

MINISTRY OF HEALTH
NATIONAL INSTITUTE FOR
FOOD CONTROL

THE SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

No.: **63** /VKNQG-ĐBCL
V/v Quotation request

Hanoi, date **18** month **2** year 2022

To:

Pursuant to Law on bidding and related documents for conducting law on bidding
Pursuant to the demand, quantity and requirement for accreditation body which conduct
ISO/IEC 17034 accreditation assessment and ISO/IEC 17043 surveillance assessment

National Institute for Food Control (NIFC) has made list, quantity and competence
requirements for ISO/IEC 17034 accreditation assessment and ISO/IEC 17043 surveillance
assessment. We would like to call organizations and individuals that meet all business
conditions as prescribed by law to quote for services that can be provided to NIFC. As follows:

- Scope of ISO/IEC 17034 accreditation assessment according to Appendix I (attached to
this official dispatch)
- Scope of ISO/IEC 17043 surveillance assessment according to Appendix II (attached to
this official dispatch)
- Suppliers's quotation must be included:
- + Danh mục, số lượng, đáp ứng yêu cầu về tổ chức đánh giá,... (Đơn giá chào đã bao gồm
thuế VAT, các chi phí trọn gói để thực hiện gói thầu: chi phí đi lại, lưu trú, đánh giá tại
địa điểm của bên mua và các chi phí khác có liên quan).
- + List, quantity, meet the requirements of accreditation body, etc. (The offered unit price is
inclusive of VAT, all-inclusive costs to implement the bidding package: travel,
accommodation, assessment at buyer's location and other relevant costs)
- + The quotation must have a specific date, clearly state the validity period of the quotation,
the progress of service provision, and have all seals and signatures representing the
company or organization.

Suppliers shall send quotation documents no later than **28/02/2022** to NIFC at following
address: **National Institute for Food Control**; address: No. 65 Pham Than Duat street, Mai
Dich ward, Cau Giay district, Hanoi capital, Vietnam. For more information, please contact by
phone: 024 39714512 or by email: qlcfnifc@gmail.com

Thank you very much!

To:

- As above;
- Deputy directors (for noticed);
- Storage: VT, ĐBCL.

DIRECTOR GENERAL

* **Le Thi Hong Hao**

APPENDIX I: Scope of ISO/IEC 17034 accreditation assessment
(Attached to official dispatch No. /VKNQG-DBCL date month year 2022)

| Certified Reference Material/ Matrix or Artifact | Properties Characterized | Approach Used to Assign Property Values | Test, Analysis, Measurement, Methods |
|---|--|--|---|
| Vitamin group B (B1, B2, B6) in health food | -Vitamin B1 Concentration Range: (100 - 300) mg/100g Uncertainty: 10-20% -Vitamin B2 Concentration Range: (100 - 300) mg/100g Uncertainty: 10-20% -Vitamin B6 Concentration Range: (100 - 300) mg/100g Uncertainty: 10-20% | In house methods (NIFC.02.M.15) | HPLC |
| Heavy metal (Pb, Cd, As, Hg) in water | - Pb: Concentration Range: (10 to 5 000) µg/mL Uncertainty: 5-20% - Cd: Concentration Range: (5 to 1 000) µg/mL Uncertainty: 5-20% - As: Concentration Range: (10 to 5 000) µg/mL Uncertainty: 5-20% - Hg: Concentration Range: (0 to 1 000) µg/mL Uncertainty: 5-20% | US EPA Method 200.8 | ICP-MS, ICP-OES |
| Food additive | - Sodium Cyclamat Concentration Range: 95 – 100% Uncertainty: 1-5% - Aspartame Concentration Range: 95 – 100% Uncertainty: 1-5% - Sodium saccharin Concentration Range: 95 – 100% Uncertainty: 1-5% - Acesulfame K Concentration Range: 95 – 100% Uncertainty: 1-5% - Potassium sorbat Concentration Range: 95 – 100% Uncertainty: 1-5% - Sodium benzoat Concentration Range: 95 – 100% Uncertainty: 1-5% - Sunset yellow Concentration Range: 85 –95% Uncertainty: 1-5% - Tartrazine Concentration Range: 80-90% Uncertainty: 1-5% - Brilliant Blue Concentration Range: 85-95% Uncertainty: 1-5% | In house methods | HPLC |

| Certified Reference Material/ Matrix or Artifact | Properties Characterized | Approach Used to Assign Property Values | Test, Analysis, Measurement, Methods |
|--|---|--|--------------------------------------|
| Metal | <ul style="list-style-type: none"> - Cu, Fe, Zn, Mn Concentration Range: 95-100% Uncertainty: 1-5% | In house methods | ICP-MS, ICP-OES, AAS |
| Microbiology in milk powder | <ul style="list-style-type: none"> - Coliforms, <i>Escherichia coli</i> Concentration Range: (0 – 10⁵) CFU/g; (0 – 10⁵) CFU/ml Uncertainty: within ±0.5 of a log of the assigned value - <i>Enterobacteriaceae</i> Concentration Range: (0 – 10⁵) CFU/g; (0 – 10⁵) CFU/ml Uncertainty: within ±0.5 of a log of the assigned value | TCVN 7924-2:2008 TCVN 6848:2007 ISO 21528-2:2017 | Pour Plate |
| Microbiology in milk powder | <ul style="list-style-type: none"> - <i>Listeria monocytogens</i>: positive/negative | ISO 11290-1:2017 | Presence/Absence |

APPENDIX II: Scope of ISO/IEC 17043 surveillance assessment
(Attached to official dispatch No. /VKNQG-DBCL date month year 2022)

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|--|--|--|--|
| 1. | Microbiology in water | - <i>Total Coliform/Fecal Coliform (Enumeration)</i> | Bottled, Mineral water |
| | | - <i>Escherichia coli (Enumeration)</i> | |
| | | - <i>Enterococci/Enterococcus faecalis (Enumeration)</i> | |
| | | - <i>Pseudomonas aeruginosa (Enumeration)</i> | |
| | | - <i>Spores of sulfite - reducing anaerobes (Enumeration)</i> | |
| 2. | Microbiology in water | - <i>Clostridium perfringens (Detection and enumeration)</i> | Domestic water |
| | | - <i>Staphylococcus aureus (Enumeration)</i> | |
| | | - <i>Salmonella spp. (Detection)</i> | |
| 3. | Microbiology in beverages | - <i>Total Aerobic Plate Count (Enumeration)</i> | Soft drinks, Alcoholic beverage |
| | | - <i>Total coliform (Enumeration)</i> | |
| | | - <i>Escherichia coli (Enumeration)</i> | |
| | | - <i>Enterococcus faecalis/Enterococci (Enumeration)</i> | |
| | | - <i>Pseudomonas aeruginosa (Enumeration)</i> | |
| | | - <i>Coagulase-positive Staphylococci (Enumeration)</i> | |
| | | - <i>Clostridium perfringens (Enumeration)</i> | |
| - <i>Yeasts and mold (Enumeration)</i> | | | |
| 4. | Microbiology in Food | - <i>Total Aerobic Plate Count (Enumeration)</i> | Food, milk |
| | | - <i>Total Coliform/Fecal Coliform (Enumeration)</i> | |
| | | - <i>Escherichia coli (Enumeration)</i> | |
| | | - <i>Coagulase-positive Staphylococci /S. aureus (Enumeration)</i> | |
| | | - <i>Bacillus cereus (Enumeration)</i> | |
| | | - <i>Clostridium perfringens (Enumeration)</i> | |
| | | - <i>Yeasts and mold (Enumeration)</i> | |
| | | - <i>Listeria monocytogenes (Detection and enumeration)</i> | |
| | | - <i>Salmonella spp. (Detection)</i> | |
| | | - <i>Enterobacteriaceae (Enumeration)</i> | |
| 5. | Microbiology in Meat and meat products | - <i>Total Aerobic Plate Count (Enumeration)</i> | Meat and meat products |
| | | - <i>Total Coliform/Fecal Coliform (Enumeration)</i> | |
| | | - <i>Escherichia coli (Enumeration)</i> | |
| | | - <i>Coagulase-positive Staphylococci (Enumeration)</i> | |
| | | - <i>Clostridium perfringens (Enumeration)</i> | |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|--------------------|---|---|--|
| | | - <i>Salmonella</i> spp. (Detection) | |
| 6. | Microbiology in Fish and fishery products | <i>Vibrio parahaemolyticus</i> (Detection) | Fish and fishery products |
| 7. | Microbiology in Animal feeding stuffs | - <i>Escherichia coli</i> (Enumeration) | Animal feeding stuffs |
| | | - <i>Bacillus</i> spp. (Enumeration) | |
| | | - <i>Lactobacillus</i> spp. (Enumeration) | |
| | | - <i>Salmonella</i> spp. (Detection) | |
| 8. | Physicochemistry in water | - Hardness | water |
| | | - Total dissolved solid | Drinking water, bottled water, natural mineral water, edible ice |
| | | - Permanganate index | |
| | | - Heavy metals and minerals (Pb, Cd, As, Fe, Zn, Cu, Mn, Hg, Sn, Sb, Co, Ni, Cr, Se, Ba, B, Mo, Al, Na, K, Ca, Mg) | |
| | | - Anion (NO ₃ ⁻ , NO ₂ ⁻ , Cl ⁻ , F ⁻ , Br ⁻ , SO ₄ ²⁻ , PO ₄ ³⁻ , ClO ₃ ⁻ , BrO ₃ ⁻) | |
| | | - Ammonium (NH ₄ ⁺) | |
| | | - Cyanide content | |
| 9. | Chemistry in Domestic water | - Volatile organic compounds content [Appendix 1] | water |
| | | - Phenoxy acid herbicide residues (2,4-D; 2,4-DB; 2,4,5-T; fenoprop; MCPA; mecoprop) | |
| | | - Multi-residue pesticides [Appendix 2] | |
| 10. | Chemical in Food | - Moisture/ loss on drying/ water content | Food, Functional food |
| | | - Lipid | |
| | | - Protein, nitrogen content, calculation of the crude protein content | |
| | | - Ash | |
| | | - NaCl | |
| | | - Carbohydrate | |
| | | - Sugar (total sugar, reducing sugar: glucose, fructose, saccharose, lactose) | |
| | | - Energy | |
| | | - Peroxide | |
| | | - Brix value | |
| | | - Preservatives (benzoic acid or benzoate salts, sorbic acid or sorbate salts) | |
| | | - Antioxidants (BHT, BHA, TBHQ) | |
| | | - Sweeteners (saccharine, aspartame, acesulfame K, cyclamate) | |
| | | - vitamin C (Ascorbic acid, Ascorbyl palmitate, Ascorbyl glucoside) | |
| - vitamin A, E, D3 | | | |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|-------------------------------|--|---|
| | | <ul style="list-style-type: none"> - B vitamins: B1, B2, B3, B5, B6, B9, B12, Biotin - Vitamin K1, K2 - Choline, Taurin, β-Carotene Anthocyanin - Iodine content - Acid content - Flavor enhancers (I, G) - Colours (Sunset yellow, Tartrazine, amaranth, Ponceau 4R, Brilliant blue, Fast green, Allura red, Erythrosine, Carmoisine, Indigo carmine, Quinoline yellow, chocolate brown, Brown HT, Carmine) - Fatty acids content (Appendix 3) - Cholesterol - DEHP - Rhodamine B content - DHEA content - PDE5 inhibitor [Appendix 4] - Amino acids content (aspartic acid, serine, glutamic acid, glycine, histidine, arginine, threonine, alanine, proline, cystine, tyrosine, valine, methionine, lysine, isoleucine, leucin, phenylalanine) - Lutein | |
| 11. | Tea | <ul style="list-style-type: none"> - Ash (total ash, water-soluble ash, water-insoluble ash, acid-insoluble ash) - loss of mass - Moisture - Caffeine - Total Polyphenols - tannin - Total catechin content (GC, EGC, Catechin, ECG, GCG, EGCG) - Alkalinity of water-soluble ash - Water extract | Tea, Functional food |
| 12. | Coffee | <ul style="list-style-type: none"> - ash content - moisture - Caffeine - Water extract - Acid-insoluble ash | Coffee and coffee products |
| 13. | Chemistry in Fish and fishery | <ul style="list-style-type: none"> - moisture - protein/Total nitrogen | Fish and fishery products |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|-------------------------------------|---|--|
| | products | - fat - ash - Histamine - nitrogen ammonia - nitrogen amino acids - Urea - Total cyanide | |
| 14. | Chemistry in Food | - borax content (calculated according to Na ₂ B ₄ O ₇) - NO ₃ ⁻ content - fat content - moisture - ash - protein - Salt | Meat and meat products; |
| 15. | Chemistry in Food | - NO ₃ ⁻ content - total Sulphur dioxide content - Multi-residue pesticides (Appendix 5) | Vegetables and vegetable products, Fruits and fruit products |
| 16. | Chemistry in Food | - borax content (calculated according to Na ₂ B ₄ O ₇) - Arsenic (III) and Arsenic (V) - Moisture - Ash - nitrogen content, calculation of the crude protein content - Carbohydrate, reducing sugar, total sugar - Tinopal CBS-X content - Mycotoxins content (aflatoxin B1, B2, G1, G2, ochratoxin A, fumonisin, deoxynivalenol (DON), zearalenone) | Cereal and cereal products; Pulses and by-products |
| 17. | Metals in food and related products | -Heavy metals (Pb, Cd, As, Hg) -Metals and minerals (K, Na, Ca, Mg, Cu, Fe, Zn, Mn, Cu, Mo, Cr, Se, P) -moisture / loss on drying / water content -Ash (total ash, sulfated ash, acid insoluble ash content) | Food, Functional food, Food additive, flavors and processing aids; Ingredients |
| 18. | Chemistry in animal feeding stuffs | - Water, moisture and other volatile matter content - Ash (total ash, acid insoluble ash) - Fat content - Nitrogen, calculation of crude protein | Animal feeding stuffs |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|---------------------------------|---|---|
| | | <ul style="list-style-type: none"> - Vitamin B1, B2, B3, B5, B6, B9, B12, K3, A, E, D3 - Metals and minerals (Fe, Cu, Zn, Hg, Pb, Sn, Sb, Co, Se, Mn, Cr, Ni, Ca, P) - Silic, SiO₂ content - Urea - Iodine content - Carbohydrate content; sugar: lactose, glucose, total sugar - Peroxide - Crude fibre content, Choline - Nitrogen ammonia - Preservatives (benzoic acid or benzoate salts, sorbic acid or sorbate salts) - Antioxidants (BHT, BHA, TBHQ) - Sweeteners (saccharine, aspartame, acesulfame K, cyclamate) - Organic acids and their salts: formic acid and formate salts, acetic acid and acetate salts, propionic acid and propionate salts, butyric acid and butyrate salts, - Amino acids (aspartic acid, serine, glutamic acid, glycine, histidine, arginine, threonine, alanine, proline, cystine, tyrosine, valine, methionine, lysine, isoleucine, leucin, phenylalanine) | |
| 19. | Chemical in Alcoholic beverages | - Alcohol (Methanol, Ethanol, Isopropanol) | Wine, Alcoholic, Alcoholic beverages |
| | | - Furfural content | |
| | | - Aldehyde content | |
| | | - Ester | |
| | | - Higher alcohol | |
| 20. | Chemical in Alcoholic beverages | - Total Sulphur dioxide content | Wine |
| | | - Acidity, acid content | |
| | | - Sugar | |
| 21. | Chemical in Alcoholic beverages | - Ethanol content | Beer |
| | | - Diacetyl content | |
| | | - Bitterness | |
| | | - Original-soluble substances | |
| 22. | Chemistry in fats and oils | <ul style="list-style-type: none"> - water content - acid value and acidity - peroxide value - Saponification value | Animal and vegetable fats and oils |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|-------------------------------------|---|---|
| | | - iodine value | |
| | | - Phytosterol content (vegetable oil) | |
| | | - Fatty acids content | |
| | | - Antioxidants (BHT, BHA, TBHQ) | |
| | | - Gamma Oryzanol | Rice oil |
| 23. | Chemical in Soy sauce, Oyster sauce | - 3-MCPD and 1,3-DCP | Soy sauce, Oyster sauce |
| 24. | Chemical in Milk and milk products | - Aflatoxin M1 | Milk and milk products, Functional food |
| | | - 2-MCPD and 3-MCPD, 2-MCPD and 3-MCPD esters, glycidyl esters | |
| | | - IgG | |
| 25. | Chemistry in food additive | - Moisture | Food additive |
| | | - Ash | |
| | | - Heavy metals (Pb, Cd, As, Hg) | |
| | | - Preservatives (benzoic acid or benzoate salts, sorbic acid or sorbate salts) | |
| | | - Antioxidants (BHT, BHA, TBHQ) | |
| | | - Sweeteners (saccharine, aspartame, acesulfame K, cyclamate) | |
| 26. | Chemistry in Food contact materials | - Colors (Sunset yellow, Tartrazine, amaranth, Ponceau 4R, Brilliant blue, Fast green, Allura red, Erythrosine, Carmoisine, Indigo carmine, Quinoline yellow, chocolate brown, Brown HT, Carmine) | |
| | | - Heavy metals content (Cd, Pb) | Plastic, |
| 27. | | - Quinolone and fluoroquinolone residues (enrofloxacin, ciprofloxacin, difloxacin, danofloxacin, orbifloxacin, ofloxacin); | Raw milk and dairy products, Meat and meat products |
| | | - Penicillins residues (Ampicillin, amoxicillin, penicillin V, penicillin G, cloxacillin, oxacillin) | |
| | | - Glucocorticoides content (dexamethasone, cortisone acetate, hydrocortisone acetate, methylprednisolone, prednisone, prednisolone) | |
| 28. | veterinary drug residues | - Antibiotic residues (streptomycin, gentamicin, neomycin, dihydrostreptomycin, spectinomycin) | Milk and milk products, Functional food |
| | | - Multiresidue antibiotics and hormones (eprinomectin, doramectin, diminazen, ivermectin, isometamidium, imidocarb, pirlimycin, monensin) | |
| 29. | | - Melamine content | Food and Feeding stuffs |
| | | - Tetracycline residues (tetracycline, oxytetracycline, chlortetracycline, doxycycline) | |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|--------------------------|--|---|
| 30. | | - Aminoside residues (streptomycin, dihydrostreptomycin, gentamicin) | Meat and meat products |
| | | - Polyaromatic hydrocarbon (PAHs): Benzo(a)pyrene, Total PAHs [Appendix 6] | |
| 31. | | - Salbutamol, Clenbuterol, Ractopamin content | Meat and meat products, Animal feeding stuffs |
| | | - Colistin content | |
| 32. | | - Chloramphenicol, Florfenicol residues | Meat and meat products, Fish and Fishery, Animal feeding stuffs |
| 33. | | - Multi-residue antibiotics and hormone [Appendix 7] | Milk and milk products; Meat and meat products |
| 34. | | - Fipronil residue | Eggs |
| 35. | - Auramine O | Food (chicken, bamboo) and Animal feeding stuffs | |
| 36. | veterinary drug residues | - Furazolidone content | Animal feeding stuffs |
| 37. | | - Malachite green leucomalachite green, | Meat and meat products, Fish and Fishery |
| 38. | | - anti-inflammatory substances NSAIDs (piroxicam, meloxicam, flunixin, 5-hydroxy flunixin, tolfenamic acid, flufenamic acid, mefenamic acid, niflumic acid, diclofenac) - Glucocorticoides content (prednisone acetate, dexamethasone acetate, betamethasone valerate, fluticasone propionate, mometasone furoate, clobetasol propionate, Betamethasone dipropionate) | Food, Functional food |
| 39. | Pesticide residues | - Multi-residue pesticides (Appendix 8) | Tea and Health supplements |
| 40. | | - Multi-residue pesticides (Appendix 9) | Milk and milk products, Functional food |
| 41. | | - Multi-residue pesticides [Appendix 10] | Milk and milk products, Functional food |
| 42. | | - Pesticides residue (piperonyl butoxide, 2-phenylphenol, propargite, diphenylamine, carbaryl, malathion) | Soft drinks |
| 43. | Mycotoxin in food | - Aflatoxin B1, B2, G1, G2 | Food, Functional food, Animal feeding stuffs |
| 44. | | - Patulin | Fruit juices, Apple products |
| 45. | | - Ochratoxin A content | Food (Cereal, cake, |

| No | PT SCHEME | PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT ¹ | PT ITEM: MATERIALS/ MATRIX/ TYPE |
|-----|-----------------------------|--|--|
| | | | jam, candy, coffee, wine) |
| 46. | Chemical in Functional food | <ul style="list-style-type: none"> - Glycyrrhiza Uralensis qualification - Angelica sinensis qualification - Glucosamine - Adenosine, Cordycepin - Flavonol glycoside - Collagen - Taurin - Glutathione - Methyl sulfonyl methane (MSM) - Ginsenosides - Coenzym Q10 - Alpha Lipoic acid - Chondroitin - Flavonoid free (rutin, quercetin) - Curcuminoid - Sibutramine, desmethyisibutramine, phenolphthalein, didesmethyl sibutramine, fenfluramine, lorcaserin content - anti-diabetic substance content (metformin, phenformin, gliclazide, glibenclamide, acarbose) - Choline - Carnitin - Nucleotides - Silymarin - Isoflavones | Functional food |

Appendix 1: List of purgeable volatile organic compounds

| No. | Compound name | No. | Compound name |
|-----|---------------------------------|-----|---------------------|
| 1 | 1,1,1 -Trichloroethane | 11 | Dichloromethane |
| 2 | 1,2 - Dibromo – 3-Chloropropane | 12 | Ethyl benzene |
| 3 | 1,2 – Dichlorobenzene | 13 | Hexachlorobutadiene |
| 4 | 1,2 – Dichloroethane | 14 | Monochlorobenzene |
| 5 | 1,2 - Dichloropropane | 15 | Styrene |
| 6 | 1,3 - Dichloropropene | 16 | Tetrachloroethene |

| | | | |
|----|----------------------|----|-------------------|
| 7 | Benzene | 17 | Toluene |
| 8 | Bromodichloromethane | 18 | Trichloroethylene |
| 9 | Bromoform | 19 | Xylene |
| 10 | Chloroform | | |

Appendix 2: pesticides

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|----------------------|
| 1 | Alachlor | 9 | Dimethoate |
| 2 | Aldicarb | 10 | Fenitrothion |
| 3 | Aldrin | 11 | Fenobucarb |
| 4 | Atrazine | 12 | Heptachlor |
| 5 | Bentazone | 13 | Imidacloprid |
| 6 | Carbofuran | 14 | Lindane |
| 7 | DDT | 15 | Heptachlor epoxide |
| 8 | Dieldrin | 16 | Trichlorfon |

Appendix 3: Fatty acids

| <i>No.</i> | <i>Compound name</i> |
|------------|---|
| 1 | Saturated fatty acid: MCT (C6:0, C8:0, C10:0, C12:0), C14:0, C18:0, C20:0, C22:0, C24:0 |
| 2 | Saturated fatty acid: C16:0 |
| 3 | Mono-unsaturated fatty acid: C14:1, C15:1, C16:1, C17:1, C20:1, C22:1, C24:1, omega 9 (C18:1, C22:1) |
| 4 | Poly-unsaturated fatty acid: omega 6 (C18:2n6, C18:3n6, C20:3n6, C20:4n6), omega 3 (C18:3n3, C20:3n3, C20:5n3, C22:6n3) |
| 5 | Trans fatty acid: C18:1-t, C18:2-t |

Appendix 4: PDE5 inhibitor

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|------------------------------|------------|-----------------------|
| 1 | 2-Hydroxypropyl Nortadalafil | 28 | Hydroxy Vardenafil |
| 2 | Acetaminotadalafil | 29 | Imidazosagatriazinone |

| | | | |
|----|-------------------------------|----|---|
| 3 | Acetil acid | 30 | Lodenafil carbonate |
| 4 | Acetildenafilifil | 31 | Mutaprodenafil |
| 5 | Acetyl Vardenafil | 32 | N-Desethylvardenafil |
| 6 | Aminotadalafil | 33 | N-Desmethyl Sildenafilifil |
| 7 | Avanafil | 34 | Nitrodenafil |
| 8 | Benzamidenafil | 35 | N-Octyl Nortadalafil |
| 9 | Benzyl Sildenafilifil | 36 | Nor Acetildenafilifil |
| 10 | Carbodenafil | 37 | Norneosildenafilifil |
| 11 | Chlorodenafil | 38 | Norneovardenafil |
| 12 | Chloropretadalafil | 39 | Nortadalafil |
| 13 | Cyclopentylnafil | 40 | O-desethyl-o-propyl sildenafilifil |
| 14 | Descarbonsildenafilifil | 41 | Piperazonifil |
| 15 | Desmethylfondenafil | 42 | Piperiacetildenafilifil |
| 16 | Desmethylthiosildenafilifil | 43 | Propoxyphenyl aildenafilifil |
| 17 | Dimethylacetildenafilifil | 44 | Propoxyphenyl homohydroxysildenafilifil |
| 18 | Dimethylsildenafilifil | 45 | Propoxyphenylthiosildenafilifil |
| 19 | Gendenafil | 46 | Pseudovardenafil |
| 20 | Homosildenafilifil | 47 | Rac-xanthoanthrafil |
| 21 | Hydroxyacetildenafilifil | 48 | Sildenafilifil |
| 22 | Hydroxyacetildenafilifil | 49 | Sildenafilifil N-oxide |
| 23 | Hydroxychlorodenafil | 50 | Thioaildenafilifil |
| 24 | Hydroxyhomosildenafilifil | 51 | Thiosildenafilifil |
| 25 | Hydroxythiohomosildenafilifil | 52 | Udenafil |
| 26 | Hydroxythiohomosildenafilifil | 53 | Vardenafil |
| 27 | Hydroxythiovardenafil | | |

Appendix 5: Pesticides

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|----------------------|------------|----------------------|
| 1 | Abamectin | 46 | Diethofencarb | 91 | Metalaxyl |
| 2 | Acetamiprid | 47 | Difenoconazole | 92 | Metazachlor |
| 3 | Acetochlor | 48 | Dimethoate | 93 | Metconazole |
| 4 | Aldicarb | 49 | Dimoxystrobin | 94 | Methamidophos |
| 5 | Aldrin | 50 | Disulfoton | 95 | Methidathion |
| 6 | Alpha BHC | 51 | Edifenphos | 96 | Methiocarb |
| 7 | Atrazine | 52 | Emamectin | 97 | Methomyl |
| 8 | Azaconazole | 53 | Endosulfan | 98 | Methoxyfenozide |
| 9 | Azoxystrobin | 54 | Ethion | 99 | Methyl parathion |
| 10 | Beflubutamid | 55 | Ethoprophos | 100 | Metolachlor |
| 11 | Benalaxyl | 56 | Etofenprox | 101 | Mevinphos |
| 12 | Benzoximate | 57 | Fenamiphos | 102 | Myclobutanil |
| 13 | Beta BHC | 58 | Fenazaquin | 103 | Nitenpyram |

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|----------------------|------------|----------------------|
| 14 | Bifenazate | 59 | Fenbuconazole | 104 | Novaluron |
| 15 | Bifenthrin | 60 | Fenchlorphos | 105 | Omethoate |
| 16 | Bitertanol | 61 | Fenhexamid | 106 | Oxasulfuron |
| 17 | Boscalid | 62 | Fenitrothion | 107 | Parathion |
| 18 | Buprofezin | 63 | Fenobucarb | 108 | Penconazole |
| 19 | Carbaryl | 64 | Fenpropidin | 109 | Pencycuron |
| 20 | Carbendazim | 65 | Fenpyroximate | 110 | Pendimethalin |
| 21 | Carbofuran | 66 | Fenvalerate | 111 | Permethrin |
| 22 | Carboxin | 67 | Fipronil | 112 | Picoxystrobin |
| 23 | Chlorantraniliprole | 68 | Flubendiamide | 113 | Pirimicarb |
| 24 | Chlordane (trans) | 69 | Flufenoxuron | 114 | Pirimiphos-methyl |
| 25 | Chlordane (cis) | 70 | Fluoxastrobin | 115 | Prochloraz |
| 26 | Chlorotoluron | 71 | Fluquinconazole | 116 | Promecarb |
| 27 | Chloroxuron | 72 | Flusilazole | 117 | Propamocarb |
| 28 | Chlorpyrifos | 73 | Fosthiazate | 118 | Propiconazole |
| 29 | Chlorpyrifos-methyl | 74 | Fuberidazole | 119 | Quinalphos |
| 30 | Clethodim | 75 | Fudioxonil | 120 | Quinoxifen |
| 31 | Clomazone | 76 | Gamma BHC | 121 | Pyraclostrobin |
| 32 | Coumaphos | 77 | Heptachlor | 122 | Pyridaben |
| 33 | Cyazofamid | 78 | Hexaconazole | 123 | Spirodiclofen |
| 34 | Cycluron | 79 | Hexythiazox | 124 | Spiroxamine |
| 35 | Cyfluthrin | 80 | Imazalil | 125 | Tebuconazole |
| 36 | Cymoxanil | 81 | Imidachlorprid | 126 | Thiabendazol |
| 37 | Cypermethrin | 82 | Indoxacarb | 127 | Thiamethoxam |
| 38 | Cyproconazole | 83 | Ipconazole | 128 | Thidiazuron |
| 39 | Cyprodinil | 84 | Isofenphos-methyl | 129 | Trichlorfon |
| 40 | DDT | 85 | Isoprocarb | 130 | Tricyclazole |
| 41 | Delta BHC | 86 | Isoxaben | 131 | Trifloxystrobin |
| 42 | Deltamethrin | 87 | Isoxaflutole | 132 | Triflumizole |
| 43 | Diazinon | 88 | Kresoxim-methyl | 133 | Vamidotion |
| 44 | Dichlorvos | 89 | Malathion | 134 | Propoxur |
| 45 | Dieldrin | 90 | Mepanipyrim | | |

Appendix 6: Polyaromatic hydrocarbon

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------------|------------|--|
| 1 | Naphthalene | 7 | Pyrene |
| 2 | Acenaphthylene | 8 | Benzo(a)anthracen and chrysen |
| 3 | Acenaphthene | 9 | Benzo(b)flouranthene and Benzo(k)fluoranthene |
| 4 | Fluorene | 10 | Benzo(a)pyren |
| 5 | Phenanthren and anthracene | 11 | Indeno(1,2,3-c,d)pyren and Dibenzo(a,h)anthracen |
| 6 | Fluoranthene | 12 | Benzo(g,h,i)perylene |

Appendix 7: Antibiotics, hormone

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|-----------------------|------------|------------------------|
| 1 | Albendazole | 12 | Procaine Penicillin G | 23 | Sulfamethoxazole |
| 2 | Azithromycin | 13 | Roxithromycin | 24 | Sulfamethoxypyridazine |
| 3 | Ceftiofur | 14 | Spiramycin | 25 | Sulfamonomethoxine |
| 4 | Dexamethasone | 15 | Sulfacetamide | 26 | Sulfapyridine |
| 5 | Erythromycin | 16 | Sulfachloropyridazine | 27 | Sulfathiazole |
| 6 | Febantel | 17 | Sulfadiazine | 28 | Sulfisomidine |
| 7 | Fenbendazole | 18 | Sulfadimethoxine | 29 | Sulfisoxazole |
| 8 | Flubendazole | 19 | Sulfadimidine | 30 | Thiabendazole |
| 9 | Lincomycin | 20 | Sulfaguanidine | 31 | Tylosin |
| 10 | Oxfendazole | 21 | Sulfamerazine | | |
| 11 | Penicillin | 22 | Sulfameter | | |

Appendix 8: Pesticides

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|----------------------|------------|----------------------|
| 1 | Acetamiprid | 10 | Chlorpyrifos methyl | 19 | Heptachlor |
| 2 | Aldrin | 11 | Chlorpyrifos | 20 | Mevinphos |
| 3 | Acetochlor | 12 | Dichlorvos | 21 | Parathion methyl |
| 4 | Atrazine | 13 | Dieldrin | 22 | Parathion |
| 5 | BHC | 14 | Difenphos | 23 | Permethrin |
| 6 | Bifenthrin | 15 | Dimethoate | 24 | Pirimiphos methyl |
| 7 | Carbaryl | 16 | Endosulfan | 25 | Tebuconazole |
| 8 | Carbendazim | 17 | Endrin | | |
| 9 | Carbofuran | 18 | Fenclorphos | | |

Appendix 9: Pesticides

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|-----------------------|------------|----------------------|------------|----------------------|
| 1 | Aldrin | 9 | Cypermethrin | 17 | gamma BHC |
| 2 | Alpha BHC | 10 | DDT | 18 | Imidacloprid |
| 3 | Beta BHC | 11 | Delta BHC | 19 | Methiocarb |
| 4 | Carbaryl | 12 | Deltamethrin | 20 | Methomyl |
| 5 | Carbofuran | 13 | Dieldrin | 21 | Permethrin |
| 6 | Chlorpyrifos - methyl | 14 | Dimethoate | 22 | Tebuconazole |
| 7 | Chlorpyrifos | 15 | Diphenylamine | | |
| 8 | Cyfluthrin | 16 | Endosulfan | | |

Appendix 10: Pesticides

| <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> | <i>No.</i> | <i>Compound name</i> |
|------------|----------------------|------------|----------------------|------------|----------------------|
| 1 | Alpha cypermethrin | 20 | Dimethomorph | 39 | Oxydemeton-methyl |
| 2 | Aminopyralid | 21 | Dithiocarbamate | 40 | Penconazole |
| 3 | Amitraz | 22 | Ethephon | 41 | Phorate |
| 4 | Bentazon | 23 | Famoxadone | 42 | Pirimicarb |
| 5 | Bifenazate | 24 | Fenamiphos | 43 | Pirimiphos-methyl |
| 6 | Bitertanol | 25 | Fenbuconazole | 44 | Prochloraz |
| 7 | Carbosulfan | 26 | Fenbutatin oxide | 45 | Profenofos |
| 8 | Clethodim | 27 | Fenpropimorph | 46 | Propamocarb |
| 9 | Clofentezine | 28 | Fenpyroximate | 47 | Pyraclostrobin |
| 10 | Chlormequat | 29 | Fludioxonil | 48 | Pyrimethanil |
| 11 | Chlorpropham | 30 | Flusilazole | 49 | Quinoxyfen |
| 12 | Cyhexatin | 31 | Flutolanil | 50 | Spinosad |
| 13 | Cyprodinil | 32 | Glufosinate ammonium | 51 | Tebufenozide |
| 14 | Cyromazine | 33 | Indoxacarb | 52 | Thiacloprid |
| 15 | Dichlorvos | 34 | Kresoxim-methyl | 53 | Triadimefon |
| 16 | Difenoconazole | 35 | Methopren | 54 | Triadimenol |
| 17 | Diflubenzuron | 36 | Methoxyfenozone | 55 | Trichlorfon |
| 18 | Dimethenamid-p | 37 | Myclobutanil | 56 | Trifloxystrobin |
| 19 | Dimethipin (Thiram) | 38 | Novaluron | 57 | Vinclozolin |

