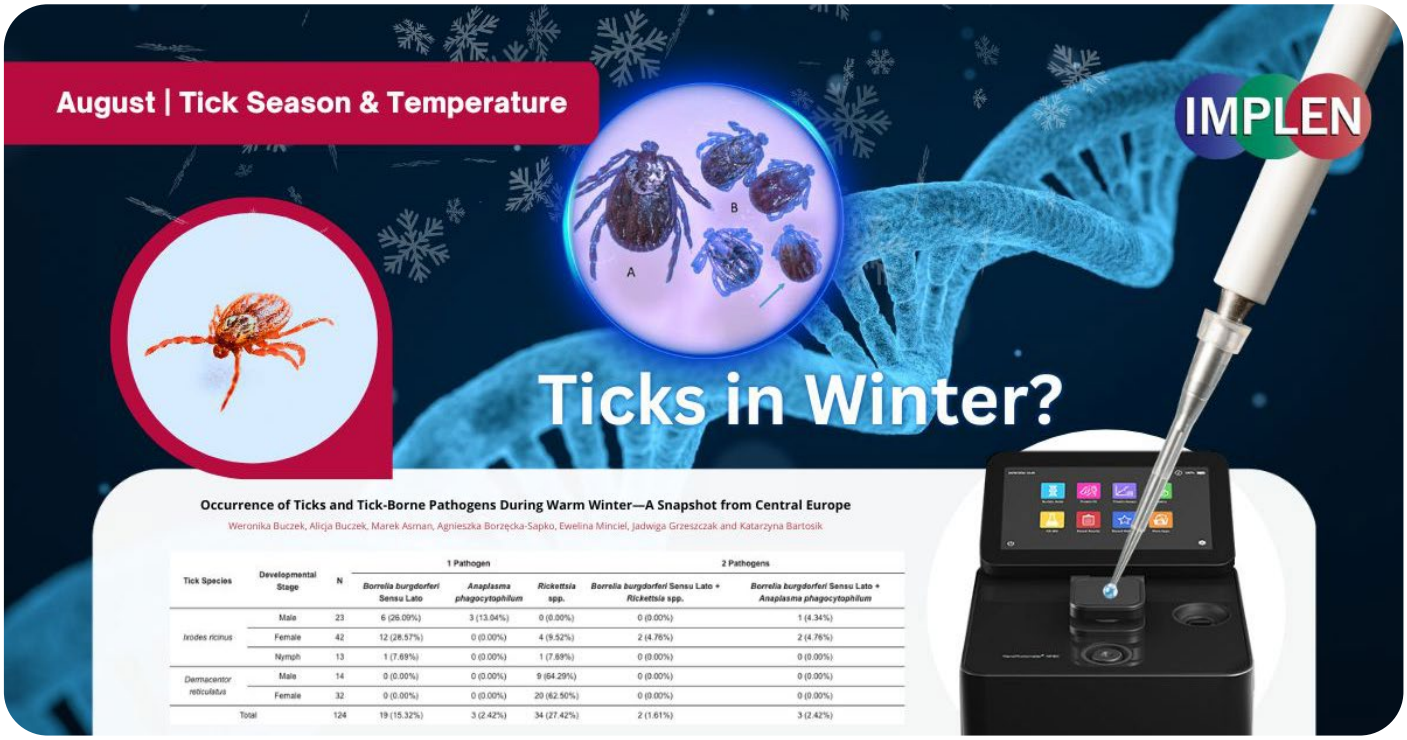
Implen Journal Club | August Issue



Tick Species	Developmental Stage	N	1 Pathogen			2 Pathogens	
			Borrelia burgdorferi Sensu Lato	*Anaplasma phagocytophilum*	*Rickettsia* spp.	*Borrelia burgdorferi* Sensu Lato + *Rickettsia* spp.	*Borrelia burgdorferi* Sensu Lato + *Anaplasma phagocytophilum*
Ixodes ricinus	Male	23	6 (26.09%)	3 (13.04%)	0 (0.00%)	0 (0.00%)	1 (4.34%)
	Female	42	12 (28.57%)	0 (0.00%)	4 (9.52%)	2 (4.76%)	2 (4.76%)
	Nymph	13	1 (7.69%)	0 (0.00%)	1 (7.69%)	0 (0.00%)	0 (0.00%)
Dermacentor reticulatus	Male	14	0 (0.00%)	0 (0.00%)	9 (64.29%)	0 (0.00%)	0 (0.00%)
	Female	32	0 (0.00%)	0 (0.00%)	20 (62.50%)	0 (0.00%)	0 (0.00%)
Total		124	19 (15.32%)	3 (2.42%)	34 (27.42%)	2 (1.61%)	3 (2.42%)

New Study Finds Tick Season May Extend Year-Round as Temperatures Rise

Researchers from the Medical University of Lublin conducted a study, recently published in the journal Pathogens, revealing that ticks in Eastern Poland remained active during an unusually warm winter. Nearly half of the 268 ticks collected were infected—especially with Lyme disease, Rickettsia, or Anaplasma. This unexpected winter activity raises year-round infection risks for humans and animals, likely driven by climate change.

The Implen NanoPhotometer® was used to measure the DNA concentration spectrophotometrically.

#Implen #NanoPhotometer #UV/VIS #Spectroscopy #TickBorneDiseases #Epidemiology #InfectiousDiseases #EnvironmentalHealth #ResearchUpdate #LymeDisease #GlobalHealth #UrbanHealth #ZoonoticDiseases

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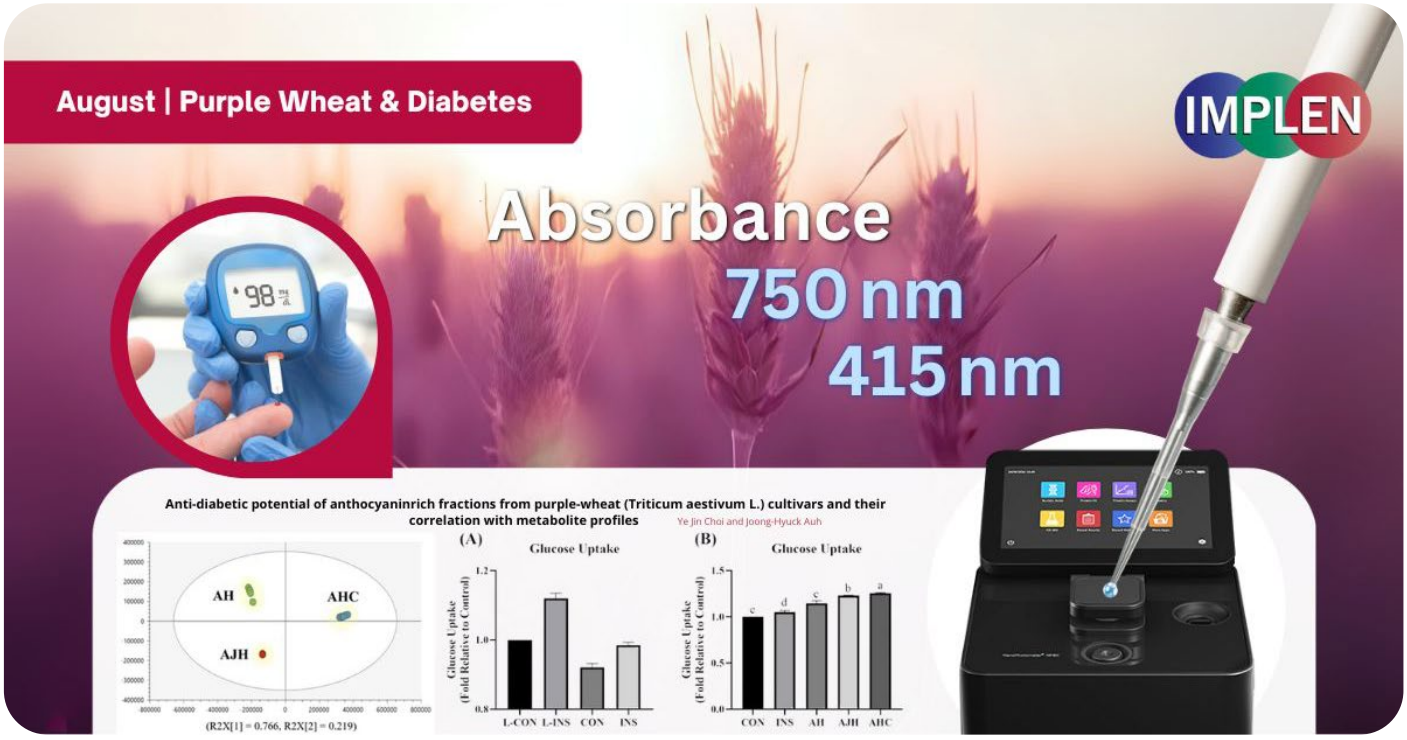

Purple Wheat Shows Promise as Natural Support for Blood Sugar Control

Researchers recently published in the journal of Applied Biological Chemistry that anthocyanin-rich extracts from purple wheat, especially the cultivar Ari-heukchal, significantly improved blood sugar regulation in insulin-resistant liver cells. These extracts boosted antioxidant activity and activated the PI3K/AKT pathway, enhancing glucose uptake. The study suggests purple wheat could be a powerful, natural ingredient in managing type 2 diabetes.

The Implen NanoPhotometer® was used in this study to measure absorbance in two colorimetric assays: at 750 nm to determine total phenolic content (TPC) using the Folin–Ciocalteu method, and at 415 nm to determine total flavonoid content (TFC) using an aluminum chloride-based assay. These absorbance readings allowed researchers to quantify TPC and TFC in purple wheat extracts.

#Implen #NanoPhotometer #UV/VIS #Spectroscopy #PurpleWheat #FunctionalFoods #Anthocyanins #NaturalDiabetesSupport #Type2Diabetes #BloodSugarBalance #PlantBasedHealing #FoodAsMedicine #NutritionalScience #HealthyGrains #Antioxidants #GlucoseMetabolism #WholeGrainWellness #KoreanAgriculture #PI3KAKTPathway

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Healing Scars Naturally: Aloe Vera Vesicles Offer Powerful Anti-Inflammatory and Antifibrotic Benefits

Researchers from Rochester Institute of Technology and Schön Clinic Munich found that tiny particles (extracellular vesicles) from mature Aloe vera leaves—especially when extracted by hand—can reduce scarring by calming inflammation, fighting oxidative stress, and preventing excess tissue buildup. These natural vesicles may offer a gentle, plant-based treatment for wounds and fibrotic skin conditions.

The Implen NanoPhotometer® N50 was used in this work to assess the RNA concentration and purity spectrophotometrically

#Implen #NanoPhotometer #UV/VIS #Spectroscopy #AloeVera #WoundHealing #ScarTreatment #InflammationRelief #Fibrosis #NaturalTherapy #PlantBasedHealing #SkinHealth #ExtracellularVesicles #BioInnovation

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Lemon Flavonoid Shows Promise for Reducing Stress Hormones in Aging

Researchers from the University of Belgrade and UNESP Brazil recently published in the International Journal of Molecular Sciences that the lemon flavonoid extract Eriomin reduced stress hormone activity in older rats. After 4 weeks, treated rats had lower adrenal gland size, decreased stress hormone (corticosterone) levels, and reduced gene activity related to hormone production. These results suggest Eriomin may help regulate stress and support healthy aging.

The Implen Nanophotometer® N60 was used in this research to assess the concentration of the RNA extracted from the pituitary gland at 260 nm, while the purity of the samples was determined by A260/A280 and A260/A230 ratios.

#Implen #NanoPhotometer #UV/VIS #Spectroscopy #HealthyAging #StressRelief #NaturalSupplements #LemonFlavonoids #Eriomin #AntiAgingResearch #AdrenalHealth #CortisolBalance #OxidativeStress #PlantBasedMedicine #IntegrativeHealth #NeuroendocrineSupport #FlavonoidScience #AgingWell #FunctionalMedicine

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