TOPINAMBUR KIMYOVIY TARKIBI VA UNING AHAMIYATI

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Annotatsiya: *Ushbu maqolada topinamnur o'simligining kimyoviy tarkibi, yetishtirish usullari, dorivorlik hususiyatlari hamda olib borilgan ilmiy ishlar, tajribalar va olimlarning ilmiy izlanishlari haqida ma'lumotlar keltirilgan.*

Kalit so'zlar: *topinambur, kimyoviy tarkib, vitamin, mineral, inulin.*

Аннотация: *В данной статье представлена информация о химическом составе тысячелистника, методах его выращивания, лечебных свойствах, а также о научной работе, экспериментах и научных исследованиях ученых.*

Ключевые слова: *топинамбур, химический состав, витамин, минерал, инулин.*

Abstract: *This article presents information on the chemical composition, cultivation methods, and medicinal properties of the Jerusalem artichoke, as well as on scientific studies, experiments, and research conducted by scientists.*

Keywords: *Jerusalem artichoke, chemical composition, vitamin, mineral, inulin.*

Kirish. Hozirgi kunda dunyo miqyosida dorivor o‘simliklar xom ashyosidan olinadigan tabiiy dori darmonlarga bo‘lgan talab ortmoqda. Shunday ekan, insonlar manfaatlarini ko‘zlab, har bir giyoh xususiyatlarini o‘rganib, ularning plantatsiyalarini yaratish hamda ko‘paytirish ulardan yuqori sifatli dorivor o‘simlik xom-ashyo zaxirasini tashkil etish zarur. Ushbu mahsulotlar yurtimiz aholisini ta’minlash bilan birga eksport qilish, jahon miqyosida O‘zbekistonning tabiiy dorivor o‘simliklari xom-ashyosi bila taminlash oldimizda turgan dolzarb vazifalardan biridir.

Har bir dori vositasining xususiyatlarini, fizik-kimyoviy xossalarni,organizmdagi biotransformatsiya tezligi, farmokologik xarasteristikasini bilish, faqatgina kimyoviy tuzilishi va biologik ta’sir o’rtasidagi bog’liqlikni topish, eng ratsional dori vositalari va eng dori shakllarini, sxemalashtirish, rejimlarini va bemorlarda o’smaga qarshi dorilarni qo’llashdagina emas, balki yuqori samarali anibiotik moddalarning sintez qilishni yangi yo’llarini topishda ham yordam berishi mumkin.

Asosiy qism: Yer nokining kimyoviy tarkibi va biologik faol birikmalarining xususiyatlarini o‘rganish bo‘yicha horijiy olimlar tomonidan tadqiqotlar olib borilgan. Jumladan, yer noki (Helianthus tuberosus L.) barglaridagi flavonoidlarning antioksidant faolligi va ularning miqdoriy tahlili – Ming-Yang Vang, Chji-Li Malar tomonidan o’rganilgan. S.Ya.Koryachkina, V.S.Kalinina, O.L.Ladnova, K.A.Timiryazev yer noki tarkibidagi inulin moddasini ajratib olish va qandli diabet kasalligini davolashda qo’llash ustida ishlar olib borgan. Ayni paytgacha O’zbekistonda yer noki o‘simligini biologik xossalarini va o‘simlik asosida xalq xo‘jaligi uchun polisaxaridlar olish bo‘yicha ko‘plab ilmiy-tadqiqot ishlari amalga oshirilgan. Shuningdek, yer noki o‘simligi biologiyasi bo‘yicha X.Otaboyeva L.A.Dorofyeva V.V.Arasimovich, o‘simlikning turli qismlaridan saxaridlar olish boyicha S.Ya. Koryachkina U.B. Djanikulova, T.N. Emelinalar ilmiy tadqiqot ishlarini olib borishgan. D.Raximov va S.Salixovlar tomonidan topinamburning “Fayz -Baraka” navi ildizidan sharbat olish jumladan, saralash, yuvish, maydalash, presslash, sharbatni tozalash va ajratish jarayonlari ustida ish olib borilgan. O’zbekiston sharoitida yer noki yetishtirishning ekolo- fiziologik tavsifini G’ulomov G’.SH., F.M To’xtaboyevalar o’rganganlar. Shustikova Yuliya Sergeevna topinambur o’simligi kraxmalidan etanol olish texnologiyasini o’rgangan. Murodov Muzaffar Murodovich tomonidan topinambur o’simligi “Fayz-Baraka” va “Mo’jiza” navlarining poya qismidan turli parametrlar ta’sirida reaksion qobiliyati yuqori bo’lgan selliloza olish va yer noki o’simligi sellyulozasi asosida farmatsevtika va oziq-ovqat sanoati uchun yuqori tozalikka ega bo’lgan karboksimetil sellyuloza (KMS) olish bo’yicha izlanishlar olib borilgan. Ammo o’simlikning kimyoviy tarkibi yetarlicha o’rganilmagan [1].

Qozog‘istonda yer nokini o‘rganilishning boshlanishi prof. A.B. Chexovich

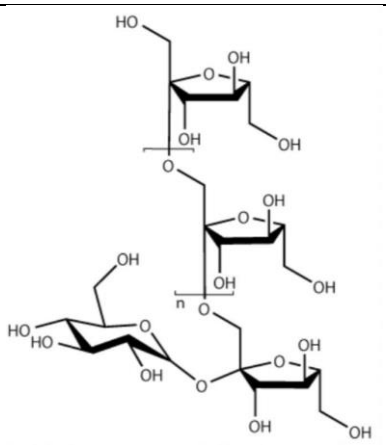
nomi bilan bog‘liq, olim 1934 – yilda Moskvadan Olma–Otaga yer noki tuganaklari kolleksiyasini keltirgan (Beysenbiev, 1934). Keyinchalik bu o‘simlik Qirg‘izistonda (Nazarbevskiy, 1936), Tojikistonda(Litvinov, 1959), O‘zbekistonda (Balashov, 1959), va Turkmanistonda (Ovesmuradov, 1962) ham o‘rganila boshlangan. O‘tgan asrning 70 – yillarida uning Zarafshon vodiysiga introduksiya etish muammolari bilan Sam DU Botanika kafedrasining xodimlari shug‘ullana boshlashgan (Amirxonov va boshqalar, 1972, 1985).Helianthus turkumi (11 tur) ilk bor Karl Linney tomonidan tavsiflangan (1953). Hozirgi vaqtga qadar uning 200 dan ko‘proq turlari borligi aniqlangan. E. Watson (1929) Helianthus turkumini chuqur o‘rgandi, 40 ta yangi turini tavsifladi va turkumda 108 ta tur mavjudligini ko‘rsatdi[2.3].

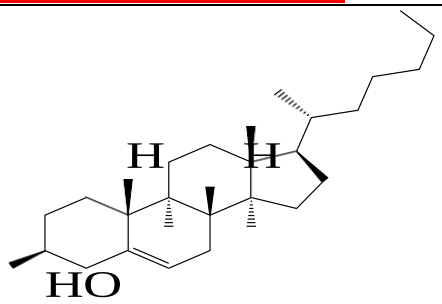
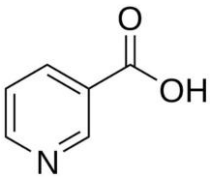
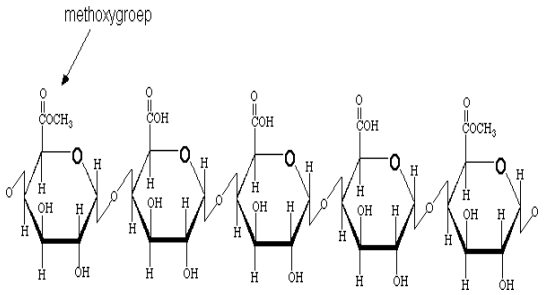
Yer nokida ko’plab foydali xususiyatlar mavjud bo’lib uni oziq-ovqat va

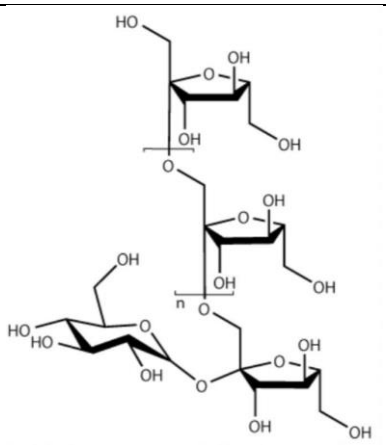
dorivor maxsulotlarga aylantirish mumkin. Uning ildiz mevasida uglevodlar ko'pligi sababli masalan inulin (15-35% gacha) uni fruktozaga aylantiriladigan homashyo, siroplar olish, sharbat, shira, marmelad, un olishda (diyetik non tayyorlanadi) qo'llaniladi.

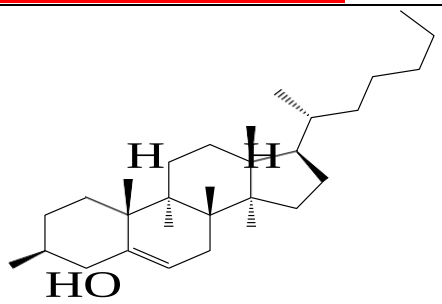
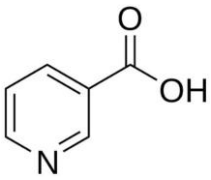
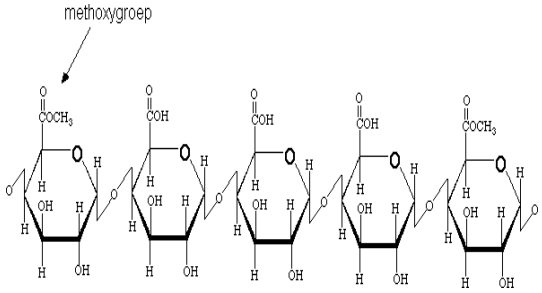
Inulin – yer noki o'simligida ko'p miqdorda uchraydigan yagona tabiiy polisaxarid, asosan 95% fruktoza zanjiridan iborat. Medada inulin to'la xazm bo'lmaydi, bir qismi kislotali muhitida kichik fruktoza zanjirlariga va ayrim fruktoza molekulasiga parchalanadi,ular qon tomirlariga o'tadi. Inulin kishi organizmiga tushishidan boshlab, organizmdan chiqquniga qadar foydali xususiyatlarini namoyon qiladi. Me'da-ichak traktiga tushishi bilan inulin xlorid kislota va fermentlar ta'sirida ayrim fruktoza molekulasiga yoki kichik fruktoza zanjirlariga parchalanadi, ular esa qon oqimi ichiga o'tadi. Qolgan parchalanmagan inulin organizmdan chiqib ketayotganda unga kerak bo'lmagan moddalar masalan og'ir metallar, radionuklidlar, xolesterin kristallari, to'yingan yog'lar, har xil toksik kimyoviy moddalar bog'lanib olib chiqib ketadi. Inulin ichakning siqilib kengayishini rag'batlantiradi va shu hisobida undagi shlak, qayta ishlanilmagan ovqatlar va zaharli moddalarni chiqib ketishiga sababchi bo'ladi [4].

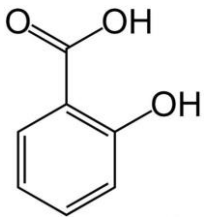
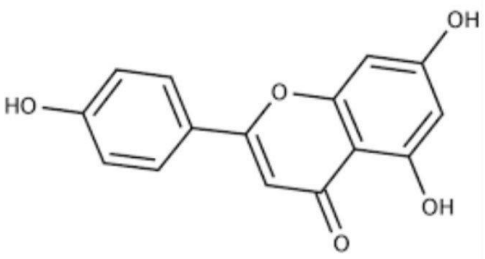
Yer noki o‘simligi tarkibida uchraydigan kimyoviy moddalar.

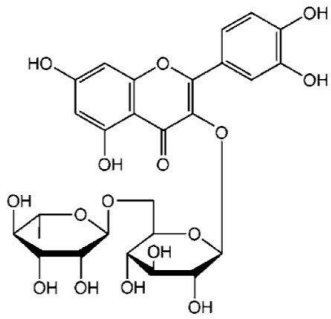
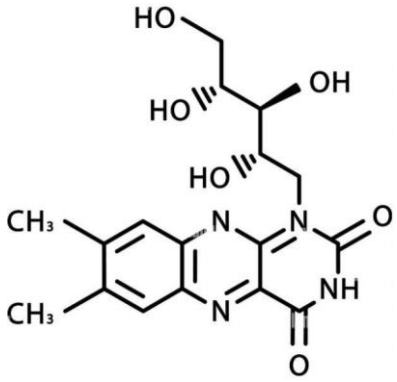
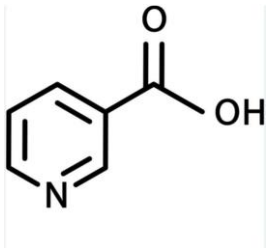
№	Kimyoviy nomi	Kimyoviy formulasi	Fazoviy formulasi
1	Inulin	$C_6H_{10}O_5$	
2	Xolesterin	$C_{27}H_{46}O$	H

			
3	Vitamin B_3	$C_6H_6NO_2$	
4	Pektin	$C_6H_{10}O_7$	

№	Kimyoviy nomi	Kimyoviy formulasi	Fazoviy formulasi
1	Inulin	$C_6H_{10}O_5$	
2	Xolesterin	$C_{27}H_{46}O$	H

			
3	Vitamin B_3	$C_6H_6NO_2$	
4	Pektin	$C_6H_{10}O_7$	

1	Salitsilat kislota	$C_7H_6O_3$	
2	Apigenin	$C_{15}H_{10}O_5$	

3	Rutin	$C_{27}H_{30}O_{16}$	
4	Vitamin B_2	$C_{17}H_{20}N_4O_6$	
5	Vitamin B_3	$C_6H_5NO_2$	

Xulosa o’rnida shuni aytish mumkinki topinambur xossalari va kimyoviy tarkibi jihatidan ko’plab xususiyatlatga ega ekanligi bo’yicha adabiyotlar tahlilini ko’rib chiqishda topinambur tarkibida inulin moddasi ko’p uchraganligi bois qndli diabet kasalligini davolashda foydalanishda hamda oldini olishda foydalanish mumkin.

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