,190         | \$215        | 5.53     | \$50.7       | 23      |
| <b>Natures Sunshine</b>      | NATR   | \$16.24      | \$247           | \$339        | 0.73     | \$18.0       | 14      |
| <b>Nu Skin Enterprises</b>   | NUS    | \$22.74      | \$1,590         | \$1,160      | 1.37     | \$80.9       | 20      |
| <b>Nutrition 21</b>          | NXXI   | \$0.94       | \$36            | \$11.6       | 3.10     | (\$6.0)      | NM      |
| <b>Reliv Int'l</b>           | RELV   | \$10.60      | \$172           | \$102        | 1.69     | \$5.8        | 30      |
| <b>Usana Health Sciences</b> | USNA   | \$43.62      | \$825           | \$287        | 2.87     | \$33.50      | 25      |

## Valuation Discussion

None of these companies is a perfect comparable for Nutrition 21. Clearly all of the above companies are significantly bigger than Nutrition 21. Martek, Reliv and Usana have experienced the fastest growth over the past few years. Not surprisingly, these companies have also been awarded the highest earnings multiples. With the exception of Martek, all of these companies have gross margins above 60%. Usana and Nutrition 21 enjoy the highest gross margins, typically north of 75%. Martek has gross margins of around 40% largely because of the complicated manufacturing process necessary to produce its products. This manufacturing process also serves as a significant barrier to entry. Even with the lower gross margins, Martek is able to generate strong operating margins because its products are primarily an ingredient used in other products. The other companies typically spend much more of each revenue dollar for sales and marketing. We expect Nutrition 21 to increase sales and marketing expenditures over the next few years in an effort to ramp the consumer-side of the business. As Diachrome ramps, however, we expect sales and marketing expenses as a percentage of revenue to decrease. We believe that the Nutrition 21 model could enjoy very significant leverage over the next 3-5 years as gross margins are expected to remain very strong.

Obviously many positive things have to happen before Nutrition 21 could hope to generate revenue of \$50 million or \$100 million. There are many hurdles that need to be overcome for this growth to actually happen. We believe that over the next 12-18 months it will become increasingly clear how well positioned Nutrition 21 is for significant growth. The earnings leverage it could enjoy will also become increasingly apparent. We would encourage risk-oriented investors to consider investing in Nutrition 21 at the current price.

**Balance Sheet (000s)**

| <b>ASSETS</b>  | <b>3/31/05</b> | <b>12/31/04</b> |
|--|----------------|-----------------|
| CASH & EQUIVALENTS*  | \$8,886        | \$715           |
| SHORT-TERM INVESTMENTS   | 2,000          | 2,000           |
| RESTRICTED CASH  | 1,225          | 1,225           |
| ACCOUNTS RECEIVABLE  | 1,145          | 1,247           |
| OTHER RECEIVABLES  | 1,121          | 128             |
| INVENTORIES  | 437            | 849             |
| PREPAID EXPENSES AND OTHER   | 369            | 356             |
| TOTAL CURRENT ASSETS   | <u>15,183</u>  | <u>6,520</u>    |
| PROPERTY AND EQUIPMENT, NET  | 213            | 226             |
| PATENTS, TRADEMARKS & OTHER INTANGIBLES                                    | 7,463          | 7,878           |
| OTHER ASSETS   | 824            | 187             |
| TOTAL ASSETS   | <u>23,683</u>  | <u>14,811</u>   |
| <b>LIABILITIES</b>   |                |                 |
| ACCOUNTS PAYABLE AND ACCRUED EXP   | 4,365          | 3,577           |
| CONTINGENT PAYMENTS PAYABLE  | 39             | 45              |
| TOTAL CURRENT LIABILITIES  | <u>4,404</u>   | <u>3,622</u>    |
| 6% SERIES I CONVERTIBLE PREFERRED STOCK<br>SUBJECT TO MANDATORY REDEMPTION | \$4,262        |                 |
| TOTAL LIABILITIES  | <u>\$8,666</u> |                 |
| <b>STOCKHOLDERS' EQUITY</b>  |                |                 |
| PREFERRED STOCK  | --             | --              |
| COMMON STOCK   | 190            | 190             |
| ADDITIONAL PAID-IN CAPITAL   | 73,133         | 67,437          |
| DEFICIT ACCUMULATED  | (58,306)       | (56,438)        |
| TOTAL STOCKHOLDERS' EQUITY   | 15,017         | 11,189          |
| TOTAL LIABILITIES & STOCKHOLDERS' EQUITY                                   | <u>23,683</u>  | <u>14,811</u>   |

\*Does not include \$9.6 million from financing on 3/31/05

**Risk Factors**

The composition patent on chromium picolinate expired in 2000. The use patent on chromium picolinate expires in mid-2009. A license from Nutrition 21 is required for all chromium picolinate products that are sold in the US for glucose control and its derivative benefits, including cholesterol control and improved body composition. The Company intends to make a focused effort on branding chromium picolinate over the next 4 years to minimize the impact of the expiring use patent. Patents for improved chromium picolinate complexes containing various combinations of chromium and various nutrients for enhancing the benefits of chromium picolinate, are in force until the year 2017. More

recently, the Company has secured patent rights to the uses of all forms of chromium in the treatment of depression and other mood disorders that are in force until 2018.

The ultimate decision of the FDA regarding the Company's qualified health claims is uncertain. A negative ruling by the FDA would not be a critical blow to the Company but it might temper some of the growth on the consumer side. The Company believes that recent clinical data, not included in the original QHC submission, further substantiates the claims.

The Company is involved in several legal proceedings including one with a former CEO. An unfavorable ruling was noted in Nutrition 21's 12/31/04 10-Q. Andrew Wertheim, was awarded approximately \$1.1 million as damages relating to salary and benefits, stock options and interest. On November 1, 2004, the US District Court for Southern NY denied a motion by the Company to vacate part of the award that related to the stock options – roughly \$700K. Although Nutrition 21 is appealing this decision, it has reserved approximately \$1.2 million on its balance sheet as restricted cash for this matter.

Along with five other parties, Nutrition 21 is a third-party defendant in a lawsuit where the FTC sued QVC on March 24, 2004 for weight loss advertising claims made on QVC for Nutrition 21's Lite Bites products that were discontinued in FY 2003. On February 2, 2005, motions to strike QVC's third-part complaints were denied. Although Nutrition 21 is considering appealing this decision, we believe that the Company's maximum exposure is less than \$2 million.

## Stock Price History



## Rating System

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Wall Street Advisor does not make a judgment on the prospects for the broad market indices. Our investment ratings have a time horizon of 12-18 months. Relative to the market over that time, we compare a stock's expected performance to that of a broader market, relevant index, which is typically either the S&P 600 or the Russell 2000.

|   |  |
|---|--|
| <b>BUY /<br/>SPECULATIVE BUY</b><br>(20% or more<br>appreciation) | <p>We believe that the stock will outperform the market by at least 20% over the next 12-months. Speculative buy has a higher associated risk; the Company's future prospects may hinge on critical assumptions such as sufficient financial liquidity, FDA approvals, market acceptance of a new strategy, etc.</p> |
| <b>OUTPERFORM</b><br>(10% to 20%)                                 | <p>We believe that the company's business model and prospects are solid, and we expect that over the long-term the stock will outperform the market by 10% to 20</p>   |
| <b>NEUTRAL</b><br>(-10% to 10%)                                   | <p>We don't have a strong opinion about which way the stock price will move, but expect it to rise or fall less than 10% relative to the market. Our analysis suggests a value reasonably close to the current price.</p>  |
| <b>UNDERPERFORM</b><br>(-10% to -20%)                             | <p>We believe the stock may well be ahead of itself or we are sufficiently concerned about results that we cannot justify the current valuation. We believe the stock may underperform the market by as much as 20%.</p>   |
| <b>SELL</b><br>(-20% or more)                                     | <p>We expect the stock to underperform the market by at least 20% and see no reason to own the stock.</p>  |

As of 6/1/05, 40% of our coverage universe has a Buy rating and 60% of our coverage universe has a Speculative Buy rating.

## Disclaimer

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