

Burbur Pinella™

Applications

- | | |
|---|----------------------------|
| • Detoxification Support | • Neurological Support |
| • Healthy Inflammatory Response Support | • Microbial Support |
| • Antioxidant Support | • Gastrointestinal Support |



Introduction

NutraMedix Burbur Pinella™ is a proprietary blend of **Burbur™** and **Pinella™** hydro-ethanol extracts. **Burbur™** is made from **manayupa leaf** (*Desmodium molliculum*) and **Pinella™** is made from **pimpinella stem** (*Pimpinella* spp.).

Manayupa leaf (*D. molliculum*) is in the Fabaceae family, and is native to the Peruvian Andes at 1,000–3,500 meters above sea level, though it can also be found from Mexico to Central and South America.¹ Other names for *D. molliculum* include manayupa,² muña,¹ chancas de comida,³ herba del infante (infant grass),⁴ and pie de perro or pata de perro (dog's foot).^{3,5}

Manayupa leaf contains polyphenols, flavonoids, flavonol glycosides, alkaloids, saponins, and tannins, along with vitamins E and K.^{2,4,6} The leaves, stems, and roots have a history of traditional use in Peru, Ecuador, and Columbia,⁷ including liver and detoxification support, urogenital support, respiratory support, skin support, and healthy inflammatory-response support.^{3,6–8}

Pimpinella stem (*Pimpinella* spp.) is in the Apiaceae family, of which *P. anisum* is the most well-known. *P. anisum* contains monoterpenoids such as alpha- and beta-pinene, camphor, and borneol; triterpenoids such as betulinic acid, ursolic acid, and oleanolic acid; sesquiterpenes such as beta-caryophyllene, germacrene D, and beta-selinene; flavonoids and their glycosides, such as quercetin,

apigenin, and kaempferol; and organic acids such as vanillic acid, rosmarinic acid, and salicylic acid.⁹

P. anisum also contains volatile oils such as *trans*-anethole and eugenol, fatty acids such as palmitic and oleic acids, 18% mass of protein, and 4% mass of carbohydrate. Anethole may have phytoestrogenic effects.^{10,11} Some studies show that the whole plant may consist of up to 57.4% *trans*-anethole.¹²

Traditionally, *Pimpinella* spp. such as *P. anisum* have been used to support gastrointestinal health, urinary health, and respiratory health.⁹

NutraMedix Burbur Pinella is made at our U.S. manufacturing facility using a specialized proprietary extraction process that optimizes the constituents of the herbs in their original, unprocessed state to obtain broad-spectrum concentration. Because our extracts are made in our own facility, we control all aspects of quality, including stringent ID testing, microbial testing, and heavy metal testing. NutraMedix rigorously follows current good manufacturing practices (cGMP), as do our suppliers.

Detoxification Support

Manayupa leaf (*D. molliculum*) supports the body's natural detoxification systems and promotes liver health, as found in a rat study using an aqueous extract of the leaves and stems.¹ Compared to the placebo, manayupa leaf helped

maintain gamma-glutamyltransferase (GGT), aspartate aminotransferase (AST), and alanine aminotransferase (ALT) already within the normal range.¹³ Other animal studies have shown that manayupa leaf (*D. molliculum*) helps maintain levels of AST, ALT, alkaline phosphatase (ALP), and total bilirubin already within the normal range, maintaining hepatic tissue health.⁷

In a high-dose study with rats, a hydroalcoholic extract of manayupa leaf showed hepatoprotective support that was comparable to silymarin from milk thistle (*Silybum marianum*).¹⁴ This liver support is attributed to the flavonoid schaftoside, which helps maintain eicosanoid production already within the normal range.⁷

Pimpinella (*P. anisum*) may help promote the body's natural detoxification systems, supporting and maintaining liver and kidney health.^{15,16} *P. anisum* may help maintain levels of urea, uric acid, and creatinine already within the normal range.¹⁶

Antioxidant Support

Manayupa leaf (*D. molliculum*) may help with antioxidant support,¹¹ attributed in part to the constituent D-pinitol.⁷

Flavonoids in manayupa leaf have been verified by thin-layer chromatography (TLC). Phenolic content has been verified by the Folin-Ciocalteu test, and antioxidant activity has been measured by 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay.⁴ A methanolic extract of manayupa leaf showed significant antioxidant support as quantified by DPPH assay.¹⁷

Pimpinella (*P. anisum*) may help with antioxidant support,^{18,19} as quantified by 2,2-diphenyl-1-picrylhydrazyl (DPPH), 2,2'-azino-bis(3-ethylbenzothiazoline-6-sulfonic acid (ABTS), and iron-reducing assays.¹⁸

Health Inflammatory Response Support

Studies show that **manayupa leaf** (*D. molliculum*) supports a healthy inflammatory response by maintaining levels of cyclooxygenase-2 (COX-2), tumor necrosis factor-alpha (TNF-alpha), interleukin 1-beta (IL-1-beta), and interleukin-6 (IL-6) already within the normal range.⁷

In a rat study using a hydroalcoholic manayupa leaf extract, the healthy inflammatory-response support was superior to placebo and comparable to the positive control.²⁰ In a mouse study, inflammatory-response support was attributed to the low molecular-weight polyphenol flavonoid compounds, and the extract helped maintain Th2 lymphocytes and eosinophils as well as interleukin-4 (IL-4), interleukin-5 (IL-5), interleukin-8 (IL-8) and Immunoglobulin E (IgE) levels already within the normal range.²¹

In a human study, participants included 150 women ages 18–45. The treatment group was given manayupa leaf tea twice per day for five days—three days before menstruation and then the first two days of menstruation. The control group was given a positive control. At the end of the three-month study, compared to baseline, manayupa leaf helped maintain levels of cyclooxygenase, IL-6, and TNF-alpha already within the normal range, supporting more comfortable menstruation.²²

Neurological Support

The eugenol found in **pimpinella** (*P. anisum*) may help support neurological health and may help maintain brain electrical discharges already within the normal range.²³ *P. anisum* may also help maintain neurological health by supporting healthy neuroplasticity.²⁴

Other Support

Microbial Support

Manayupa leaf (*D. molliculum*) may help with microbial support.^{25–31} In a laboratory study comparing the effects of an ethanolic leaf extract to both positive and negative controls, manayupa leaf showed significant and dose-dependent microbial support.²⁶

Other laboratory studies using the ethanolic extract of manayupa leaf and stem showed dose-dependent microbial support, with the stem extract comparable to the positive control.¹⁸ Manayupa leaf ethanolic extract and aerial-parts hydroalcoholic extract showed microbial support, with the aerial-parts extract comparable to the positive control.^{28,29}

Pimpinella (*P. anisum*) may help with microbial support.^{18,19,32–34} An in vitro study with pimpinella

leaf ethanolic extract showed comprehensive microbial support.³³ An in vitro study with pimpinella seed methanolic extract attributed the microbial support to phenolic compounds—specifically polyphenolic acids and flavonoids.¹⁸ In addition, a hot water extract also showed microbial support.³⁴

Gastrointestinal Support

Pimpinella (*P. anisum*) may help with gastrointestinal support by maintaining healthy gastric mucosa.³⁵ In addition, it may help with gastrointestinal microbial support.³² It may also help maintain bowel regularity,³⁶ and has been used traditionally to support gastrointestinal smooth-muscle relaxation.⁹

Safety and Cautions

Manayupa leaf (*D. molliculum*) is generally well tolerated. It was determined to be non-toxic in a mouse study that followed the Organization for Economic Cooperation and Development (OECD) 423 test guidelines.³⁷ In another mouse study, there were no signs of toxicity in doses of up to 2,000 mg/kg of manayupa leaf and stem aqueous extract for 14 days.³⁸ In an acute toxicity study with rats, a single dose of 2,000 mg/kg of hydroalcoholic extract led to drowsiness and mild sedation without signs of toxicity.³⁹

There have been two reports of adverse effects in humans who used manayupa. One event involved a severe skin rash in a 72-year-old female, and the other involved mild dizziness and confusion in a 62-year-old female.⁴⁰

Very high doses of manayupa leaf may have contraceptive effects.⁴¹ In a study using an ethanolic extract of manayupa leaf, rats were divided into

four groups, receiving either distilled water, 200 mg/kg of ethanolic extract, or 600 mg/kg of ethanolic extract, or a positive control. At the end of the experimental period, there were significant and dose-dependent differences in pregnancy rates in the manayupa leaf groups compared to the control group.⁴¹

The average human dose of Burbur is 40 drops or 1.2 ml dissolved in water, which is approximately 0.000166 mg/kg of body weight.³⁷

Pimpinella stem (*Pimpinella* spp.) is generally well tolerated. There have been reports of allergic reactions to (*P. anisum*), which may include dermatologic, respiratory, or other gastrointestinal symptoms.⁴²

P. anisum should not be used when trying to conceive as it may inhibit the implantation of the fertilized egg.^{11,42} The alcohol extract should be avoided in pregnancy.⁴² It should also be avoided during childbirth, as it has inhibited uterine contractions in rats. This is attributed to the inhibition of both calcium entry via calcium channels and calcium release from stores.⁴³

P. anisum currently has no known drug interactions.⁴⁴ Theoretically, *P. anisum* may increase the effects and adverse effects of hypoglycemic drugs and codeine.⁴⁵ Theoretically, it may also interfere with oral contraceptives, estrogens, and tamoxifen.⁴⁵

Safety is not documented in breastfeeding or pregnant women, or in children under age 3, due to insufficient safety research.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure, or prevent any diseases.

References

- ¹Olascuaga-Castillo, K., Rubio-Guevara, S., et al. (2020). *Ethnobotany Research & Applications*, 19(9), 2020.
- ²Barreto, D. & Bonilla, P. (2017). *Ciencia e Investigación*, 20(1), 3-8.
- ³Bussmann, R.W., Sharon, D., et al. (2008). *Arnoldia*, 15(1), 127-148.
- ⁴Merchán Muñoz, G.A. & Samaniego Carrión. (2023). Trabajo de titulación previo a la obtención del título de Bioquímico Farmacéutico, Facultad de Ciencias Químicas, Carrera de Bioquímica y Farmacia, Universidad de Cuenca, Cuenca, Ecuador.
- ⁵Mostacero-León, J., García-Izquierdo, L.G., et al. (2022). *The Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromáticas*, 21(5), 561-576.
- ⁶Cabeza Zevallos, O.J. (2019). Para optar el grado académico de Maestro en Ciencias. Unidad de Posgrado de la Facultad de Ciencias Agrarias program de Maestría en Ciencias, Escuela de Posgrado, Universidad Nacional de Cajamarca, Cajamarca, Perú.
- ⁷Cueva-Chamba, A., et al. (2023). *The Boletín Latinoamericano y del Caribe*

- de Plantas Medicinales y Aromáticas*, 22(6), 700-746.
- ⁸Fajardo, S., Sours, A., et al. (2022). *Revista Peruana de Medicina Integrativa*, 7(3), 5-13.
- ⁹Wu, J., Cao, Z., et al. (2023). *Molecules*, 28(4), 1571.
- ¹⁰LactMed. (2021). Anise. *Drugs and Lactation Database*. National Library of Medicine (US).
- ¹¹Gardner, Z., & McGuffin, M. (2013). *American Herbal Products Association Botanical Safety Handbook* (2nd ed., pp. 657-659). CRC Press.
- ¹²Shojaii, A., & Abdollahi Fard, M. (2012). *ISRN Pharmaceutics*, 510795
- ¹³Gordillo, G., Bonilla, P., et al. (2019a). *Revista Peruana de Medicina Integrativa*, 4(3), 76-82.
- ¹⁴Saucedo Estela, P.Y., Tocto Céspedes, J.K., et al. (2019). *Revista Científica Ágora*, 6(2), e4.
- ¹⁵Asadollahpoor, A., Abdollahi, M., et al. (2017). *Journal of Research in Medical Sciences*, 22, 37.

- ¹⁶Amina, B., Nadia, A.H., et al. (2016). *International Journal of Green Pharmacy*, 10(2), 91.
- ¹⁷Hwang, S.H., Kim, H.Y., et al. (2019). *Molecules*, 24(10), 2010.
- ¹⁸Dawoud, T., & Ameen, F. (2023). *Biomedical Chromatography: BMC*, 37(12), e5739.
- ¹⁹Gülçin, I., Oktay, M., et al. (2003). *Food Chemistry*, 83, 371-382.
- ²⁰Guerrero Guerrero, M. & Valverde Pumachaico, R. (2023). Tesis para optar el título profesional de Químico Farmacéutico, Facultad de Ciencias de la Salud, Escuela Profesional de Farmacia y Bioquímica, Universidad María Auxiliadora, Lima, Perú.
- ²¹Acero-Carrión, B., Millones-Sánchez, et al. (2012). *Ciencia e Investigación Médica Estudiantil Latinoamericana*, 17(2), 62-67.
- ²²Gordillo Rocha, G.C. (2022). Tesis para optar el grado académico de Doctora en Farmacia y Bioquímica, Universidad Nacional Mayor de San Marcos, Universidad del Perú, Lima, Perú.
- ²³Pourgholami, M.H., Majzoub, S., et al. (1999). *Journal of Ethnopharmacology*, 66, 211-215.
- ²⁴Karimzadeh, F., Hosseini, M., et al. (2012). *BMC Complementary and Alternative Medicine*, 12(76), 1-9.
- ²⁵Rojas, R., Bustamante, B., et al. (2003). *Journal of Ethnopharmacology*, 88, 199-204.
- ²⁶López Mori, L.M. & Cuyan Malca, L.M. (2020). Tesis para optar el título profesional de Químico Farmacéutico, Facultad de Ciencias de la Salud, Escuela Profesional de Farmacia y Bioquímica, Universidad María Auxiliadora, Lima, Perú.
- ²⁷Vera Barrios, M. (2022). Tesis para optar el título profesional de Químico Farmacéutico, Facultad de Ciencias de la Salud, Escuela Profesional de Farmacia y Bioquímica, Universidad Católica Los Ángeles Chimbote, Trujillo, Perú.
- ²⁸Del Aguila, A.A. & Del Camen Cadenillas Montenegro, M. (2019). Tesis para optar el título profesional de Licenciado (a) en Biología, Microbiología, y Parasitología, Facultad de Ciencias Biológicas, Departamento Académico de Microbiología y Parasitología, Universidad Nacional Pedro Ruiz Gallo, Lambayeque, Perú.
- ²⁹Landeta, J. (2015). Tesis para optar por el Título Profesional de Químico Farmacéutico, Facultad de Ciencias Químicas, Universidad Central del Ecuador, Quito, Ecuador.

- ³⁰Olivera, N. & Principe, P. (2018). Tesis para optar al Título Profesional de Químico Farmacéutico y Bioquímico, Facultad de Ciencia Farmacéuticas Bioquímica, Universidad Inca Garcilaso de la Vega, Lima, Perú.
- ³¹Álvarez Capcha, O.M. & Carpio Bazán, Maribel. (2020). Tesis para optar el título profesional de Químico Farmacéutico, Facultad de Ciencias de la Salud, Escuela Profesional de Farmacia y Bioquímica, Universidad María Auxiliadora, Lima, Perú.
- ³²Robles-Zepeda, R.E., Velázquez-Contreras, C.A., et al. (2011). *Journal of Medicinal Food*, 14(10), 1280-1283.
- ³³AlBalawi, A.N., Elmetwally, A., et al. (2023). *Microorganisms*, 11(4), 1024.
- ³⁴Lee, J.B., Yamagishi, C., et al. (2011). *Bioscience, Biotechnology, and Biochemistry*, 75(3), 459-465.
- ³⁵Al Mofleh, I.A., Alhaider, A.A., et al. (2007). *World Journal of Gastroenterology*, 13(7), 1112-1118.
- ³⁶Kreydiyyeh, S.I., Usta, J., et al. (2004). *Life Sciences*, 74(5), 663-73.
- ³⁷Arguello, W.H., & Simón, G.G. (2005). Study of the acute oral toxicity of Burbur detox, originating from NutraMedix Laboratories, LLC, Florida, USA.
- ³⁸Gordillo, G., Bonilla, P., et al. (2019b). *Ciencia e Investigación*, 22(1), 31-34.
- ³⁹Escalante Rimey, N.L. (2022). Tesis para optar el título profesional de Químico Farmacéutico, Facultad de Ciencias de la Salud, Escuela Profesional de Farmacia y Bioquímica, Universidad Católica Los Ángeles de Chimbote, Chimbote, Perú.
- ⁴⁰Mendocilla-Risco, M., Bellido-Marin, B., et al. (2017). *Revista Peruana de Medicina Integrativa*, 2(2), 108-110.
- ⁴¹Acaro Chuquicaña, F.E. (2010). Para optar el Grado Académico de Magister en Farmacología con mención en Farmacología Experimental, Facultad de Farmacia y Bioquímica, Unidad de Post-Grado, Universidad Nacional Mayor de San Marcos, Lima, Perú.
- ⁴²Brinker, F. (2001). *Herb Contraindications & Drug Interactions* (3rd ed., p. 31). Eclectic Medical Publications.
- ⁴³Alotaibi M.F. (2020). *Journal of Ethnopharmacology*, 254, 112730.
- ⁴⁴American Botanical Council. (2021). <https://www.herbalgram.org/resources/commission-e-monographs/approved-herbs/anise-seed/>.
- ⁴⁵NatMed Pro. (2023). Anise [monograph]. <http://naturalmedicines.therapeuticresearch.com>

NutraMedix.

SHAKE WELL BEFORE EACH USE:
Put 20 drops in 4 oz. of water and wait one minute before drinking. May be taken several times per day as needed or as directed by your physician. Do not use if pregnant or nursing. Stop use if adverse reactions develop. Keep out of reach of children.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

7 28650 01677 5

**BURBUR
PINELLA™**

ANTIOXIDANT / DETOX SUPPORT†

Dietary Supplement

2 oz. (60 mL)

Supplement Facts
Serving Size: 20 drops
Servings Per Container: 60

Amount Per Serving	% Daily Value
Proprietary Blend	1.0mL*
<i>Desmodium molliculum</i>	
leaf extract, <i>Pimpinella</i>	
<i>spp.</i> stems extract	

*Daily Value not established

Other ingredients: mineral water, ethanol (20-24%)

NutraMedix
Jupiter, Florida 33458 USA
www.nutramedix.com
561-745-2917

Lot #
Exp.